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JAMES COOK UNIVERSITY
AUSTRALIA

The Implications of Male Circumcision Practices for Women in Papua New Guinea, Including for HIV prevention

Michelle Redman-MacLaren (BSW, MSW)

A thesis submitted for the degree of Doctor of Philosophy at

James Cook University in May 2015

College of Medicine and Dentistry

Declaration

This thesis is composed of my original work, and contains no material previously published or written by another person except where due reference has been made in the text. I have clearly stated the contribution by others to jointly-authored works that I have included in my thesis.

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Chapter	Details of publication(s) on which chapter is based	Nature and extent of the intellectual input of each author	I confirm the candidate's contribution to this paper and consent to the inclusion of the Paper in this thesis
Three	**Redman-MacLaren, M. L.**, Mills, J., Tommbe, R., MacLaren, D. J., Speare, R., & McBride, W. J. (2013). Women and HIV in a moderate prevalence setting: an integrative review. *BMC Public Health*, 13(1), 552.	**MRM:** Conceived of and designed the literature review, acquired and analysed the literature, drafted and edited the manuscript. **JM:** Provided support for the literature review process, revised the manuscript for important intellectual content and reviewed the final manuscript. **RT:** Provided literature and advice on sources, revised the manuscript for important intellectual content and reviewed the final manuscript. **DM:** Provided literature and advice on sources, revised the manuscript for important intellectual content and reviewed the final manuscript. **RS:** Provided support for the literature review process, revised the manuscript for important intellectual content and reviewed the final manuscript. **WJHM:** Provided support for the literature review process, revised the manuscript for important intellectual content and reviewed the final manuscript.	**Jane Mills** Signature: **Rachael Tommbe** Signature: **David J. MacLaren** Signature: **Richard Speare** Signature: **William J.H. McBride** Signature:

Four	**Redman-MacLaren, M.**, & Mills, J. Transformational Grounded Theory: Theory, voice and action. *International Journal of Qualitative Methods* (In Press).	**MRM:** Conceived of the methodology described, drafted and edited the manuscript. **JM:** Provided support for the development of the methodology, revised the manuscript for important intellectual content and reviewed the final manuscript.	**Jane Mills** Signature:
Five	**Redman-MacLaren, M.,** Tommbe, R., & Mills, J. (2014). Interpretive focus groups: a participatory method for interpreting and extending secondary analysis of qualitative data. *Global Health Action.* 7(25214), 6.	**MRM:** Conceived of and conducted the research, drafted and edited the manuscript. **JM:** Provided important intellectual content and edited the manuscript. **RT:** Co-facilitated the interpretive focus groups, provided important intellectual content and edited the manuscript.	**Jane Mills** Signature: **Rachael Tommbe** Signature:

Statement of Contributions by Others to the Thesis as a Whole

This thesis has been edited by Elite Editing. Editorial intervention was restricted to Standards D and E of the *Australian Standards for Editing Practice*'.

Statement of Parts of the Thesis Submitted to Qualify for the Award of Another Degree

Not Applicable

Published Works by Author Only Incorporated into the Thesis

1. **Redman-MacLaren, M,** Becoming a researcher: An auto-ethnographic account of a doctoral researcher re-presented in poetry, *Journal of Poetry Therapy*, In Press.

Additional Published Works by the Author Relevant to the Thesis but not Forming Part of it

1. **Redman-MacLaren, ML,** MacLaren, DJ, Harrington, H, Asugeni, R, Timothy-Harrington, R, Kekuabata, E & Speare, R 2012, 'Mutual research capacity

strengthening: A qualitative study of two-way partnerships in public health research in Solomon Islands', *International Journal for Equity in Health,* vol. 11, p. 79.

2. **Redman-MacLaren, M,** Api, UK, Darius, M, Tommbe, R, Mafileo, TA & MacLaren, DJ 2014, 'Co-interviewing across gender and culture: Expanding qualitative research methods in Melanesia', *BMC Public Health,* vol. 14, 922.
3. **Redman-MacLaren, M** 2015, Papua New Guinea—Australia Partnerships Strengthen Capacity in HIV Research. Australia-Papua New Guinea Network Blog, Lowy Institute for International Policy, retrieved from http://auspng.lowyinstitute.org/publications/field-notes-papua-new-guinea-australia-partnerships-strengthen-hiv-research-capacity?noredirect=1
4. MacLaren, D, Tommbe, R, T, M, Manineng, C, Fregonese, F, **Redman-MacLaren, M**, Wood, M, Browne, K, Muller, R, Kaldor, J & McBride, WJ 2013, 'Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea', *BMC Public Health,* vol. 13, no. 1, p. 818.
5. Manineng, C, MacLaren, D, **Redman-MacLaren, M,** Tommbe, R & Mafile'o, T 2014, A Papua New Guinea-Australia HIV research partnership: Generating new knowledge, building capacity and forging new friendships, *HIV Australia,* vol. 12, no. 2, pp. 72–74.
6. MacLaren, D, **Redman-MacLaren, ML,** Timothy-Harington, R, Asugeni, R, Muse, E, Jimuru, E, Moutoa, K & Speare, R 2015, 'Strengthening capacity for local evidence to inform local responses to HIV in a remote Solomon Island health service', *Western Pacific Surveillance and Response*, vol. 6, no. 2, pp. 1–8.

Acknowledgements

I would like to thank my Supervisors who unexpectedly morphed into ‘Advisers’ during the course of this thesis, according to my University. To me, they are still SUPERvisors. Thank you Professors Jane Mills, John McBride and Rick Speare for your contribution to the development of my research knowledge and for guiding this research study. Thank you for believing in me. I appreciate your unique perspectives that have further fuelled my passion to contribute to social justice and health for all in the Pacific.

I am indebted to members of my Expert Reference Panel: Mrs Rachael Tommbe, Mr Kelwyn Browne, Professor Tracie Mafile’o, Dr Mike Wood and Ms Nalisa Neuendorf. At various times throughout the doctoral studies you have each encouraged, challenged and generously shared your knowledge and wisdom. You each come from such a different perspective but never once did I doubt your support for me. Thank you all!

A special thanks to the team in the Department of Research and Postgraduate Studies at Pacific Adventist University (PAU). I have had unwavering support from this team as we took an agenda forward in a new way and we now plan action emerging from this research. Special thanks goes to Dr Lalen Simeon (Director) and Mrs Clare Kokinai (Project Co-ordinator), who facilitated ethics and visa applications in sometimes trying circumstances. I look forward to our ongoing research work at PAU.

Our continuing partnership with New Britain Palm Oil Limited (NBPOPL) is highly valued. I thank Mr Mike Jackson (Managing Director), Mrs Elizabeth Cazalet (Nursing Manager), Mr Charles Yadup (HIV nurse), Mr Stanley Ijimpa (Warden/HIV educator) and Mr John Jerry (HIV Response Coordinator) for your continued interest and support, including financial support for this study and our other research. I look forward to continuing to work together in Oro Province.

Some unseen and unplanned support has emerged during this PhD study that I wish to acknowledge. I have been privileged to have a number of my published works reviewed by two senior academics whom I admire greatly: Doctors Bob Dick (Independent Academic) and Katherine Lepani (Australian National University). Bob,

thank you for your generous and practical guidance when you reviewed my manuscripts. Your reviews have helped shift my experiential knowledge into a more rigorous and academic form. Kathy, I value your contribution to the way I see the HIV epidemic in PNG and the way I represent that knowing.

Karen Rao (nee McPhail-Bell), you have been a rock of support throughout. Thank you for generously sharing your ideas on my proposal, documents, chapters and articles. As we unexpectedly struggled during the last year of writing our respective theses, we fell into a commitment to weekly email what we had done and what we planned for the following week. Many times this accountability helped keep me on track. I am blessed to have a kindred spirit who also seeks a more fair society for all. Here's to more work together!

Rachael Tommbe, *sis blong mi,* you have taught me so much of what I know about PNG! You have taught me how to speak *Tok Pisin* (and you were never afraid to correct me at any time!), how to negotiate the hugely complex cultural and linguistic diversity of your beautiful country, how to be assertive (and when to stay quiet) and how to keep safe. I greatly value our friendship and look forward to continuing our work together—including the celebration of the conferral of your PhD one day soon! Thank you from this *hap hap meri.*

'If it takes a village to raise a child, it takes an extended circle of care to write a doctoral thesis.' (McGrow 2014). I have learnt many things during this doctoral study—one of these being the need to accept help from my extended circle of care. I am very grateful to my dear friends Jenny Cory and Kerry Kelly who (along with Rick Speare) hosted my precious writing retreats and provided great advice and cuppas along the way! For my dear friends Angela Lauder and Jennifer Pett, thank you for always being there for our kids, especially when I was in another country doing fieldwork! I thank my Mum and Dad for the practical support they have shown in travelling to Cairns to care for our boys while I was away. Thank you also for believing this farm girl could achieve a tertiary education. To my best friend Cindy and my beautiful sister Kerry—thank you both for being such constant companions throughout the ups and downs. You are both amazing!

To my sons Hamish and Lachlan—thank you for your patience and understanding (well, mostly) as I worked early mornings, escaped to faraway places, didn't bake like I used to or didn't play that extra card game—*no wori tufala,* we still got plenty of cricket in!

To my husband, colleague and constant companion—Dr David MacLaren. I acknowledge you for paving the path before me and thank you for walking beside me, with enduring love. Our shared commitment and passion for the Pacific has taken us places I could never have imagined and I look forward to more of it!

Abstract

Men in Papua New Guinea (PNG) practice a variety of male circumcision and penile modifications for a wide range of social, cultural, spiritual and personal reasons. Most of the procedures occur outside of formal health services. Three large randomised controlled trials in Africa have shown that male circumcision is effective in reducing human immunodeficiency virus (HIV) acquisition for heterosexual men. The HIV epidemic in PNG affects men, women and children in PNG and health researchers and policymakers are exploring male circumcision as a possible HIV prevention measure. It is therefore essential that women's perceptions and experiences of male circumcision be more fully understood to avert negative, unintended consequences for women. This study goes some way to filling this current gap.

PNG is a middle-income Pacific island country of about seven million people that has an underperforming health care system and infrastructure challenges. Challenges of inadequate health care facilities, irregular access to medications and transport difficulties are compounded by human resource constraints. PNG has a largely rural population (85 per cent of the population) and rapidly expanding urban centres. The country faces enormous challenges in addressing the health needs of its population. Women generally have low status in PNG and experience very high rates of sexual and domestic violence. Only half the number of girls to boys complete secondary or higher education. Possible HIV prevention measures, such as increasing male circumcision services, need to be positive for women to ensure it is not a measure that further contributes to the many challenges women in PNG face.

This transformational grounded theory study builds upon a broader male circumcision research agenda. Consistent with the Pacific context in which the research is being conducted, an expanded grounded theory methodology was employed that included critical research approaches of participatory action research and decolonising methodologies. An existing dataset of questionnaires completed by 861 men and 519 women, focus group transcripts (M=36; F=10) and rich semi-structured interviews (M=40; F=24) were theoretically sampled and analysed using grounded theory methods of initial, intermediate and advanced coding. Preliminary categories were developed

from the existing data, with portions or 'chunks' of data that exemplified the developing categories selected. These data 'chunks' were then taken to seven interpretive focus groups in PNG, where 64 women discussed the existing data in story circles. In addition, women generated additional primary data using storyboarding technique. Individual interviews (n=11) were also facilitated with 10 women and one man. Transcriptions of audio files and the storyboard pictures were analysed. The secondary and primary data were combined and analysed to inform a developing transformational grounded theory. This grounded theory was then taken back to women and men in PNG who had participated in the study. Discussions about the transformational grounded theory and recommended action for PNG were held.

The core category of the transformational grounded theory is Power of Choice. Women have a lot of knowledge about male circumcision and penile modifications (including injections and inserts into the penis), but most do not have the opportunity or authority to influence decisions based on this knowledge. Those women who have formal education or informal training have increased status in their community and an increased number of options available to them. These options include influencing discussions with male partners and decisions about male circumcision for their male children. As with most aspects of women's lives in PNG, women need to feel safe (socially, culturally, spiritually and personally) before they can act upon their choice to influence decisions based on this knowledge.

The significant original contribution to knowledge reported in these research findings reflect broader understandings of social determinants of health. As a theoretical code, social determinants of health expand the explanatory power of this transformational theory and urge us onto action for positive change. Women in this study reported formal education and informal training increased the status of women and their options for health. As a recommendation for action, women requested increased opportunities for education and training about sexual and reproductive health for themselves as well as for men. This action has begun. Following recommendations from this study, sexual and reproductive health training has been provided with over 300 health staff and company employees at one of the study sites. More action is needed. There is an immediate need for local-level responses to increase formal education and training for women. Physical, social and cultural conditions need to change so that women can safely make decisions and act in their interests and those of

their families. The findings from this research have also been presented to national and international HIV policymakers through formal presentations, published material and informal conversations.

This thesis is enriched by the inclusion of poetry written during the candidature, which reflects continuous and critical reflexivity. The development of the researcher-self, challenges of working as an Australian in PNG and the complexity of HIV as a public health issue have been explored through memos and poetry included throughout.

Keywords

HIV, Papua New Guinea, male circumcision, transformational grounded theory, grounded theory, women, Pacific island countries, action research, participatory action research, decolonising, social determinants of health

Australian and New Zealand Standard Research Classifications (ANZSRC)

111715 Pacific Peoples Health

Table of Contents

Declaration ..... **ii**
Statement of Contributions to Jointly-Authored Works Contained in the Thesis iii
Statement of Contributions by Others to the Thesis as a Whole iv
Statement of Parts of the Thesis Submitted to Qualify for the Award of Another Degree iv
Published Works by Author Only Incorporated into the Thesis iv
Additional Published Works by the Author Relevant to the Thesis but not Forming Part of it iv

Acknowledgements ..... **vi**

Abstract ..... **ix**
Keywords xi
Australian and New Zealand Standard Research Classifications (ANZSRC) xi

Table of Contents ..... **xii**

List of Figures ..... **xv**

List of Tables ..... **xvii**

Glossary ..... **xviii**

1 Introduction **1**
1.1 Chapter Outline 2
1.2 Substantive Area of Enquiry and Study Aims 7
1.3 Human Immunodeficiency Virus and Male Circumcision: A Global Response 2
1.4 Papua New Guinea 4
1.5 Human Immunodeficiency Virus in Papua New Guinea 5
1.6 Male Circumcision Research in Papua New Guinea 6

2 Locating the Researcher **7**
2.1 Chapter Outline 10
2.2 Standpoint 10
2.3 Notes on Thesis Style, Terminology and Definitions of Male Circumcision 17
2.4 Summary 20

3 The Context **22**
3.1 Chapter Outline 23
3.2 How This Research Came About 24
3.3 Human Immunodeficiency Virus 24
3.4 Human Immunodeficiency Virus Around the Globe 25
3.5 Male Circumcision and Human Immunodeficiency Virus 26
3.6 Women and Male Circumcision 28
3.7 Women and Human Immunodeficiency Virus in Papua New Guinea: An Integrative Review. 30
3.8 Summary 44

4 Methodology **45**
4.1 Chapter Outline 46
4.2 Transformational Grounded Theory: Theory, Voice and Action. 47

4.3 Summary....64

5 Methods....66
5.1 Chapter Outline....67
5.2 Ethics Statement....68
5.3 Increasing Theoretical Sensitivity....70
5.4 Study Locations....71
5.5 Phase One: Sampling and Analysis of Existing Data....76
5.6 Phase Two: Sampling, Co-generation and Analysis....79
5.7 Conceptual Saturation: Saturation Meets Cultural Obligation....81
5.8 Expanding Focus Group Methods....82
5.9 Cross-language Research in Papua New Guinea....89
5.10 Returning to the Field....105
5.11 Memos....106
5.12 Audit Trail....107
5.13 Summary....108

6 Findings....109
6.1 Chapter Outline....110
6.2 Power of Choice (Core Category)....113
6.3 The Base (Category One)....114
6.4 Increasing Knowledge (Category Two)....132
6.5 Increasing Options (Category Three)....138
6.6 Acting on Choices (Category Four)....143
6.7 Condition of Safety (Intervening Condition)....149
6.8 Summary....152

7 Discussion....156
7.1 Chapter Outline....157
7.2 Research Reviewed....157
7.3 Theoretical Code and use of Literature in Grounded Theory....159
7.4 Social Determinants of Health....160
7.5 Gender as a Social Determinant of Health....161
7.6 *Rait Man*: Men and Masculinity....163
7.7 'Power of Choice' as the Core Category....168
7.8 Women's Understanding and Experience of Male Circumcision....171
7.9 Role of Education and Training....172
7.10 The Condition of Safety....173
7.11 Linking Findings to International Context....174
7.12 Limitations of this Study....177
7.13 Summary....181

8 Recommendations and Conclusions....183
8.1 Chapter Outline....184
8.2 What I Set Out to Do....185
8.3 What I Did....185
8.4 What I Found Out....186
8.5 Ensuring Quality of the Research....186
8.6 Recommendations for Action....189
8.7 The *Transformational* in this Transformational Grounded Theory....200
8.8 Critical Reflexivity: *Becoming* a Researcher....201
8.9 Conclusion....210

9 References.....212

10 Appendices 241

10.1 Foreskin Cutting Beliefs and Practices and the Acceptability of Male Circumcision for HIV Prevention in Papua New Guinea 241

10.2 Mutual Research Capacity Strengthening.....257

10.3 Ethics Approvals 270

10.4 Ethics Report: Letter to Lead Investigator.....274

10.5 Audit Trail of Data Analysis.....275

10.6 Study Report and Recommendations for New Britain Palm Oil Limited ...287

10.7 A Papua New Guinea–Australia HIV Research Partnership 296

10.8 Co-interviewing Across Gender and Culture.....301

10.9 Women's Experience of Male Circumcision in Papua New Guinea: A Grounded Theory Study 309

10.10 Papua New Guinea–Australia Partnerships Strengthen Capacity in HIV Research 311

10.11 Strengthening Capacity for Local Evidence to Inform Local Responses to HIV in a Remote Solomon Island Health Service 315

List of Figures

Figure 1 Field sites in PNG.....5
Figure 2 Focus of Chapter Two 10
Figure 3 Typology: Penile cutting in PNG (Hill, Tynan et al. 2012).....20
Figure 4 Focus of Chapter Three 23
Figure 5 Focus of Chapter Four 46
Figure 6 Focus of Chapter Five.....67
Figure 7 Map of Pacific Adventist University in relation to Port Moresby 72
Figure 8 Map of New Britain Palm Oil Limited sites in relation to Popondetta, Oro Province.....75
Figure 9 Focus of Chapter Six 110
Figure 10 Core Category: Power of Choice 113
Figure 11 Category One: The Base 114
Figure 12 Storyboard Picture (PAU IFG 1): Round Cut.....115
Figure 13 Storyboard Picture (NBPOL IFG 6): Straight Cut 115
Figure 14 Storyboard Picture (PAU IFG 3): Roles of Women in Traditional Circumcision.....116
Figure 15 Storyboard Picture (PAU IFG 2): Masculinity After Circumcision.....118
Figure 16 Storyboard Picture (PAU IFG 1): Penile Cutting at Primary School.....120
Figure 17 Storyboard Picture (NBPOL IFG 6): Peer-Initiated Cutting 122
Figure 18 Storyboard Picture (PAU IFG 1): Mama is Happy 124
Figure 19 Storyboard Picture (NBPOL IFG 6): Lady is Happy 128
Figure 20 Storyboard Picture (PAU IFG 3): Fighting.....129
Figure 21 Storyboard picture (NBPOL IFG 5): Wife not happy. 130
Figure 22 Category Two: Increasing Knowledge 132
Figure 23 Category Three: Increasing Options.....138
Figure 24 Storyboard Picture (PAU IFG 1): Offer of Condom Being Refused by the Woman Partner 139
Figure 25 Category Four: Acting on Choices 143
Figure 26 Storyboard Picture (NBPOL IFG 5): Women Unsure About How Sons Will React.....147
Figure 27 Intervening Condition: Condition of Safety 149

Figure 28 The TGT Model 152
Figure 29 Focus of Chapter Seven 157
Figure 30 Focus of Chapter Eight 184
Figure 31 Storyboard Pictures (Multiple IFGs): What Needs to Happen Next? 189
Figure 32 Brief Intervention Workshop, NBPOL June 2014 190

List of Tables

Table 1 Summary of Beliefs about Transformational Grounded Theory.....50
Table 2 Description of Participants by Site 78
Table 3 Sites of Cross-language Research Action 96
Table 4 Evaluation of TGT.....187

Glossary

ABC	Abstinence, Be Faithful and use a Condom
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral therapy
AusAID	Australian Agency for International Development (now known as the Department of Foreign Affairs and Trade – Australian Aid)
AVR	Antiretroviral drug
Bilum	String bag, locally made in PNG
Buai	Betel nut, commonly chewed in PNG
CDC	Centers for Disease Control and Prevention
DFAT	Department of Foreign Affairs and Trade
DRC	Democratic Republic of the Congo
DWU	Divine Word University
F	Female
GBV	Gender-based violence
GDP	Gross Domestic Product
GLBTQI	Gay, lesbian, bisexual, transgender, queer and intersex people
HEO	Health Extension Officer
HIV	Human immunodeficiency virus
HPV	Human papilloma virus
HRH	Human resources for health
JCU	James Cook University
KAP	Key Affected Population
Kina	Unit of PNG currency: 1 kina = 100 toea
Lainap	Pack rape, group sex
M	Male
MARPS	Most At Risk Populations
MC	Male Circumcision
NACS PNG	National AIDS Council Secretariat of Papua New Guinea
NBPOL	New Britain Palm Oil Limited
NCD	National Capital District
NDoH	National Department of Health

NGO	Non-Government Organisation
NHMRC	National Health and Medical Research Council
Pamuk	'Prostitute', someone who sells sex
Pasindia meri	'passenger woman'; woman who exchange sex for money
PAU	Pacific Adventist University
PCP	*Pneumocystis carinii* pneumonia
PJV	Porgera Joint Venture
PLWHA	People Living with HIV/AIDS
PNG	Papua New Guinea
Raskol	'rascal', lawless young man
Sanguma	Sorcery, witchcraft
SDA	Seventh-day Adventist
SIDA	Swedish International Development Cooperation Agency
SIV	Simian Immunodeficiency Virus
SPC	Secretariat of the Pacific Community
STI	Sexually Transmitted Infection
TGT	Transformational grounded theory
Tingim Laip	'Thinking of Life', an NGO established to prevent HIV in PNG
Toea	unit of PNG currency: 100 toea = 1 kina
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNSW	University of New South Wales
UQ	University of Queensland
USD	United States dollar
VCT	Voluntary Counselling and Testing for HIV
VMMC	Voluntary Medical Male Circumcision (clinic-based)
Wantok	Kinsmen; person who speaks the same language
WHO	World Health Organization

1 Introduction

Jeanie* is a young woman in her late teens who lives in a small timber house roofed with iron. Her village was built by an oil palm plantation company that operates on the outskirts of Popondetta, Oro Province, Papua New Guinea (PNG). This house has two small rooms with a narrow entrance-way tenuously holding the stairs in its meagre arms. There is no kitchen inside—the cooking takes place on an open fire in the makeshift outdoor kitchen, squeezed between Jeanie's house and her neighbour's.

Jeanie's parents work as field workers in the oil palm plantation, returning at night to the company village. Jeanie has had limited educational opportunities. Jeanie went to school until she was 12 years old—which is when it was decided by her parents that she was more useful at home carrying water, helping to care for younger children and preparing food. This freed Jeanie's mother to return to field work in the plantation and bring in much needed cash. Stopping school at such a young age is not uncommon where Jeanie comes from; half the number of girls compared with boys finish high school in PNG. Jeanie has a boyfriend, knows about *SikAIDS*** and male circumcision, but can't really talk about these things with her boyfriend as she is just a single girl and circumcision—*em sumting blong olgeta man*^.

*Jeanie is not a real person, but the facts in this story are.

**HIV and/or AIDS

^it is men's business

****

Women's experiences of male circumcision and penile modification in PNG are diverse and ambiguous. Consistent with so many aspects of women's lives in the Pacific, women's experience of male circumcision is influenced by their opportunity for education, the nature of their relationships and the status they hold in their communities. In a context where male circumcision is being investigated as an Acquired

Immunodeficiency Syndrome (AIDS) prevention option, exploring how women understand and experience male circumcision is essential to understand the complexities involved to reduce the risk of negative, unintended consequences of future health policy.

1.1 Chapter Outline

In this chapter, I provide an overview of the research context. HIV and male circumcision, globally and in PNG are discussed. I provide a description about PNG as a country and explain why this study is important. The substantive area of enquiry and study aims are provided, and the research methodology and methods introduced.

1.2 Human Immunodeficiency Virus and Male Circumcision

Male circumcision is being considered as a HIV prevention option in PNG, informed by global male circumcision research. Clinical trials in African nations have shown male circumcision can reduce HIV acquisition to heterosexual men involved in the trials. Ground-breaking randomised control trials conducted in South Africa, Kenya and Uganda between 2002 and 2006 provided evidence that HIV transmission is prevented in 51–60 per cent of men who had been circumcised compared to uncircumcised men (Auvert, Taljaard et al. 2005; Bailey, Moses et al. 2007; Gray, Kigozi et al. 2007). Physically removing the foreskin removes HIV target cells present in high density on the inner mucosal surface of the foreskin and is the possible biological mechanism responsible for reducing transmission (Auvert, Taljaard et al. 2005; Bailey, Moses et al. 2007; Gray, Kigozi et al. 2007).

The World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) now recommend voluntary medical male circumcision (VMMC) as an additional strategy in comprehensive prevention packages to prevent heterosexually acquired HIV (WHO 2014a). VMMC is recommended where HIV is heterosexually transmitted, there are low levels of traditional male circumcision and where the HIV epidemic is generalised.[1] Male circumcision does not prevent HIV

[1] A generalised HIV epidemic is defined as an epidemic where 1% or more of the population are living with HIV. In a concentrated HIV epidemic, less than one per cent of the population has HIV but specific at-risk groups have a HIV prevalence of five per cent or more. AVERT. (2014). "Global Epidemic." Retrieved 20.09.2014, from http://www.avert.org/worldwide-hiv-aids-statistics.htm.

transmission between a HIV positive man and a HIV negative woman, but it does reduce new infections in men as a population and thus reduces risk of onward transmission to women as sexual partners (Baeten, Celum et al. 2009). The impact of VMMC on women is being examined across a number of countries where medical male circumcision is being implemented (Berer 2008; Baeten, Celum et al. 2009; Baeten, Celum et al. 2009; Berer 2009, Wawer, Makumbi et al. 2009; Hallett, Alsallaq et al. 2011; Kurth, Celum et al. 2010; Young, Odoyo-June et al. 2012; Layer, Beckham et al. 2013; Plotkin, Castor et al. 2013; Auvert B et al. 2014; Curran 2014; Layer, Beckham et al. 2014). Women's ability to negotiate safe sex using condoms with a circumcised man has been questioned, with concerns male circumcision can potentially put a woman at greater risk of HIV transmission (Berer 2008). Some men report not being able to wait until the circumcision has healed before having sex if they are circumcised as an adult. This puts their partners at greater risk of HIV transmission, with open wounds allowing an opportunity of exchange of blood between partners (Wawer, Makumbi et al. 2009; Wilson, Wittlin et al. 2011). International research about the implications for women of male circumcision provides important evidence for HIV prevention options in PNG.

In PNG, women are equally likely to acquire HIV as men (National AIDS Council Secretariat 2013). However, the way in which women acquire HIV reflects the extreme gender inequality experienced by most women in PNG (Jenkins & Buchanan-Aruwafu 2007). Overall, young women have sex with older partners and contract HIV at an earlier age than men (National AIDS Council Secretariat 2013). High levels of rape and sexual abuse, intimate partner violence and multiple sexual partners have contributed to HIV's spread in PNG, consistent with international evidence (Luker 2010; Lewis 2012; Li Y, Marshall et al. 2014). There are no official data about prevalence of violence against women in PNG. However, it is estimated over two thirds of women in PNG experience intimate partner violence (ChildFund Australia 2013). A study commissioned by WHO, UNAIDS and partners reported 62 per cent of men from PNG had been part of *lainap* sex (gang rape) (Fulu, Warner et al. 2013). '*Lainap* highlights women's vulnerability, more starkly perhaps than commercial sex, in a politics of sexual power and female objectification' (Lukere 2002). It is clear women experience extreme levels of violence, including sexual violence in PNG.

The ABC (Abstinence, Be Faithful and use a Condom) HIV prevention methodology promoted in PNG has now been demonstrated as ineffectual, particularly

for women (Wardlow 2007; Hammar 2010). This transitional prevention messaging has not translated as useful in PNG (Lusby 2013). Abstinence is unrealistic and does not reflect the reality of sexual practices in PNG. Be Faithful is based on the flawed premise that one partner can be certain of the faithfulness of another. Women who remain faithful in their marriages are often not in a position to negotiate condom use, for fear of being labelled a *tu kina meri* or prostitute by their male partners (Wardlow 2008; Hammar 2010; Redman-MacLaren, Mills et al. 2013). The promotion of 'C' for condom is often replaced by other 'C' words, including Christ, Christ's Way, Church, and Commitment (Kokinai 2014). Structural drivers such as poverty and gender inequality increase the risk of HIV acquisition for women (Seeley & Butcher 2006; Seeley, Watts et al. 2012; Berry & McCallum 2013a). Women who sell sex or exchange sex for goods are at highest risk of HIV in PNG (Kelly, Kupul et al. 2011; Berry & McCallum 2013a; Berry & McCallum 2013b). A recent study with men, women and transgender who sell or exchange sex found 19 per cent of women in the sample were HIV positive (Kelly, Kupul et al. 2011). 'Safe sex' is an idea promoted by some HIV prevention workers in PNG to mean adhering to the ABC prevention mantra. Anthropologist researchers have found that some men perceive woman as 'safe' to have sex with if their husband is working away from the village (Wardlow 2007). Thus 'safe sex' in this context does not refer to accepted medical preventative technologies such as the use of condoms (USAID/Family Heath International 2011). HIV prevention in PNG is a complex area that requires consideration of the cultural, social and spiritual context in which HIV is understood.

1.3 Papua New Guinea

PNG is a culturally diverse middle-income Pacific Island country with a land mass of 463,000 square km, a sea area of 3.12 million square kilometres and consisting of 600 separate islands (AusAID 2011). There are approximately 841 languages and numerous dialects (Lewis 2009) spoken by the estimated population of seven million, many of whom live in highly mountainous areas. Approximately 48 per cent of the population is under 14 years of age (Secretariat of the Pacific Community 2011). PNG is a predominantly Christian nation with approximately 96 per cent of the population identifying as Christian (National Statistical Office of Papua New Guinea 2000). With a GDP per capita of USD2,088 (World Bank 2014), most of the population lives a

subsistence lifestyle in village settings, with only an estimated 15 per cent of the population of PNG living in urban centres. Port Moresby, the capital city of PNG, has an estimated population of 314,000 (Central Intelligence Agency 2011). Formally colonised by Britain, Germany and then Australia, PNG declared independence in 1975. The country is a constitutional monarchy with three levels of government: national, provincial and district.



Figure 1 Field sites in PNG.

The black stars are the field sites of the MC Study, with the two yellow-boxed stars the field sites revisited during the PhD study. Map Source: http://www.geoatlas.com/en/maps/countries-4/papua-new-guinea-1047 accessed 24 March 15.

1.4 Human Immunodeficiency Virus in Papua New Guinea

PNG has more than 90 per cent of all reported HIV infections in the Oceania Region (UNAIDS and WHO 2009). An estimated 21,459 adults (15 years and older) and 3,015 children are living with HIV. In 2013, the HIV prevalence in PNG was estimated as 0.49 per cent of the population (National AIDS Council Secretariat 2013). The majority of HIV in PNG is believed to be transmitted heterosexually. There has been limited research about HIV transmission through homosexual sex in PNG. Homosexual sex is illegal in PNG and results in high levels of discrimination (Stewart 2014). Weak health

care delivery systems and surveillance contribute to a limited ability to detect and treat sexually transmitted infections (STIs), including HIV. In 2014, a WHO report stated:

> *'PNG's health delivery system faces several challenges which include a critical shortage of HRH (human resources for health), frequent shortages of essential medicines and supplies, weak leadership and management capacity at all levels of the system' (WHO 2014b, p.1).*

An example of some of the health system challenges facing PNG is access to antiretroviral therapy (ART) drugs for people living with HIV. In 2013, it was reported 74 per cent of eligible adults living with HIV are receiving ART but only 39 per cent of eligible children (National AIDS Council Secretariat 2013).[2]

Biological factors that increase women's risk of HIV include high rates of untreated STIs, the young age at which women commence sexual activity and low male circumcision rates (Buchanan-Aruwafu 2007; Vallely, Page et al. 2010). Michel Sidibé, Executive Director of UNAIDS states that 'HIV thrives amid inequality and disparity and in the absence of opportunity' (UNAIDS 2012). Inequality for women in PNG includes unequal educational opportunities and economic disparity (United Nations Development Programme 2011) along with widespread physical and sexual abuse. These factors are shown to increase the vulnerability of women to contracting HIV (Jenkins and Buchanan-Aruwafu 2007; Lewis, Maruia et al. 2008; Kearns 2011; Lewis 2012; Redman-MacLaren, Mills et al. 2013). HIV research in PNG needs to take into account the complex social and cultural context of health, including HIV, to develop additional ways prevention methods, including male circumcision (Tommbe, MacLaren et al. 2013).

1.5 Male Circumcision Research in Papua New Guinea

Two large studies have been conducted to investigate the acceptability of male circumcision for HIV prevention in PNG. One predominantly qualitative study was

[2] All HIV data for PNG, including antiretroviral therapy (ART) use and adherence, needs to be used as a guide only. In the 2013 Papua New Guinea 2013 HIV Projections & Estimations report, it was stated, "The NDoH (National Department of Health) ART database does not currently provide accurate figures for the number of adults or children on ART either annually or cumulatively" National AIDS Council Secretariat (2013). Papua New Guinea 2013 HIV&AIDS Estimations & Projections. Port Moresby, National Department of Health, PNG; National AIDS Council Secretariat, PNG; UNAIDS PNG**:** 120.

conducted by the PNG Institute of Medical Research in partnership with two Australian universities, University of New South Wales (UNSW) and University of Queensland (UQ) (Vallely, MacLaren et al. 2011; Kelly, Kupul et al. 2012; Kelly, Kupul et al. 2012; Tynan, Vallely et al. 2013). The second mixed methods study this PhD research builds upon was led by researchers from James Cook University (JCU), Australia in partnership with researchers from Pacific Adventist University (PAU) and Divine Word University (DWU), both in PNG. Entitled *Acceptability of male circumcision for HIV prevention in PNG,* this study was funded by the National Health and Medical Research Council of Australia, with the following aims:

1. Describe male circumcision and other genital cutting at the study sites.
2. Understand how social, cultural and religious beliefs and practices of male circumcision influence the acceptability of male circumcision as a part of HIV prevention.
3. Assess the capacity of health providers to deliver male circumcision services at the study sites.

Data collection occurred in four sites in PNG (Figure 1): PAU, National Capital District; DWU, Madang; Porgera Joint Venture (a large gold mine), Enga Province; and Higaturu Oil Palms (oil palm plantation), Popondetta, Oro Province. Eight hundred and sixty-one men and 519 women participated in structured questionnaires, semi-structured interviews and/or focus group discussions. In the structured questionnaires, men and women gave information (either self-administered or administered) including basic demographics, knowledge of HIV, history of sexual practice and knowledge and attitudes towards male circumcision and penile modification. A headline publication reporting findings for this study was published in 2013 and I am an author (MacLaren, Tommbe et al. 2013) (Appendix 10.1).

1.6 Substantive Area of Enquiry and Study Aims

The substantive area of enquiry for this grounded theory study is how women understand, experience and manage the outcomes of male circumcision and penile modification practices in PNG. This enquiry takes place within the context of medical male circumcision programmes being considered as one human immunodeficiency virus (HIV) prevention strategy in PNG. The aims of the study are to:

1. explore women's understanding and experience of male circumcision and penile modifications in PNG,
2. describe and construct a theoretical model of the processes used by women to manage the outcomes of male circumcision and penile modification in PNG in partnership with women in PNG,
3. identify the implications of findings for local-level action and national HIV policy and planning in PNG.

Women responded to structured questionnaires, which included survey questions about women's knowledge about and attitudes towards male circumcision. Open ended questions were also asked in the survey, including what people in their community thought about male circumcision, what their personal preference was and what positive and negative changes might occur if her partner undertook male circumcision. Women also discussed these themes more fully in semi-structured interviews and focus group discussions. I theoretically sampled from this dataset of interview and focus groups discussions. In addition, I also generated primary data through interpretive focus groups and interviews resulting in a Transformational Grounded Theory (TGT). The explanatory power of the grounded theory has been enhanced by the application of the theoretical code, social determinants of health. In addition, limitations are discussed and recommendations for action reported. Evidence of critical reflexivity used throughout the duration of the study completes this thesis.

In this introduction chapter, I have:

- introduced the substantive area of enquiry and study aims
- introduced the relationship between male circumcision and HIV prevention
- provided a brief introduction to PNG
- discussed male circumcision research in PNG.

In the chapter that follows, I will:

- outline my standpoint as a researcher
- establish the value of reflexivity in enhancing the quality of this thesis
- discuss matters of style and terminology used throughout the thesis.

2 Locating the Researcher

Passionate Academic

I wish to write of
Desire and despair
But what do I do instead?
I write in clean lines
In taut, tidy grammar, of
Defensible datasets.

Unknown, uncertain, uncaring foe
HIV helps Himself.
He shapes life, and death
His path leaves a mess,
What will Examiners think?

Words shouted and muttered
Messy and cluttered
Life won, or lost, on the way.
Story lain bare
Squeezes out of the square
And onto the page.

I dare not resist.

2.1 Chapter Outline

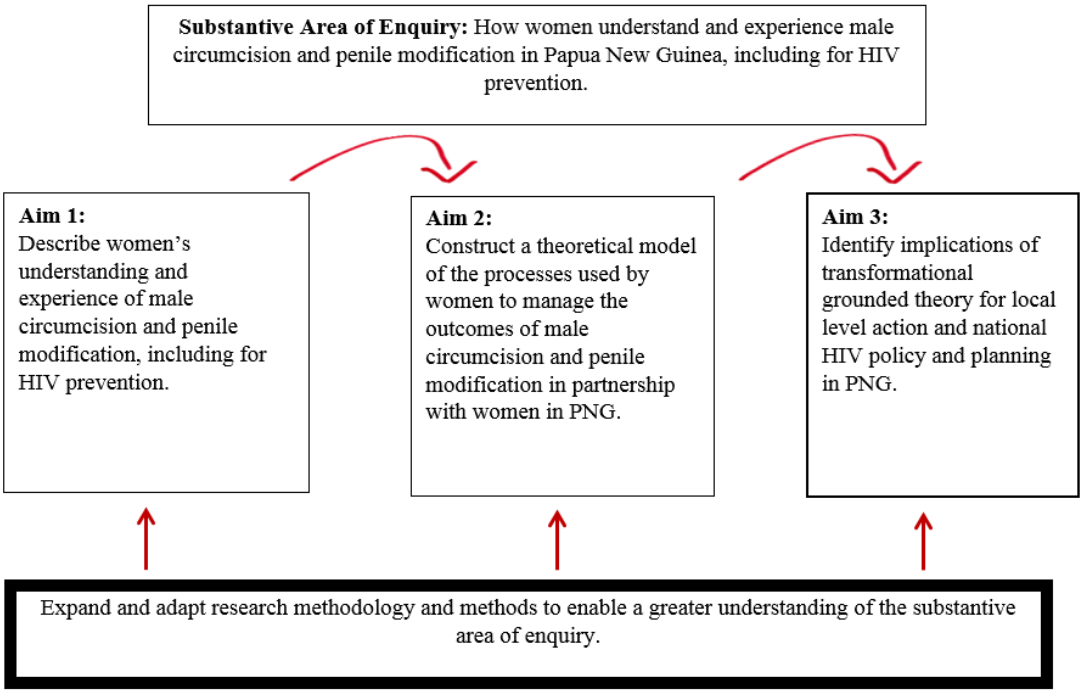


Figure 2 Focus of Chapter Two

In this chapter, I will introduce the concept of standpoint in the context of feminist and decolonising research, outline my standpoint as a researcher and the value of critical reflexivity in enhancing the quality of this thesis. I will also discuss style, terminology and definitions of male circumcision in the PNG context.

2.2 Standpoint

The concept of standpoint asserts there are different ways of understanding the world, depending upon the social position of the person. The concept can be traced to the scholars Marx and Engels who used phrases such as 'standpoint of the proletariat' (Harding 2002). Feminist scholars later expanded upon this understanding by centralising the relationship between knowledge and politics (Rolin 2006) and between research, power and representation (England 1994; O'Shaughnessy & Krogman 2012). Indigenous researchers have expanded the concept of standpoint to challenge Western notions of objectivity and scientific methods of knowledge creation (Kovach 2009). The standpoint statement in this thesis is not included to contribute to debate about epistemic privilege, but outlines values and life experiences that brought me to research.

Reflexivity has been vital to developing my research practice and my position within it (Bourke 2014). My understanding and practice of reflexivity is also included in this chapter to complement the standpoint statement and communicate my personal framework for the PhD research (Birks & Mills 2011). 'A personal narrative reflects on a story where the professional coating of academic armour is removed to reveal an unexpected history hidden by perceptions of the professional self' (Sheridan 2013, p. 568). Writing as a situated speaker (Richardson 2000), I now briefly share my value formation and relevant life experiences to locate myself, the researcher.

As the oldest of four children, I spent most of my childhood on a drought-inflicted one thousand acres of Brigalow country[3] in north-west New South Wales, Australia. This was the traditional land of the G*amilaroi* Aboriginal nation. Due to financial pressures resulting from extended drought conditions, both of my parents worked off-farm for much of my older childhood. This meant I had responsibilities such as transporting younger siblings to and from the school bus, domestic and child care duties. I carried out stock and tractor work and other farm responsibilities. Our family were (and most still are) active Christians and I was a member of a small, evangelical church who met regularly in the nearby rural town. It was in this space I developed a commitment to social justice, equality and human rights in both a local and global context. *Gamilaroi* people were ever-present, although not intimate, throughout my childhood. My mother worked with *Murris* (a term used to identify some Aboriginal people from New South Wales) and we had *Murri* friends at church and school. Poverty experienced by Aboriginal people, especially those living in government-provided housing in the nearby Pilliga Forest, was in full view. As I grew in age and consciousness and explored my Celtic and Anglo ancestry, I felt uneasy that as White Australians we were farming Aboriginal land.

A social work degree, postgraduate study and a variety of work and life experiences have built upon my early life and have given rise to a developmental praxis that informs my research work. I worked in Aotearoa/New Zealand with Maori and Pakeha[4] and led aid projects in post-war Kosovo. I am also privileged to have lived

[3] Brigalow country refers to the presence of the Australian native tree (*Acacia harpophylla*) that grows in the Brigalow Belt of eastern Australia.
[4] *Pakeha* is the Maori language name given to people with non-Maori or non-Polynesian heritage. Ranford, J. (2000). 'Pakeha', It's Origin and Meaning. Auckland, Auckland College of Education. Paper 8.

and/or worked in the Pacific Island countries of Solomon Islands and PNG intermittently for over 20 years. During this time, I have developed some understanding of the many social, cultural and spiritual beliefs people hold. I have worked on HIV prevention projects and public health research in both Solomon Islands and PNG since 2005. This included AusAID-funded evaluations of HIV prevention projects, capacity strengthening workshops for HIV research, HIV prevention activities and strategic planning in both PNG and Solomon Islands (Redman-MacLaren 2010; Redman-MacLaren 2011). Most of this work has been done using the Pacific languages of Solomon Islands *Pijin* and PNG *Tok Pisin*.

For two years (2010–2012), I was project manager for the *Acceptability of male circumcision for HIV prevention in PNG* study, a National Health and Medical Research Council (NHMRC)-funded research project. This project was a collaboration between JCU, PAU, DWU, PJV and New Britain Palm Oil Limited (NBPOL). In this research management role, I contributed to the research design, ethics applications, supported data collection and data analysis. During this period (in 2010), I lived in PNG to assist the research processes. During this research, we centralised research capacity strengthening activities, including research design, facilitation and evaluation of three workshops in PNG and Australia with PNG study collaborators. Workshops topics included data collection, data analysis and reporting research (Redman-MacLaren 2010; Redman-MacLaren 2011).

The use of decolonising methodology and postcolonial theory is key to my work as a White Australian working in PNG, a nation that gained independence from Australia in 1975 (Fanon 1963; Frèire 1994; Smith 2005; Prior 2006; Moreton-Robinson & Walter 2009; Chilisa 2012; Smith 2012). Specifically, I am committed to practising research in partnership with those who are the focus of the research, maintaining a commitment to the principle, ‘nothing about us without us’ (Charlton 1998). As I undertake public health research in the Pacific, including sensitive sexual health research, I deliberately assume the position of a naïve inquirer. After two decades of working in the Pacific, I am beginning to learn the questions to ask but never assume the answers. I continue to practice reflexivity.

Reflexivity is critical in qualitative research. Researchers bring to the research topic knowledge, attitudes, assumptions and experiences that shape the way they engage

in the research process (Mills, Bonner et al. 2006; Birks & Mills 2011). It is often passion for the topic that can be both a sustaining feature and a potential blinding filter through which the researcher views data. There is an important role for critical reflection during all stages of qualitative research, as this contributes to purposeful and ethical research practice (Mruck & Mey 2007). Much has been written about critical reflection, reflexivity and critical reflectivity in research and practice (Argyris & Schön 1974; Schön 1983; Frèire 1994; Schön 1997; Fook 1999; Fook 2002; D'Cruz, Gillingham et al. 2007; Bourke 2014; Charmaz 2014; Mills & Birks 2014). Definitions of these concepts are contested, having emerged from a variety of professional discourses including education, health and the social sciences (D'Cruz, Gillingham et al. 2007). Critical reflection encompasses critical reflection-*on*-action (after the event) and critical reflection-*in*-action ('thinking on your feet' during the event) (Yanow & Tsoukas 2009). Critical reflection generates knowledge by reflecting on a crucial incident and generalising the new knowledge to wider practice (Fook 1999). Reflexivity is a deeper and broader dimension of reflection—a research meta-methodology that draws on critical theory (Lipp 2007). The *critical* element of these reflective practices focuses researcher awareness on relations between knowledge, power and social structures (D'Cruz, Gillingham et al. 2007). In this thesis, I draw upon the work of Finlay who describes five variants of reflexivity: (1) introspection, (2) intersubjective reflection, (3) mutual collaboration, (4) social critique and (5) ironic deconstruction (Finlay 2008, p. 6). The first four of these variants of reflexivity are included throughout the thesis. These are:

(i) *Introspection*, not with the view to self-indulge (D'Cruz, Gillingham et al. 2007), but to expand my interpretations of research data and broader research experiences. An example of my use of introspection includes the standpoint statement presented in this chapter.

(ii) *Intersubjective reflection,* which describes the critical gaze on the researcher's emotional investment in research relationships. These forms of reflexivity are evidenced in the explication of axiology, ontology and epistemology in the publication included in the methodology chapter (Chapter Four) and the poetry included throughout the thesis and in the article in Chapter Eight (Redman-MacLaren In Press).

(iii) *Mutual collaboration* as a variant of reflexivity is evident in the research methods (Chapter Five), including in the article, 'Interpretive focus groups: A participatory method for interpreting and extending secondary analysis of qualitative data' (Redman-MacLaren, Tommbe et al. 2014). Co-creating knowledge can move a single researcher beyond preconceived ideas to representing multiple voices (Finlay 2008).

(iv) *Social critique* as a variant of reflexivity is expressed through the theoretical code, social determinants of health. A critical understanding of power and resource allocation to improve health for all is described in relation to the TGT. Using writing as a method of enquiry (Richardson 2000), the process of the reflexivity has provided additional sources of data: revealing elements of my theoretical sensitivity and providing additional context to the decisions made which ultimately generated the grounded theory.

I am committed to ongoing reflexivity of my standpoint, positionality and how this affects my research practice and co-created outcomes.

From this place of gentle, persistent enquiry, I considered my ontological, axiological and epistemological position before starting this research (Mertens 2009; Moreton-Robinson & Walter 2009; Birks & Mills 2011). In March 2012, I invited Jenny Cory, a senior social work colleague and mentor, to interview me. Jenny lived and worked in PNG for decades and we had worked together in Indigenous Australian communities. We met and discussed the following questions.

- Why this PhD topic?
- Where does my interest for the topic come from?
- What are my assumptions about the people I will be working with (i.e., women in PNG)?
- What about men I might interview?
- Do I have preconceived ideas about participants' roles or their responses in this research?
- What are some of my assumptions as a white Australian woman with a Christian background?
- How do my existing relationships with key collaborators affect this research?
- What are my values and research ethics?

- How might my previous work experience, including my profession of social work, influence the research process?

  The interview was audio-recorded and transcribed.

During the interview, assumptions about my positionality in the Pacific were challenged. My long-term connection to the Solomon Islands and how this may benefit or limit my engagement in PNG was explored. Specifically in a Pacific context, I saw my 'base' as Solomon Islands when relating to other Pacific islanders. This was due to my 20-year plus connection to people of East Kwaio, Malaita and the 'identity' that this gave me within Solomon Islands and the Pacific more broadly. Jenny challenged this assumption and as a result of this challenge, I developed a new sense of place—that I was *kin* but I would never be 'from' East Kwaio. There would be always things I would not know and that I would be excluded from. This 'ah-ha' moment assisted me to be more open to connecting with others from different places in the Pacific, including communities in PNG. I would never be from those places either, but I could more carefully and deliberately engage as an ally in those places.

The interview also assisted to make explicit the value base from which I was engaging in the research. Jenny and I explored the relationships and influences that had emerged from my earlier active involvement in the Seventh-day Adventist (SDA) church, a Christian denomination. The influence of my professional social work values and ethics in my research practice were further explored, including my commitment to equity and social justice. We discussed how these values had influenced my decision to use grounded theory, an inductive research methodology. We also explored difficult issues such as how I might relate to men who commit sexual violence. In addition, we explored my relationship with my husband, Dr David MacLaren, the Chief Investigator of the male circumcision (MC) Study. How would I step out and claim a researcher role and not continue in my previous role as project manager of the MC Study or on a more personal level, as *Mrs Blong David* (David's wife)?[5] Following this interview, I wrote a number of memos and have referred back to this interview throughout my PhD.

[5] Working as a couple in the Pacific continues to have many advantages, particularly in sexual health. David has worked closely with men and male researchers while I have worked closely with women and female researchers. However in the predominantly patriarchal environments that we have worked (and often with

In January 2014, after the bulk of my research activities were complete, Jenny Cory again interviewed me using the same questions. This was done to review my development as a researcher. A major change identified was the broadening of my research focus from HIV to wider social and educational concerns. I was drawn to ways social change could be informed and enacted through transformational, translational research. I reviewed my positionality in the Pacific and also discussed the pivotal role of research champions in the success of research in cross-cultural context. During the PhD, this champion was Mrs Rachael Tommbe, my colleague and friend from Enga in PNG. The reflexive interviews with Jenny Cory assisted to clarify my research values and ethics and complemented my critical reflections through memoing and poetry throughout the study. Below is an excerpt from a memo exploring this issue of my identity in the Pacific:

> *'Oro, Oro! Greetings from Popondetta. I'm currently at the Oro guesthouse, having flown with Rachael from PAU this morning, I have now settled into my lovely space. This very simple quite old but clean and has a nice feeling about it… It is like it has its own soul.*
>
> *I am writing this memo to reflect upon my sense of identity in my research in PNG…When Rachel was introducing me to Grace, one of the young women working here at the Guesthouse, she introduced me as a "hap hap meri, half Solomon Islands, half PNG". This is a very interesting iteration in my sense of identity in the Pacific. No one has call me "hap hap" before, with me often being referred to as "meri Solomon" or, in relation to Dave who speaks Solomon Islands Pijin, PNG colleagues have claimed me as PNG because I have more proficiency in Tok Pisin, I presume. The idea of "hap hap" is interesting me because of my sense of, at the beginning of this PhD, that I was placed as a Solomon meri in the Pacific context. It feels like I've graduated! The other interesting thing is that one can be "hap hap" taking the identity of adopted lands, while the white woman in me is not mentioned*

our children present), my sense of professional self can be less visible than my personal relationship with David. I explored this dynamic at length and presented a paper at a Global Social Work Conference entitled, 'Mrs on Malaita: Reflective Practice in Action in Solomon Islands' MacLaren, M. (2004). Mrs on Malaita: Reflective Practice in Action in Solomon Islands. Global Social Work, Adelaide, Australia.

at all. It is quite common for a white woman (person) to be welcomed into a Pacific community or to be given a sense of place by being called meri Solomon or meri PNG as a sign of affection. But the fact that I've been called "hap hap" today feels very important :-) Just in time, I say, as I am heading out to do our first lot of fieldwork for the PhD in a rural area' (Memo, 28 July 2013).

Reflecting on this second interview, my assumptions had (understandably) become more nuanced. I enjoy reviewing the range of experiences, skills and evident agency women in PNG have. Despite this, the majority of women I engage with do not have many choices and this reality remains a motivator for my continued work in PNG and the Pacific. Extending the PhD by supporting emerging women researchers is a passion that has been enlarged during my research in PNG. I have now submitted an Early Career Fellowship application to undertake a number of research projects emerging form this study that also includes activities to strengthen the capacity of researchers in PNG and Solomon Islands, with the majority of these researchers being women. The process of being interviewed before and after co-generating and analysing data was challenging, illuminating and instructive during the PhD research and has informed my next steps as a developing researcher.

These concepts were also central as colleagues and I critically reflected upon research capacity strengthening activities we conducted in the neighbouring Pacific islands nation of Solomon Islands. During my PhD candidature, I led the writing of an article about mutuality in research capacity strengthening with colleagues from Solomon Islands, which was published in the *Journal of Equity in Health* (Redman-MacLaren, MacLaren et al. 2012) (Appendix 10.2). This article reflects my commitment to mutuality, social justice and equality in the context of research. The reflexive work, conducted in partnership with colleagues from Australia and Solomon Islands, has laid a strong platform for the success of my PhD research in PNG.

2.3 Notes on Thesis Style, Terminology and Definitions of Male Circumcision

In this qualitative study, the privileging of co-researcher participation has been used for the purpose of enabling more positioned and meaningful analysis and findings.

Therefore, I have written the thesis in the first person. Published articles have been written in the format and style considered most accessible to the target reader or in the format required by the journal. Throughout the thesis, I refer to people who participated in the research as co-researchers, consistent with my value base and the principles of participatory action research. However, in some published articles included in the thesis we have referred to people in the study as 'participants' to be more accessible to a general qualitative research audience.

The identification codes assigned to people participating in the research have been constructed in a way that does identify the location and format that the data was co-generated in. It does not identify gender. Specifically, this is to protect the identity of the one male participant.

Consistency of terminology has been a goal not easily realised in this thesis situated across cultures, disciplines and research methods. Every attempt has been made to be inclusive rather than judgemental in the way I use terms throughout this thesis, and I apologise if any offence is caused. There are some style inconsistencies throughout the thesis, with the researcher and other people being referred to in first, second or third person, name in full or using initials. This is due to the study being reported in a number of journals with different conventions, along with sections written directly for this thesis. I thank the reader for their patience with any inconsistency of style.

There is a variety of terms used in international literature, depending upon the social and cultural context in which it is written. For example, women who experience violence may have this described as intimate partner violence, gender-based violence, domestic violence and violence against women. WHO (2013) defines violence against women as:

> *'Any act of gender-based violence that results in, or is likely to result in, physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.' (WHO 2013, p. 1).*

Intimate partner violence refers to violence perpetrated by, ‘an intimate partner or ex-partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, psychological abuse and controlling behaviours” (WHO 2013, p. 1). Some researchers choose to use the term gender-based violence to describe violence against women. More recently, gender-based violence has become a more inclusive term and is also used to describe violence against gay, lesbian, bisexual, transgender, queer and intersex people (GLBTQI) (Silverman, Decker et al. 2008). Where possible, I have referred to gender-based violence, taken as meaning violence against a person due to their socially ascribed roles (i.e., socially-assigned gender) (Michel 2006). The phrase ‘intimate partner violence’ may be used if the content I am referring to specifically relates to violence between a woman and her partner or ex-partner. For some cultures in PNG, sex is not something to be compensating a woman for and sex is not work (Wardlow 2004). This makes the internationally used terminology of ‘sex work’ even less palatable or relevant to women and men in PNG.

Male circumcision is another highly recurrent term that has a variety of meanings, depending upon the context in which it is used. When international bodies such as UNAIDS and WHO refer to male circumcision for HIV prevention, they use the phrase VMMC. This refers to the full removal of the foreskin in a medical setting. When male circumcision is discussed in PNG, it can mean the full removal of the foreskin, a dorsal slit of the foreskin or some other form of penile cutting (Hill, Tynan et al. 2012; MacLaren, Tommbe et al. 2013). In PNG, this is most often carried out in non-medical, informal settings such as traditional men’s houses or other outdoor locations such as beside a river or under palm trees (MacLaren, Tommbe et al. 2011). Penile modification in this thesis refers to changes made to the penis separately (or in addition) to penile foreskin cutting. Such practices include inserting objects or injecting fluids into the skin of the penis (MacLaren, Tommbe et al. 2013). A typology was developed to reflect major types of penile foreskin cutting in PNG (Figure 3). For a more extensive explanation of types of penile foreskin cutting, refer to Hill, Tynan et al. (2012).

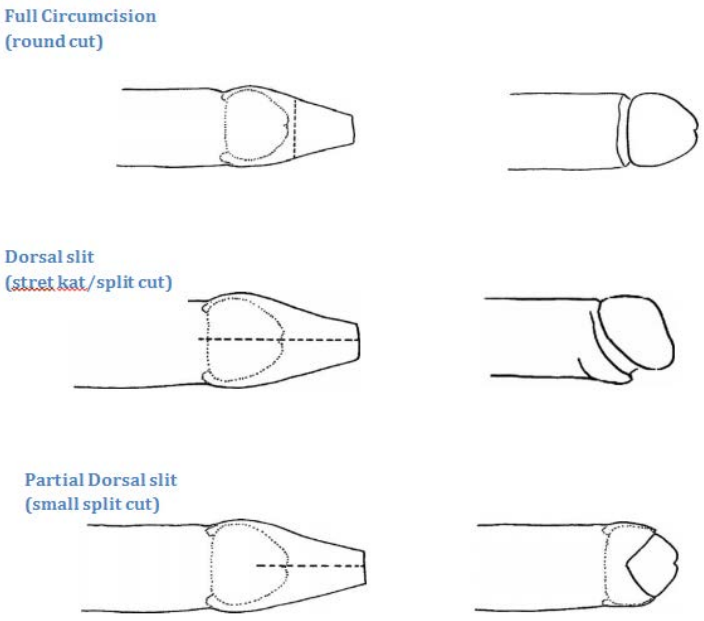


Figure 3 Typology: Penile cutting in PNG (Hill, Tynan et al. 2012).

2.3.1 More Matters of Style

At the beginning of each chapter, I begin with a poem I have written. This provides a reflexive gaze on a topic being focused on in each chapter. In addition, a diagram is included at the beginning of the chapter to highlight which aim is being addressed by that chapter.[6] There may appear some inconsistencies in referencing style in the three articles in press that are included in this thesis. This is due to referencing style requirements of the specific journal. United States spelling conventions are used for two articles in press as they are being published in US-based journals.

2.4 Summary

In this standpoint chapter, I have:

- outlined my standpoint as a researcher
- established the value of reflexivity in enhancing the quality research
- discussed style, terminology and definitions of male circucmsion in the PNG context.

[6]I would like to acknowledge Doctor Lawrence Brown, a JCU colleague, whose thesis contained a similar diagrammatic representation that inspired this approach. Brown, L. H. (2012). The energy and environmental burden of Australian ambulance services. Doctor of Philosophy, James Cook University.

In the chapter that follows, I outline the body of knowledge that helped to raise my theoretical sensivity about the reseach topic. I will:

- synthesise key literature about male circumcision and HIV prevention
- explore literature about women and male circumsicion, including current evidence from PNG
- present a published integrated literature review article about women and HIV in PNG written to inform this research.

3 The Context

Shake the Mango Tree

The computers don't work
But the people smile:
The sun is hot
Warm hymns beguile.
The road is unsafe
But paths are raked:
The kids climb trees and
The mangos shake.

Shake, shake the mango tree
*Golden mango look and see.**

What do I see?
I see a white woman:
In a land of brown
Enveloped by the past.
Smiling 'you go first'
Crashes with 'I'll take that':
All the while hoping
It's taking a new shape.

Shake, shake the mango tree
Golden mango, look and see.

Boys fill holes in the roads
And ask for cash:
The girls say no
But which boy cares for that?
The cars look flash
But cement floors are cold:
As another mummy goes down
And delivers baby number four,

Shake, shake the mango tree
golden mango look and see.

You tear me apart
breezy PNG,
land of the unexpected
and 'watching-on' me.
I live in the minute
But fear the next step:
I relish the laughter
And hold my breath.

Shake, shake the mango tree
Golden handshake, you piss me.

Big Men, you pray,
you swear allegiance:
But care for just you
No longer corrupt?
We changed the law Sir
Thieving the ground:
From on which we stand
I am feeling it shake.
Shake, shake the mango tree
Golden mango look and weep.

I hear a new song
Of justice, of peace?
Maybe just pain

*A popular song sung to children on Malaita, Solomon Islands (originally *Sesame Street*™).
^ Literally 'just try shaking the tree' in PNG *Tok Pisin.*

The themes which stirred this poem into existence include the highly Christianised context of people's lives in PNG with espoused Christian principles of peace, justice and freedom, juxtaposed with the injustice, oppression and violence experienced by many women and girls in their family, work and sexual relationships. The poem reflects informal discussions I had with a number of women in PNG about the broader context of national politics crashing into the intimately personal world of childbirth. Women in PNG often lack the most basic services—at time of writing, women in the General Hospital in Port Moresby were commonly giving birth on the cement floor of the maternity ward due to a lack of beds while the Prime Minster flew around in a corporate jet.

3.1 Chapter Outline

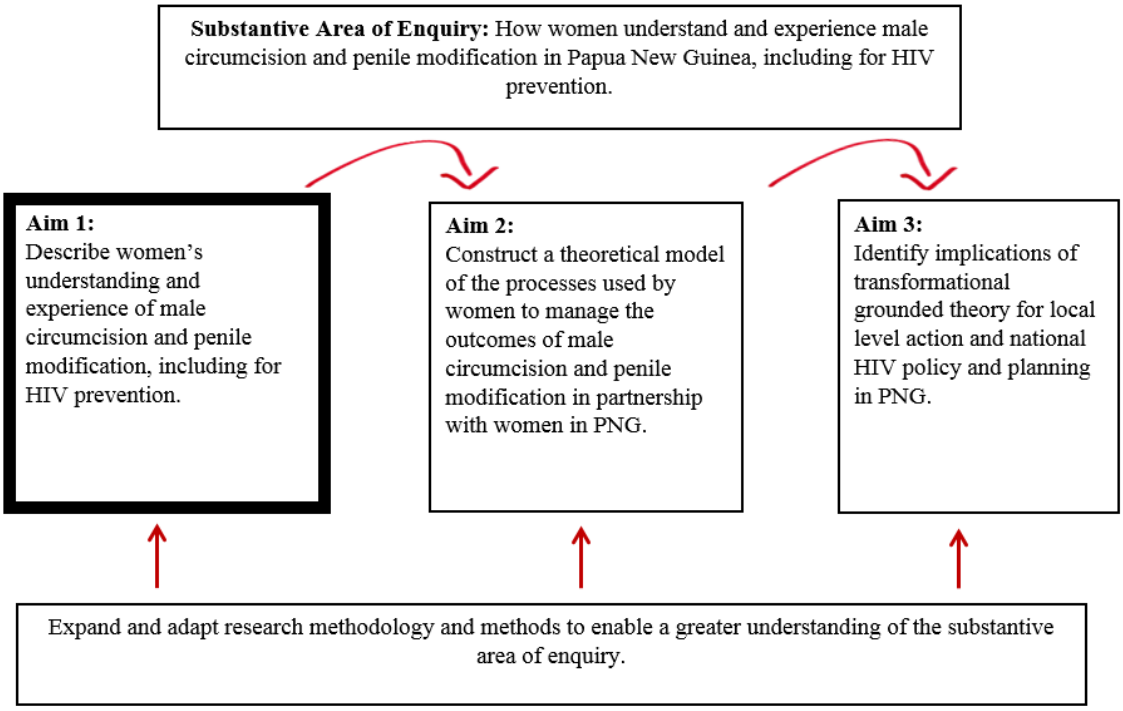


Figure 4 Focus of Chapter Three

In this chapter, I explain the reason I undertook this research about women and male circumcision in PNG. To provide the public health context, I describe HIV, discuss the current challenges of HIV globally and why male circumcision is being promoted for HIV prevention. The importance of involving women in research about male circumcision is explored. A brief description of HIV in PNG is provided, along with an outline of recent male circumcision research for HIV prevention. An integrative literature review about women and HIV in PNG provides context for this doctoral research.

This chapter contains the published literature review:

Redman-MacLaren, M. L., Mills, J., Tommbe, R., MacLaren, D. J., Speare, R., & McBride, W. J. (2013). Women and HIV in a moderate prevalence setting: An integrative review. *BMC Public Health* 13(1):552.

3.2 How This Research Came About

In November 2011, the 'National Policy Forum on Male Circumcision for HIV Prevention in PNG' was held in Port Moresby, the capital of PNG, to discuss the research findings from major studies that had examined the acceptability and feasibility of male circumcision for HIV prevention in PNG (Vallely, MacLaren et al. 2011). This forum was hosted by the PNG National AIDS Council and the PNG Sexual Health Society, with contributions from an AusAID-funded research project, the NHMRC-funded MC Study and PNG National Research Institute. During the forum, it became evident that research about the implications for women had not resulted in a definitive position. A key finding from this forum states, '*Women expressed views that male circumcision may be good for health and for cultural and religious reasons but many were concerned that men may increase their risk behaviour if they felt protected by circumcision'* (Vallely, MacLaren et al. 2011, p. 96). Supported by leaders at this forum, I submitted and won a NHMRC PhD scholarship to conduct this doctoral research, which I now report. In this contextualising chapter, I begin with a brief description of HIV.

3.3 Human Immunodeficiency Virus

HIV is a lentivirus virus (subgroup of retroviruses) that can break down the protective mechanisms of the host. Despite HIV being a lentivirus (so called, as the viruses are slow to cause overt disease), it is one of the fastest evolving of all organisms (Rambaut, Posada et al. 2004). HIV attacks the immune system (usually targeting CD4+ T4 helper lymphocytes) which results in opportunistic infections. If the immune system is severely damaged, a person will develop AIDS. AIDS results in opportunistic infections, most commonly pneumocystis pneumonia, Kaposi's sarcoma, cytomegalovirus infection and Candidiasis. HIV can be transmitted through bodily fluids including pre-ejaculatory fluid, vaginal secretions and breast milk of a HIV positive person. Unprotected sex and sharing needles are the most common ways HIV is transmitted. There is currently no cure for HIV, although there are increasingly effective antiretroviral (ARV) drugs. Standard ART, which consists of at least three ARV drugs, is recommended to maximally suppress HIV virus (Australiasian Society for HIV Medicine 2014). Consistent use of ARV drugs can reduce the viral load of a person

living with HIV and thus reduce the risk of AIDS and the risk of transmitting HIV to another person (Baeten, Donnell et al. 2012). Huge reductions in rates of both death and suffering can be made when a potent ARV regimen is adhered to (WHO 2014c).

3.3.1 History of HIV

The first confirmed case of HIV infection was identified in 1959 in the Belgian Congo, now Democratic Republic of the Congo (DRC) (Rambaut, Posada et al. 2004). It is believed this is the first case known where Simian Immunodeficiency Virus (SIV), found in African primates, became the HIV, which causes AIDS. Two types of HIV have since been characterised: HIV-1 and HIV-2. There are various theories about how HIV came to be in humans. It is believed humans hunted wild chimpanzees infected with SIV crossing species resulting in HIV-1, while HIV-2 arose from a SIV in the Old World monkey, Sooty Mangabey (Rambaut, Posada et al. 2004). In 1981, aggressive forms of Kaposi's sarcoma (a cancer that usually occurred in older people) were identified in gay men in New York. About the same time, the U.S. Centers for Disease Control and Prevention (CDC) described cases of a rare lung infection, *Pneumocystis carinii* pneumonia (PCP), in five young, previously healthy, gay men in Los Angeles. By the end of 1981, there was a cumulative total of 270 reported cases of severe immune deficiency among gay men, with 121 of those men having died (U.S. Department of Health & Human Services 2014). This was the beginning of what became known as the AIDS epidemic. Since then, 39 million people have died from AIDS (UNAIDS 2014).

3.4 Human Immunodeficiency Virus Around the Globe

UNAIDS estimates 35 million people are living with HIV, with approximately 19 million of those people unaware they have the virus (UNAIDS 2014). Women make up half of the people living with HIV, although gender inequalities and biological differences still make women and girls more vulnerable to HIV (Gay, Croce-Galis et al. 2012). In particular, women are more vulnerable to HIV due to gender-based violence. Women who have experienced intimate partner violence or sexual violence are more likely to acquire HIV (UNAIDS 2014). Conversely, women who are living with HIV are more likely to be at risk of intimate partner violence (Dunkle & Decker 2013). This can affect a woman’s ability to negotiate condom use, test for HIV and adhere to ART

(Dunkle & Decker 2013; Kacanek, Bostrom et al. 2013). There is also evidence that women who experienced sexual abuse as a child are more likely to engage in risky sexual behaviours and thus be more likely to acquire HIV (Lewis 2012; UNAIDS 2014). Gender equity is critical to reducing HIV risk for women and girls globally.

Key populations and vulnerable groups are now the focus of the HIV response. Men who have sex with men, people in prisons and other closed settings, people who inject drugs, sex workers and transgender people are disproportionately affected by HIV. WHO recently released guidelines for working with key populations, stating 'without addressing the needs of key populations, a sustainable response to HIV will not be achieved' (2014, p. 3). In addition, vulnerable groups in specific contexts have been identified as needing tailored services for HIV prevention and treatment. Depending upon the context, these groups can include long-distance truck drivers, migrant workers, military, refugees and young women in Southern Africa (WHO 2014d). Many in key populations do not perceive themselves at risk (Corneli, McKenna et al. 2014). A focus on prevention and treatment for key populations will reduce the global prevalence of HIV.

There are a number of barriers for people accessing information and treatment for HIV services globally. These include stigma, discrimination and violence towards people living with HIV, criminalisation of sexual practices, lack of access to effective and respectful health services and health literacy (WHO 2014d). Structural barriers that reduce access to ART include economic, institutional, political and cultural factors (Kagee, Remien et al. 2010). Practically, these barriers affect supply chains, infrastructure such as roads and health centres, the safety of people accessing prevention and treatment options, along with reduced availability and acceptance of ARV drugs. People living in low to middle-income countries are most affected. Prevention and treatment of HIV transmission is central to reducing HIV burden globally. To this end, male circumcision is being promoted as a key option for HIV prevention across a number of settings.

3.5 Male Circumcision and Human Immunodeficiency Virus

Three large randomised control trials in Southern Africa demonstrated male circumcision reduces female to male transmission of HIV (penile to vaginal sex) by

approximately 60 per cent (Auvert, Taljaard et al. 2005; Bailey, Moses et al. 2007; Gray, Kigozi et al. 2007). WHO and UNAIDS now recommend VMMC be offered in countries and regions with heterosexual epidemics, high prevalence of HIV and low levels of male circumcision (WHO 2012). There is insufficient evidence to recommend male circumcision as a HIV prevention measure for men who have sex with men (Millett, Flores et al. 2008; Wiysonge, Kongnyuy et al. 2011). The local, sociocultural context must inform VMMC programming, with service delivery to be guided by human rights, gender implications and legal and ethical principles. Therefore, suitable research is needed to guide VMMC programs (WHO/UNAIDS 2007). VMMC services have been scaled up across sub-Saharan Africa, with about 5.8 million adult men in Eastern and Southern African countries circumcised between 2008 and 2013 (WHO 2014a).

In PNG, HIV is primarily transmitted by heterosexual sex, there are areas of moderate prevalence and very few circumcision procedures are procured through the health system. Therefore, male circumcision for HIV prevention is being investigated. Two large acceptability and feasibility studies reported diverse penile foreskin cutting in PNG. Full removal of the foreskin (consistent with medical male circumcision) is less common than the longitudinal cut of the foreskin (dorsal slit) (Hill, Tynan et al. 2012; Vallely, MacLaren et al. 2011; MacLaren, Tommbe et al. 2013). Very little foreskin cutting occurs in medical settings (MacLaren, Tommbe et al. 2011). A number of studies are now being conducted to assess the protective effect of the dorsal slit for HIV prevention (2014). Histopathology research is also being conducted to understand immuno-histological correlates of protection from HIV transmission by male circumcision and other forms of penile cuttings (Jayathunge, McBride et al. 2014). Modelling has been conducted to assess the potential impacts of VMMC relative to a modestly effective HIV vaccine (Kaldor & Wilson 2010) and the potential impact VMMC may have on condom use (Andersson, Owens et al. 2010). A recent study examined the likely impact of a medical male circumcision intervention in PNG using a mathematical model of HIV transmission (Gray, Vallely et al. 2014). A key finding from this modelling was that increased condom use could have a much greater impact than a rollout of medical male circumcision. Male circumcision remains a research priority of the National Department of Health and National AIDS Council Secretariat in PNG (National Department of Health and National AIDS Council Secretariat 2013)

with an understanding of the implications of male circumcision for women, as highlighted in the national policy forum, essential to inform national policy.

3.6 Women and Male Circumcision

Male circumcision provides no known direct benefits in preventing HIV for women in the short term (WHO 2007). However, there are a number of indirect benefits in the longer term. If a high enough percentage of men are circumcised, the number of men being infected will be reduced and so the risk of women being exposed to HIV on a population level is reduced (Hankins 2007; Baeten, Celum et al. 2009; Kurth, Celum et al. 2010; Njeuhmeli, Forsythe et al. 2011; Riess, Achieng et al. 2014). Women may also benefit indirectly by being less exposed to other STIs, including syphilis, genital ulcer disease, herpes simplex virus type 2 infection, gonorrhoea and chlamydia, as circumcised men have lower rates of these SRIs than non-circumcised men (Pintye, Baeten et al.; WHO 2007; Tobian, Gray et al. 2010). Circumcised men are 35 per cent less likely to acquire high-risk penile human papilloma virus (HPV) and thus women have lower risk of developing cervical cancer (Auvert, Taljaard et al. 2005; Gray 2009; Tobian, Serwadda et al. 2009). As male circumcision is rolled out as a HIV prevention strategy, more men will have the opportunity to be HIV tested and will know their status. This may assist men *and* women to make more informed choices about HIV prevention (WHO 2007). Circumcision interventions, in partnership with other types of prevention programmes, could change behaviour and reduce the risk of HIV acquisition for men and women (Hallett, Singh et al. 2008). Male circumcision can benefit women.

Women across a number of studies report a range of positive and negative aspects of male circumcision for HIV prevention. Some women state circumcised men are cleaner, carry fewer diseases, and take more time to reach ejaculation, making sex more satisfying (Kelly, Kupul et al. 2013; MacLaren, Tommbe et al. 2013; Riess, Achieng et al. 2014). However, there is also concern that circumcised men may be able to engage in riskier behaviour due to perceived protection. There was concern this risk compensation would result in an increased number of sexual partners and men taking more sexual risks (Feuer 2010; MacPhail, Sayles et al. 2012). Women express concern that a false sense of protection on the man's behalf could compromise a woman's ability to negotiate safe sex (AIDS Vaccine Advocay Coalition 2008). Concerns of risk compensation are not supported by recent evidence (Njeuhmeli, Forsythe et al. 2011;

MacLaren, Tommbe et al. 2013; Kenny and Fourie 2014) but the need to manage women's perception of negative outcomes of male circumcision remains (UNAIDS, WHO et al. 2007; Curran 2014). Some men do not wait the six weeks required for optimal healing post-circumcision (Herman-Roloff, Bailey et al. 2012) and many women do not know about the impact of sex prior to healing. This puts men and their partner/s at greater risk of HIV transmission (Wawer, Makumbi et al. 2009; Wilson, Wittlin et al. 2011; Curran 2014).

Women fear a reduced ability to negotiate safe sex using condoms will put women at greater risk of HIV transmission and gender-based violence (Berer 2008; Women's HIV Prevention Tracking Project 2010). There is virtually no evidence that gender-based violence is increasing due to VMMC (Layer, Beckham et al. 2013; Curran 2014). Women's health advocates are concerned that concentrating on male circumcision diverts resources from other HIV prevention options, including female condoms and microbicides (Feuer 2010). There are also concerns that if men are circumcised, HIV positive women will experience greater rates of stigma as they experience blame for bringing infection into relationships (UNAIDS, WHO et al. 2007). When reflecting upon the delayed protection for women that the male circumcision response provides (Njeuhmeli, Forsythe et al. 2011), Berer wrote plainly, 'stuff the false claims. Partners of circumcised men have an equal right to protection now. They still need condoms more than they need male circumcision' (Berer 2009, p. 1497–1498).

Infant male circumcision is also a potential HIV prevention strategy being explored. Researchers have shown male circumcision of infants can be beneficial (Tobian, Gray et al. 2010) and women recognise there are health benefits associated with having their boys circumcised (Women's HIV Prevention Tracking Project 2010). Some women are hesitant to arrange circumcision of their sons before the boys are of an age to consent to the procedure (Hankins 2007; Tobian, Gray et al. 2010). Other women feel the health benefits outweigh these ethical concerns. In traditionally circumcising areas and/or highly patriarchal societies, men are often responsible for arranging and conducting circumcision, which limits the role of decision making for women (Hankins 2007; Young, Odoyo-June et al. 2012). Circumcising earlier in life does reduce the risk of men having sex before being fully healed and thus maximises the benefits of male circumcision while reducing the risks of passing on HIV to their female partners (Baeten, Donnell et al. 2010).

Consistent with the grounded theory concept of theoretical sensitivity, an integrative review was undertaken to examine peer-reviewed literature about women and HIV in PNG. Initially the review sought to explore the literature about women, HIV and male circumcision in PNG to inform this study. However, following the systematic interrogation of two key online databases (Scopus and PubMed) using the key terms (MeSH terms) *HIV; women (and female); male circumcision; and Papua New Guinea*, only two peer-reviewed publications were identified (Jenkins & Alpers 1996; Caldwell & Isaac-Toua 2002). The search was then broadened to include the wider context of women and HIV in PNG.

3.7 Women and Human Immunodeficiency Virus in Papua New Guinea: An Integrative Review.

In 2013, I led the publication of an integrative review on the literature about women and HIV in PNG. This article reviews literature published about women and HIV and contextualises women's experience of HIV in broader social, cultural and spiritual contexts of PNG.

Redman-MacLaren, ML, Mills, J, Tommbe, R, MacLaren, DJ, Speare, R & McBride, WJ 2013, 'Women and HIV in a moderate prevalence setting: An integrative review', *BMC Public Health*, vol. 13, no. 1, p. 552. doi:10.1186/1471-2458-13-552

Highly Accessed: n= 2562 (BMC Central website; 01.04.2015); Citations n=5 (Google scholar; 01.04.2015).

Redman-MacLaren et al. BMC Public Health 2013, 13:552
http://www.biomedcentral.com/1471-2458/13/552

BMC Public Health

RESEARCH ARTICLE Open Access

Women and HIV in a moderate prevalence setting: an integrative review

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Abstract

Background: Almost 32,000 people are living with human immunodeficiency virus (HIV) in Papua New Guinea (PNG). The primary route of transmission in this moderate prevalence setting is through heterosexual sex. Thus a gendered understanding of HIV is required to inform HIV prevention, treatment and care options. The aim of this review is to investigate understandings specifically about women and HIV in PNG and to identify gaps in the literature to inform future HIV research.

Methods: An integrative review of literature about women, HIV and PNG was conducted using a systematic search of online databases, including book chapters and grey literature. Prior to inclusion, literature was assessed using inclusion and exclusion criteria, and the Critical Appraisal Skills Programme (CASP) appraisal tool. Selected articles, book chapters and reports were coded and a constant comparative method of analysis used to construct a series of themes.

Results: The 26 articles, book chapters and reports included in the review were predominantly descriptive, original research (23/26 pieces of literature). Six themes were identified in the literature: economic, social and cultural factors (including mobility); gender issues (including violence against women); knowledge about HIV (including perception of risk of HIV); religious beliefs about HIV; women perceived as responsible for HIV transmission; and prevention of HIV. Literature about women and HIV in PNG is predominantly focussed upon women who sell sex, women as mothers or young women. Women are usually represented as either victims of HIV or responsible for transmitting HIV. Anthropological and social research has described the economic, social and cultural context along with the lived experience of HIV in PNG, but there is limited operations research or implementation research available.

Conclusions: The literature reviewed has highlighted the importance of a gendered analysis of HIV prevention, care and treatment in PNG. There is an opportunity for operations, implementation and health systems research about HIV in PNG to shift research from description to action.

Keywords: Women, Gender, HIV, Papua New Guinea, Integrative review, Moderate prevalence setting

Background

Almost 32,000 people are living with human immunodeficiency virus (HIV) in Papua New Guinea (PNG) in 2012 [1]. HIV in this moderate prevalence setting is predominantly transmitted through heterosexual sex and needs to be understood within a complex and diverse social, cultural and spiritual milieu. A gendered understanding of the HIV epidemic in PNG is required to begin to reduce incidence of HIV transmission in PNG [2-4]. This integrative review examines current literature specifically about women and HIV in PNG, describing themes emerging from the literature and identifying gaps in knowledge which may contribute to successful HIV prevention, care and treatment of women in PNG.

PNG is a Pacific Islands country with a population of almost 7 million and over 800 languages [5,6]. Approximately 48% of the population is under 14 years of age

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[6]. Most people in PNG live a subsistence lifestyle in village settings, with around 85% located in rural areas [6]. Almost all the population of PNG identify as Christian (96%), with more than 10 mainstream churches, and a number of less well known denominations [7].

PNG has 90% of all reported HIV infections in the Oceania Region [8,9], with an estimated prevalence of 0.79% of the adult population living with HIV [1]. HIV rates across provinces and sexual risk groups are unevenly distributed [9,10]. Current HIV prevalence is estimated from data collected from 203 antenatal clinics across PNG, supplemented with national population and antiretroviral therapy (ART) data [1,11]. At risk populations, including women who sell sex, have higher rates of HIV than the general population, with a recent study of women who sell sex in Port Moresby reporting a HIV rate of 17.8% [12].

Women in PNG occupy a wide variety of roles: from wealthy, urban professional to poor, subsistence farmers. However, the majority of women in PNG live in rural areas and have primary responsibility for food production, with limited access to the cash economy. There are matrilineal societies in PNG (where land is inherited through the mother's line); however the majority are patrilineal. Educational opportunities for many girls and women are also limited, with approximately 50% of women in PNG considered literate [7]. While there have been some improvements in educational opportunities, only 12.4% of girls complete secondary school, which is half the number of boys who complete secondary school [13]. The life expectancy of a woman in PNG is 65 years compared to men at 62 years [14]. Of the 111 members of the National Parliament in 2012, only three were women [15].

Women in PNG experience maternal mortality rates of 230/100,000, the highest in the Asia Pacific region [16]. However, these rates are challenged by some working in the health sector in PNG, who estimate the rate is closer to 750/100,000 in some areas [17]. Women predominantly engage with the health care system as mothers or expectant mothers, and the challenges faced by HIV positive women are many fold and require a specialist response [18]. HIV transmission from parent-to-child is an avoidable tragedy that contributes to high rates of HIV in PNG. Not all antenatal clinics are equipped to provide antiretroviral therapies (ARTs) to prevent mother to child transmission.

Over two thirds of women in PNG will experience violence at some time in their life, most often perpetrated by their male partner or family member/s [19-21]. PNG is ranked 140th out of 146 countries for gender equality (UNDP 2011), with gender inequality and violence against women increasingly linked with increased HIV risk [22-26].

Sixty percent of people living with HIV in PNG are women (NACS 2012), with younger women over-represented in this group [27]. Significant risk of HIV infection exists for women in PNG because of unprotected heterosexual sex with multiple partners, often from a young age [28,29]. Women experience high levels of untreated sexually transmitted infections (STIs) [10,30], with weak health care delivery systems and surveillance contributing to the limited ability to detect and treat STIs, including HIV [31-33].

HIV prevention has been challenged to date by the limited incorporation of social, cultural and economic drivers of HIV [34]. Anti-condom sentiments are promoted by some Christian groups (although some Christian churches have actively promoted and distributed condoms) [35,36]. The Abstinence, Be Faithful and use a Condom (ABC) HIV prevention messaging is an example of a strategy which does not take full account of women's social, cultural and economic position. Women are often unable to insist on condom usage in the predominantly patriarchal nature of PNG society, with high rates of violence including sexual violence and polygamous marriages [25].

The aim of this integrative review is to investigate understandings about women and HIV in PNG and to identify gaps in the literature to inform future HIV research in PNG.

Methods

An integrative review was undertaken to examine public health literature about women and HIV in PNG. The key questions guiding the literature review were:

(i) What peer-reviewed literature exists about women, HIV and Papua New Guinea?
(ii) What is the nature of that literature?
(iii) What is the knowledge base upon which future HIV prevention strategies can be planned?
(iv) What are the research gaps in the peer-reviewed literature?

An integrative review methodology was employed as it allows for the inclusion of experimental and non-experimental research and for data from the theoretical and empirical literature [37]. This design is appropriate for the diverse range of literature published about HIV in PNG. The review consisted of four phases. The first phase was a comprehensive search of *Pub Med* and *Scopus* using four Medical Subject Headings (MeSH): *HIV*; *women*; *female*; *Papua New Guinea* conducted on the 7 March 2012. *Pub Med* comprises 5,632 journals, including all Medline entries for peer-reviewed health and medical journals. *Scopus* is a large database with almost 19,500 peer-

reviewed online journals in areas of science, life sciences, physical sciences, medicine and social sciences. These databases were chosen for their comprehensive focus on health, public health and health and social sciences [38,39].

Peer reviewed journal articles constitute one kind of research output and are not always where research activity is reported [40], as is the case in PNG. The second phase was a search of the first 100 websites in *Google* with the same key terms: *HIV*; *women*; *female*; *Papua New Guinea*, undertaken in March and April 2012. The third phase was a search of HIV literature produced by Papua New Guinea Government departments, the PNG National Research Institute and PNG Institute of Medical Research on their respective websites. The fourth phase was a review of literature sourced from colleagues, researchers and academics in PNG and internationally between March and July 2012, with reference lists from these documents checked for literature that might have been missed.

Inclusion criteria

The following inclusion criteria were applied to the identified articles, book chapters and reports:

(i) The primary focus of the literature (or a significant section) was about *women* and *HIV* in *Papua New Guinea*
(ii) Literature was peer reviewed (as described by journals or book publishers)
(iii) Literature published between January 2004 and July 2012

Exclusion criteria

(i) Non-peer reviewed literature was excluded from the review. This included government reports, research institute publications and reviews which were not peer reviewed.
(ii) Literature focused on funding responses to HIV and HIV control (including Global Fund/Asia Development Bank investments) and Pacific wide surveillance were not included in the review.
(iii) A National AIDS Council commissioned literature review of HIV research in PNG was identified but not included in this review as it was not peer-reviewed [41].
(iv) Literature was not included if it was published before 2004. Although literature published before this year is valuable, the nature of the HIV epidemic in PNG changed with the introduction of ARTs in 2004 [42]. This change shifted a HIV diagnosis for many in PNG from an acute, life threatening infection to a chronic disease.

Classification of literature

The nature of the literature was classified as: a) original research, b) reviews, c) program descriptions and d) commentary/discussion paper using an adapted research identification schema [43]. Original research was further classified as: (i) descriptive; (ii) measurement studies; (iii) operations/intervention research [43]. The Critical Appraisal Skills Programme (CASP) system of appraisal was adopted to appraise the rigour, key methods, credibility and relevance of the diverse literature being considered for inclusion [44].

Results

Using the identified search terms, *Scopus* returned 94 references and *PubMed* 42 references. Once additional reports, book chapters and reports were identified and duplicates removed, a total of 129 references remained (Figure 1: PRISMA Flow Chart) [45]. The inclusion and exclusion criteria were applied with 26 documents included in the review: 16 journal articles; 4 book chapters; 1 discussion paper; 1 working paper; and 4 reports (bio-behavioural surveys).

The 26 documents were categorised by research type and the full text of these documents analysed by MRM, using the qualitative software programme NVivo™. Codes and themes were then identified using a constant comparative method of analysis. Drawn from grounded theory research methods, constant comparison is a process of comparing codes to codes, codes to themes and themes to themes [46,47]. The qualitative analysis and interpretation was informed by the authors' reading of the literature, experience in PNG and previous knowledge of issues for women in PNG. NVivo™ was used to organise the outputs of the analysis. All authors further reviewed categorisation of the type of literature and the codes and themes emerging from the literature for this review. The literature included in this review includes: a) original research n = 23; b) program descriptions n = 1; and c) commentary/discussion paper n = 2. There were no reviews identified. Key elements of the 26 documents included in the review are summarised in Table 1 including: author/s, date, source, nature of research, research design and participants; and key findings (Table 1: Summary of Literature).

Before continuing to an analysis of this literature, we wish to acknowledge the conceptual challenge of isolating *women* as a category for this review. Feminist theory has contributed an understanding of sex and gender which separates physical characteristics (sex) from socially ascribed roles (gender) [48]. From a public health perspective the focus of literature reviewed for this article is *women* as a gendered category, understood in the diverse sociocultural context of PNG. Wingood and DiClemente [49] explain that it is gender-based

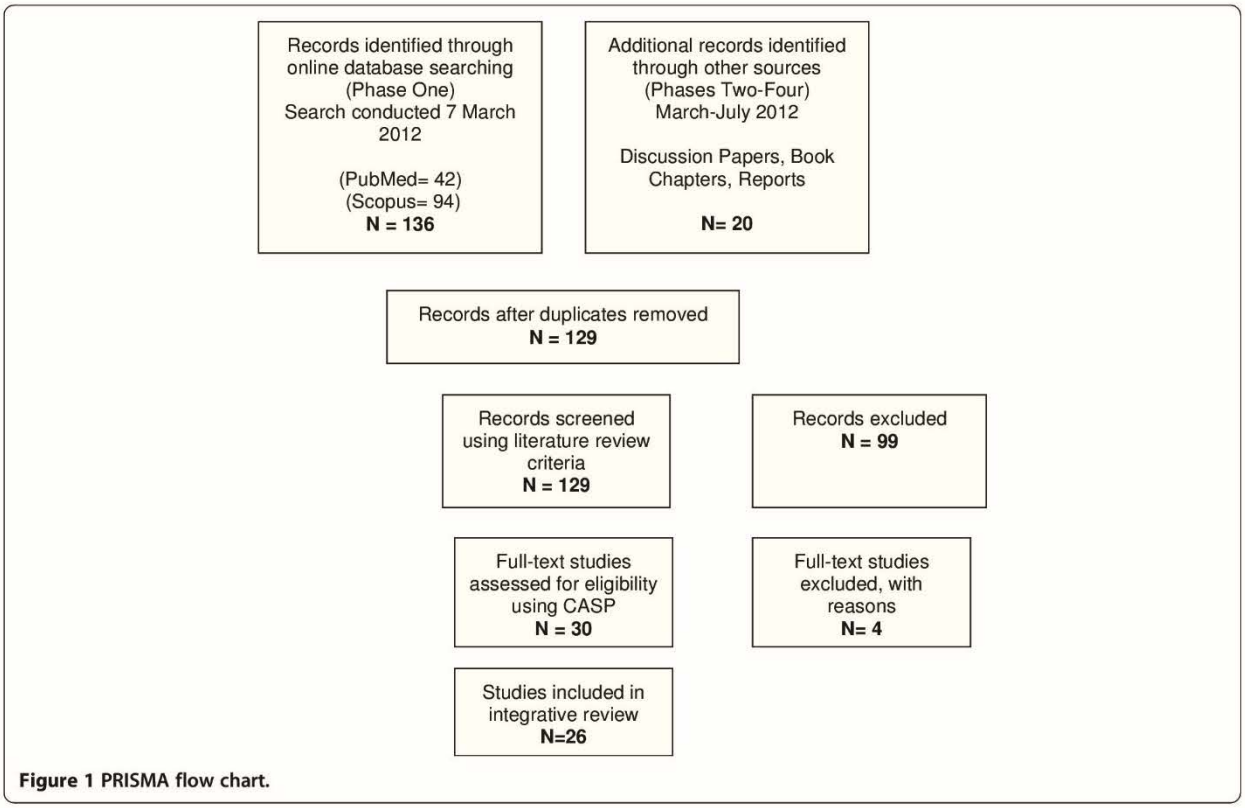


Figure 1 PRISMA flow chart.

inequality and disparities in expectations which generate risk of HIV for women. This risk for women will be explored within the geographic bounds of PNG.

Throughout the literature included in this review, women were mostly studied in groups depending upon a role they held in society: women who sell or exchange goods for sex [12,30,50-55], young women [13,56] and women as mothers/carers [57,58]. These roles were often the criteria for inclusion in a study. Specific experiences were also examined, such as violence, accusations of witchcraft and sorcery [59] and sexual abuse [22,34,60]. Major themes identified from inductively coding the literature were:

- Economic, social and cultural factors impacting HIV, including mobility
- Gender-based inequality, including violence against women
- Knowledge about HIV, including perception of risk of HIV
- Religious beliefs about HIV
- Women perceived as responsible for HIV transmission
- Prevention of HIV

Economic, social and cultural factors impacting HIV, including mobility and HIV risk

The changing economic, social and cultural context of PNG is reported to influence the risk of HIV for women. Urbanisation and modernisation result in changed economic, social and cultural conditions, including changed sexual practices. Separation from traditional lands and forms of subsistence (such as gardens) means services in exchange for goods or money is required for survival. For women in urban and peri-urban environments in PNG where there are very limited employment opportunities, the selling or exchanging of sex for money or goods is often 'survival sex' [51]. Bruce et al. [53] argue that economic deprivation is likely to influence sexual behaviours which increase the risk of HIV infection. Clark and colleagues support this position, stating that the selling of sex results from a high and increasing population density along with a rapid increase in poverty [61]. Changing economic drivers in PNG are leading to increased mobility for men and women, bringing new social and cultural norms and mores and an associated increased risk of HIV transmission. Lepani states that in contemporary PNG, "where men and women move, money moves as well" [34]. The Highlands Highway was a particular focus of a study by Gare et al. [30] who found that while the highway serves as the major economic route, it may also be the main conduit for the transmission of STIs and HIV between provinces. Wardlow in her work on men's extramarital sexuality in rural PNG, also highlighted the link between economic drivers and HIV saying: "HIV/AIDS prevention policies

Table 1 Summary of literature

Title of article/chapter	Year of publication	Authors	Source	Nature of research: methods	Summary of findings
1. Why Women Object to Male Circumcision to Prevent HIV in a Moderate-Prevalence Setting	2013	Kelly (Reference No. 70)	Qualitative Health Research	Original Research (descriptive): Qualitative research (semi-structured interviews and focus groups n = 210)	A minority of women accepted male circumcision for the prevention of HIV and other sexually transmitted infections, and for the benefit of penile hygiene and health. Women's objections to circumcision as a biomedical method of preventing HIV re-emphasise the importance of sociocultural and behavioural interventions in PNG.
2. At risk: The relationship between experiences of child sexual abuse and women's HIV status in Papua New Guinea.	2012	Lewis (Reference No. 60)	Journal of Child Sexual Abuse	Original Research (descriptive): Mixed methods study (structured survey n = 415; HIV testing n = 312)	Child sexual abuse was reported by 27.5% of the sample (n = 114). Women reporting child sexual abuse were more likely to live in violent relationships, be HIV positive, and have a higher number of sexual partners.
3. HIV knowledge, risk perception, and safer sex practices among female sex workers in Port Moresby, Papua New Guinea.	2011	Bruce (Reference No. 53)	International Journal of Women's Health	Original Research (descriptive): Mixed Method study (survey n = 174; semi-structured interviews n = 142; focus group discussions n = 32)	Most female sex workers were aware of the risks of HIV but used condoms inconsistently. Contextual barriers to safer sex practices exist. Application for HIV prevention strategies.
4. Understanding the context of providing HIV prevention and treatment in Papua New Guinea.	2011	Clarke (Reference No. 61)	Journal of Trans cultural Nursing	Discussion Paper	Examination of biological, socio cultural, and political influences on the HIV epidemic and on prevention and treatment strategies in PNG.
5. Askim na save (Ask and understand): People who sell and/or exchange sex in Port Moresby.	2011	Kelly (Reference No. 12)	Papua New Guinea Institute of Medical Research and University of New South Wales	Original Research (descriptive): bio-behavioural study using mixed methods (survey n = 593 (women n = 441); in-depth interviews n = 25 (women n = 16)	The study maps the sale and exchange of sex in Port Moresby providing a more detailed understanding of sex workers and their vulnerability to HIV.
6. Reading generalised HIV epidemics as a woman	2011	Reid (Reference No. 2)	State Society and Governance in Melanesia, Australian National University	Discussion paper 2011/4	Socially constructed spaces of femininity and masculinity, including use of power and gendered practices shape interactions. Reading generalised epidemics as a woman provides ways to work within these spaces so that women's lives and the lives of those that are important to them are transformed and protected.
7. Bio-behavioural sentinel surveillance survey among women attending the Port Moresby General Hospital Antenatal (PPTCT) Clinic 2008	2010 (a)	Arawafu (Reference No. 58)	National Research Institute of PNG	Original Research (descriptive): bio-behavioural study using mixed methods (survey n = 300; women n = 172).	Documented economic, social and cultural factors including sexual practices which contribute to HIV risk for women attending the Port Moresby General Hospital Antenatal Clinic.
8. Bio-behavioural sentinel surveillance survey among women attending Lae Friends STI clinic 2008.	2010 (b)	Arawafu (Reference No. 67)	National Research Institute of PNG	Original Research (descriptive): bio-behavioural study using mixed methods (survey n = 307 women).	Documented economic, social and cultural factors including sexual practices which contribute to HIV risk for women attending the Lae Friends STI Clinic.
9. Behavioural surveillance research in rural development enclaves in Papua New Guinea: A study with the Oil Search Limited workforce.	2010	Buchanan (Reference No. 66)	National Research Institute of PNG	Original Research (descriptive): bio-behavioural study using mixed methods (survey n = 299; women n = 161).	Documented economic, social and cultural factors including sexual practices which contribute to HIV risk in the WR Carpenter Estates workforce, Western Highlands Province.

Table 1 Summary of literature *(Continued)*

10. Knowledge, attitudes, practices and behaviour of female sex workers in Port Moresby, Papua New Guinea.	2010	Bruce (Reference No. 50)	Sexual Health Journal	Original Research (descriptive): Quantitative study (n = 79)	72% respondents consistently use condoms. Condom use is yet to reach the required level to protect female sex workers from HIV.
11. AIDS and 'building a wall' around Christian country in rural Papua New Guinea.	2010	Dundon (Reference No. 62)	Australian Journal of Anthropology	Original Research (descriptive): Ethnographic enquiry (n = NA)	A growing divide between rural and urban Gogodala, then, has become a major part of the local dialogue about AIDS and represents significant contestation over the practices and ideational basis of Christian country.
12. From Gift to Commodity . . . and Back Again: Form and Fluidity of Sexual Networking in Papua New Guinea	2010	Hammar (Reference No. 54)	In, Civic Insecurity: Law, Order and HIV in Papua New Guinea.	Original Research (descriptive): Ethnographic enquiry (n = NA)	Sexual networking is a social process, thus critical ethnographic and social research provides evidence to respond to HIV in PNG; epidemic in PNG is unique to PNG context; just governance and a vibrant civil society is required to respond successfully to HIV; state sponsored brothels will not be the answer to PNG's HIV epidemic and fails to respond to male sexual privilege and sex-negative attitudes.
13. Witchcraft, Torture and HIV.	2010	Haley (Reference No. 69)	In, Civic Insecurity: Law, Order and HIV in Papua New Guinea.	Original Research (descriptive): Ethnographic enquiry (n = NA)	Accusations of witchcraft in the Highlands of PNG appear to be increasing and often result in torture, rape and sometimes death. Changed sexual practices shape the way people are experiencing the HIV epidemic in the Highlands, with AIDS-related deaths being widely interpreted in terms of witchcraft.
14. Gendered talk about sex, sexual relationships and HIV among young people in Papua New Guinea.	2010	Kelly (Reference No. 56)	Culture, Health and Sexuality journal	Original Research (descriptive): Qualitative study with high school students (focus groups n = 8; no. student's =73)	When discussing sex, young men used explicit language and referred specifically to sexual organs and activities; young women did not. Young men were more open publically about sex; young women discussed sex one-on-one and in private. Application for HIV prevention strategies.
15. Attitudes to HIV testing among carers of children admitted to Port Moresby General Hospital, Papua New Guinea.	2008	Allison (Reference No. 57)	Journal of Paediatrics and Child Health	Original Research (descriptive): Qualitative study: semi-structured interviews (n = 40)	Three quarters of the women interviewed would consent to having their child tested for HIV; over half of the women who had never undertaken a HIV test would agree to be tested.
16. Buying Betel and Selling Sex: Contested Boundaries, Risk Milieus, and Discourses about HIV/AIDS in the Markham Valley, Papua New Guinea	2008	Beer (Reference No. 68)	In, Making Sense of AIDS: Culture, Sexuality, and Power in Melanesia	Original Research (descriptive): Ethnographic enquiry (n = NA)	Analysis of demographic and social change for people living in the Markham Valley as conditions for risk of HIV. Specifically, land pressure, population growth and inward migration of non-Wampar people are described.
17. Fear and Loathing in Papua New Guinea: Sexual health in a nation under siege.	2008	Hammar (Reference No. 64)	In, Making Sense of AIDS: Culture, Sexuality, and Power in Melanesia	Original Research (descriptive): Ethnographic enquiry (n = NA)	Strengths and weaknesses of health services in PNG are identified, including limitations of current HIV prevention initiatives. Description of attitudes towards sexual practices and taboos, including treatment of people living (and dying) with AIDS.

Table 1 Summary of literature *(Continued)*

18. Mobility, violence and the gendering of HIV in Papua New Guinea.	2008	Lepani, K. (Reference No. 34)	Australian Journal of Anthropology	Original Research (descriptive): Ethnographic enquiry (n = NA)	The links between gender, sexuality and violence hold serious implications for HIV transmission and its social and economic effects.
19. Violence against women in Papua New Guinea.	2008	Lewis (Reference No. 22)	Journal of Family Studies	Original Research (descriptive): Mixed methods study (structured survey n = 415; HIV testing n = 312)	Programmes concerned with HIV prevention must include interventions to counter domestic violence and increasing the social status of women in PNG.
20. Warrior women, the holy spirit and HIV/AIDS in Rural Papua New Guinea.	2007	Dundon (Reference No. 63)	Oceania Journal	Original Research (descriptive): Ethnographic enquiry (n = NA)	Warrior women seek to make both AIDS and those who encourage or enable its spread more visible. A small number of them are overcome by the Holy Spirit - their behaviour increasingly characterised by childishness and uncontrolled sexuality.
21. Knowledge, morality and 'Kastom': SikAIDS among young Yupno people, Finisterre Range, Papua New Guinea.	2007	Keck (Reference No. 13)	Oceania Journal	Original Research: Qualitative study: semi-structured interviews (n = 24)	Local understandings of HIV are shaped by cultural, moral and religious concepts based on social values and practices. A broad and contextually sensitive approach to sexual health is required.
22. Men's extramarital sexuality in rural Papua New Guinea.	2007	Wardlow (Reference No. 55)	American Journal of Public Health	Original Research (descriptive): Qualitative study: interviews (n = 65)	Married women in rural PNG are at risk of HIV primarily because of their husbands' extramarital relationships. Labour migration puts these men in social contexts that encourage infidelity. Interventions that promote fidelity will fail in the absence of a social and economic infrastructure that supports fidelity.
23. 'Mainstreaming' HIV in Papua New Guinea: Putting gender equity first.	2006	Seeley & Butcher (Reference No. 65)	Gender and Development Journal	Programme Description	A scheme in the oil palm industry in PNG that specifically targets women to ensure that they benefit in the harvesting of oil palm. Women are gaining economic independence. The scheme is also reducing conflict and gender-based violence contributing to arresting the spread of HIV.
24. High Prevalence of Sexually Transmitted Infections Among Female Sex Workers in the Eastern Highlands Province of Papua New Guinea: Correlates and Recommendations.	2005	Gare, J (Reference No. 30)	Sexually Transmitted Diseases Journal	Original Research (descriptive): Quantitative study: structured interviews (n = 211)	None of the women were positive for HIV. 74% were positive for at least 1 STI and 43% had multiple STI infections. High-risk sexual behaviours were common among the women, including low and inconsistent use of condoms, with most of them attributing this to unavailability, dislike by or familiarity with clients, and being drunk and/or high on marijuana.
25. "Everything has come up to the open space": Talking about sex in an epidemic	2005	Lepani (Reference No. 76)	Working Paper No. 15; Australian National University	Original Research (descriptive): Ethnographic enquiry (n = NA)	The Trobriand islands' context described shows effective communication about HIV needs to centralise local understandings of gender, sexuality and reproduction.

Table 1 Summary of literature *(Continued)*

26. Anger, Economy, and Female Agency: Problematizing "Prostitution" and "Sex Work" among the Huli of Papua New Guinea	2004	Wardlow (Reference No. 51)	Signs Journal	Original Research (descriptive): Ethnographic enquiry (n = 18)	Huli women known as *pasinja meri* (passenger women) sell sex not due to material necessity but from anger and resistance. *Pasinja meri's* exchange of sex for money is not perceived as the crude sale of something that should not be sold, but a kind of theft (and consumption) of a resource that rightfully belongs to a woman's kin.

and programs should specify and target the socioeconomic structures that make the choice of extramarital sex so likely" [55]. Men and women who live in urban areas and then return to rural villages are also seen as responsible for bringing HIV, creating a social schism between those who travel away to work and those who stay in the village [62]. This dynamic was similarly described in the Yupno region of PNG, with Keck quoting a young man as saying, "the men come and go...and bring this disease (HIV) here into the village" [13].

Cultural factors such as traditional beliefs around sexuality and reproduction, bride price and the inability to discuss sexuality and HIV prevention openly are contributing to increased risk of HIV for women in PNG. Cultural understandings of sexuality and reproduction are discussed at length in a number of the articles reviewed [13,34,55,56,62-64]. Cultural practices such as bride price can increase women's risk of HIV by placing men in a position of power over sexual decision making. Bride price is an exchange of goods (increasingly, including cash) that is paid to the wife's family by the husband's family. Some men whose family pay a bride price expect their wives to practice fidelity but do not expect their wife to be their only sexual partner since they were the givers of bride price. Reporting research from the Highlands of PNG, Wardlow describes *pasinda meri* (literally passenger woman in *Tok Pisin*) as a woman who doesn't belong to anyone or who has given up her social and cultural roles [55]. Usually this results in selling sex or exchanging goods for sex for survival [51]. Becoming a *pasinda meri* is often a consequence of a woman's anger at their treatment within cultural systems of bride price and compensation. Being a *pasinda meri* results in a freedom to live outside of cultural norms and while an expression of a woman's agency it often results in stigmatisation, repudiation and physical attacks by both men and women [51,55,64]. Kelly et al. report the gendered nature of talk about sex, with young men using explicit language about sex in public spaces, while young women discuss sex one-on-one in private indicating the different ways young women and men discuss sex in PNG [56].

Gender based inequality, including violence against women

Women in PNG experience gender-based inequality, including less access to economic, education, legal and employment opportunities than men [61]. It was reported that women were often unable to negotiate safe sexual practices with their regular partners (including condom use and fidelity). It is also difficult for women to leave high risk relationships [61]. This inequality impacts women's exposure to HIV and thus the epidemiology of HIV in PNG [34,65]. Physical violence was experienced by 58% of the female sample in one study [22]. Violence not only exposes people to HIV transmission, but can also be a consequence of living with the virus. Rape is a likely contributing factor to the spread of HIV in PNG, with instances of *lainups* (gang rape) common [34]. A study led by Gare reported that 21% of the 210 women interviewed had been the victim of a *lainup* [30]. In PNG, there is a statistically significant link between violence against women and HIV transmission, including sexual abuse in intimate partner relationships, making the improved status of women in PNG a priority area for HIV prevention action [22,65].

Knowledge about HIV, including perception of risk of HIV

There is a range of findings about women's knowledge about HIV represented in the literature, with women who sell sex, young women and mothers the focus of studies that include this topic. The majority of women who sell sex or exchange sex for goods know HIV transmission occurs through sexual intercourse [50,58,66,67], although some young people lack adequate knowledge of HIV, including not knowing HIV is an STI that can occur within marriage or a stable relationship [13,56]. HIV is associated with sex and referred to as *sik blong koap* (which translates as 'sexually transmitted infection') [56]. On the whole, HIV is not believed to be associated with sexual relationships with regular partners or within marriage, with many believing condoms are not needed in relationships where trust is established [34,53,56,62]. Often, HIV is understood to come from outside the area in which one lives, by people who don't belong to the

area or from those who belong to the area but who have travelled outside and brought HIV back [13,62,68]. In PNG, sickness is commonly understood as a result of wrongdoing, embedding the virus within complex social, cultural and spiritual understandings [13,34,63,69]. Links are made in the Southern Highlands between apparent witchcraft and HIV. Hayley reports AIDS produces the kind of dying that "lend[s itself] to witchcraft accusations", which can result in torture of accused women and, on occasions, early death [69]. Knowledge of HIV may influence choices about HIV testing [57], but rarely changes sexual behaviour, as many women in PNG are in unequal power relations and have limited power to negotiate safe sex. This lack of agency is common amongst married women [54]. As Kelly and her colleagues remind us, a woman's risk is far more dependent upon her ability to make and act upon decisions than knowing about HIV and its transmission [56].

Religious beliefs about HIV

The dominance of Christianity influences the way women experience HIV in PNG. Combined with the effects of colonisation, Christianity preserves beliefs about unequal gender roles and expected sexual behaviours of women [34]. One informant told Dundon, "In the beginning God created man and woman so that plan is in order, it's in place" [62]. Christian churches have greatly influenced understandings of HIV and AIDS, as *SikAIDS*, as it is known in *Tok Pisin*, is linked with immoral behaviour, promiscuous sex and prostitution [13]. *SikAIDS* is described variously by Christians as a punishment from God, divine retribution, or a call to relinquish sinful sexual practices [13]. Most importantly, condom use is not accepted by some Christian churches as condoms are seen as a mechanism to elude God's punishment for immoral sexual practices [55]. This rationale extends to male circumcision for HIV prevention. Some women explained that male circumcision is incongruent with Christian principles because it enables promiscuous behaviour and spoils the body (the temple) created by God [70].

Women perceived as responsible for HIV transmission

A dichotomy is present in the literature about women living with HIV in PNG, with women divided into passive victims (the 'mothers') and promiscuous vectors (women who sell sex) [34]. Lepani theorises that women are either represented as victims of HIV or responsible for the spread of HIV. To reduce their risk of being a victim of sexual violence and thus of being infected with HIV, women are expected to stay inside, safe, sedentary and secluded with the inference being that if this code of behaviour is not observed, "rape is the consequence of women being out of place" [34]. Regrettably, research findings fail to support the idea that staying at home ensures safety from sexual assault with Lewis et al. reporting that 44.5% women in a study had experienced sexual abuse perpetrated by their intimate partner [22].

Women seen as responsible for the spread of HIV in the literature are mostly women who sell sex based in the Highlands and PNG's capital, Port Moresby [30,50,53,61]. Women who sell sex are known as *pamuk meri* or *pasin pamuk* (prostitute) or *tukina meri* (literally a woman who sells sex for 2 Kina, the currency of PNG) [54]. Women who sell sex are often not able to insist upon condom use (including with their intimate partners) and are frequently punished for selling sex by rape, including by gang rape [30,53]. There is also evidence that women who leave their husbands due to rape and violence are also deemed HIV vectors and thus responsible for spreading HIV [54,55]. In Western Province, senior women considered to possess special spiritual powers can identify and enact retribution upon women who are deemed a HIV vector (including divorced women and women who sell sex). This retribution can take the form of social, cultural or spiritual isolation and, on occasions, physical punishment. [30,50,53,62]. Women living with HIV are also often accused of being a *pasin pamuk* or *pamuk meri* [55]. This attitude is often reflected in the way health services are provided (or not) to women, with expressions of stigma reported [64].

Prevention of HIV

A variety of ideas about HIV prevention are explored in the literature reviewed. These include: encouraging young people to adhere to *kastom* and church requirements [13,34]; patrolling the community and figuratively "building a wall" around an area [62,63]; and, increasing HIV education opportunities and access to condoms [30,50,53]. Seeley and Butcher discuss an example of increased economic and social agency of women and how this may reduce risk of HIV acquisition, because of women's enhanced bargaining position within the household. These findings demonstrate the importance of expanding a structural and gendered understanding of HIV in PNG as a method of developing strategies for HIV prevention [65].

Discussion

Women were typically represented in the literature in this review as victims or vectors, with many of the articles in the review portraying women as victims of their social, cultural and religious context. Social and cultural changes such as urbanisation and increased mobility have increased HIV risk for women [55,62]. A more inclusive, contextually sensitive research agenda, addressing gender-related vulnerability is required. A key

recommendation from the *United Nations General Assembly Special Session (UNGASS) 2010 Report* was to scale up research on the most-at-risk populations in PNG, which includes women selling sex [1]. There is clearly evidence that this research needs to be conducted. However, there needs to be a reduced focus on constructed categories which serve to reinforce the perceptions of women as victims or vectors and a greater consideration of structural factors (including economic factors) which contribute to gender-related vulnerability of HIV [27,34].

The nature of the literature

The majority of original research in this review is descriptive research about women and HIV in PNG, with no operations or intervention research. Operations research (also known as operational research) is defined as research which aims to "develop solutions to current operational problems of specific health programmes or specific service delivery components of the health systems" [71], while implementation research aims to "develop strategies for available or new health interventions in order to improve access to, and the use of, these interventions by the populations in need" [71]. There is debate in the literature about the similarities and differences between operations research and evaluation. The intent of both is to systematically collect and analyse program or project data. However, operations research differs from evaluation in that the purpose of operations research is to influence practice and policy [72], whereas the primary focus of an evaluation is to provide information which will (i) improve a product or process (formative evaluation) or (ii) report upon the effectiveness or impact of the project or program (summative evaluation) to generate knowledge about good practices [73].

Limited literature about the impact or outcomes of strategies implemented by government departments or non-government organisations addressing HIV at a programmatic level is published in the peer-reviewed literature. Health services can be unhelpful or dysfunctional [64]. There are few positive accounts of successful HIV prevention activity in the peer-reviewed literature, with Seeley and Butcher's article being an exception [65]. The exclusion of non-peer reviewed government and non-government organisations reports accounts for some of the gaps identified in this review. While descriptive research is required to develop a deep understanding and an evidence base for action, research about woman and HIV in PNG needs to progress to action-oriented operations and intervention research in order to provide policy makers with evidence for decision making. The Global Fund to Fight AIDS, Tuberculosis and Malaria recommend a minimum of 5-10% of HIV program funds be used on monitoring and evaluation activities, including operations research [74], indicating there is an opportunity for operations, implementation and/or health system research with and for women in PNG about HIV to shift from description to action.

The research gaps

In addition to the lack of operations or intervention research, there are still a number of gaps in the descriptive research available. Current prevalence estimates are mostly based on HIV identified in antenatal clinics in PNG. We need to know more about PNG women outside the context of antenatal clinics or selling sex [1]. Unequal power between men and women reduces the bargaining abilities of women, including in long-term sexual relationships [53]. In PNG, some women describe feeling offended when men ask to use condoms when having sex with them in the context of marriage or long-term relationships [75]. Additionally, women requesting a condom to be worn in the context of such relationships fear they will be perceived as a *tukina meri* [75]. More research is required to understand these relational dynamics and their impact upon HIV risk in PNG. There is limited research about women and HIV risk in the matrilineal societies in PNG, with the exception of Lepani's work in the Trobriand Islands [34,76]. Do women in matrilineal societies experience the drivers of HIV differently to those in the Highlands for example? Does land ownership by women contribute to a reduced HIV risk? How is this being impacted by modernity and development? The economic inequity that is described in the literature would be better understood with operations or intervention research being conducted to address social, cultural and/or economic issues to enhance HIV prevention in PNG.

In the light of this review about women, it is clear the role of masculinity as perceived and enacted in PNG is important for HIV prevention in PNG. A renewed focus is required "on masculinities and policy and program frameworks that integrate the issues of male sexual privilege and gender violence" [34]. Male privilege, expressed by violent manifestations of male power needs to be challenged. Richard Eves' research about masculinity in PNG, which is manifested by men perpetrating violence, is an example of the growing understanding of the social, cultural and spiritual drivers of violence [3]. Research about masculinity in PNG needs to be expanded while remaining contextualised. Some answers may lie in work being done in Vanuatu by Sister Lennon and colleagues, who assist men to consider women as mothers and sisters to connect them with the 'feelings' of a rape victim [2].

Limited literature in this review focused on the experience of women living with HIV and AIDS or the experience of women caring for a HIV positive person/people.

Stigma against people living with HIV was reported [67]. Women bear the burden of caring for people living with HIV around the globe, with PNG no exception. There are program activities being conducted and reported upon in PNG in forums such as the PNG Medical Symposium (2012; 2013). However, there is opportunity for further operations research to be conducted with people living with HIV in PNG [27].

Knowledge that can be built upon for future HIV prevention

Literature included in this review provides knowledge about the context of women's lives in PNG, the gender issues they face, their understanding of HIV and the way women are perceived in relation to HIV. The range of findings about women's knowledge of HIV reflects the way in which these research findings were generated: from internationally sanctioned knowledge, attitude and practices questions to sociocultural focused, geographically bound ethnographic methods. The current focus on strengthening the capacity of researchers from PNG to undertake HIV research will further enhance the nature and amount of HIV research in PNG [27].

Peer-reviewed literature provides evidence of explicit research methods, results and recommendations which are less able to be influenced by organisational and government agendas [77]. However, the peer review process and the claim of quality has its' critics, particularly with the advent of a plethora of open access journals and availability of reports and other information online [78]. Peer-reviewed literature about women and HIV in PNG is a useful source of evidence. However, much valuable, nuanced and important evidence for decision making is available in the grey literature. This is demonstrated by the non-peer reviewed systematic literature review of HIV literature in PNG by King and Lupia, which contributed an important synthesis of literature about HIV in PNG [41]. Key recommendations from this review have been instructive for the HIV response in PNG. Recommendations included: increasing the involvement of churches in the HIV response, being guided by culture, working with groups living with or at higher risk of HIV and providing women with more options. In addition to information and behaviour change, more focussed support was recommended for the public sector and researchers [41].

Limitations to the review

A limitation of this review is the exclusion of non-peer reviewed literature. There is much valuable information about HIV and prevention options. As identified above, the veracity of this literature is difficult to determine and thus has not been included.

Conclusions

Women in PNG have the right to feel safe, have choices about HIV prevention, care and treatment and reach their potential in the context of shifting social, cultural and economic conditions of this moderate prevalence setting. The literature reviewed has highlighted the importance of a gendered analysis of HIV prevention, care and treatment in PNG. Opportunities exist for researchers, in partnership with communities, service providers and policy makers to move from descriptive to action-oriented research in order to reduce HIV in PNG.

Competing interests

The authors declare there they have no competing interests.

Authors' contributions

MRM: Conceived of and designed the literature review, acquired and analysed the literature, drafted and edited the manuscript. JM: Provided support for the literature review process, revised the manuscript for important intellectual content and reviewed the final manuscript. RT: Provided literature and advice on sources, revised the manuscript for important intellectual content and reviewed the final manuscript. DM: Provided literature and advice on sources, revised the manuscript for important intellectual content and reviewed the final manuscript. RS: Provided support for the literature review process, revised the manuscript for important intellectual content and reviewed the final manuscript. WJHM: Provided support for the literature review process, revised the manuscript for important intellectual content and reviewed the final manuscript. All authors read and approved the final manuscript.

Acknowledgements

Thank you to Mr. Kelwyn Browne for sourcing literature and providing informed comments throughout the writing of this paper. Thank you also to Professor Debra Jackson and Associate Professor Jacinta Elston for comments that improved this paper. This paper was greatly improved by the generous and thought-provoking reviews provided by Ms. Mirriam Dogimab and Dr. Katherine Lepani- thank you both. This research was funded by the National Health and Medical Research Council of Australia (APP1038200) and School of Medicine and Dentistry, James Cook University, Australia.

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Received: 14 November 2012 Accepted: 31 May 2013
Published: 6 June 2013

References

1. National AIDS Council Secretariat of Papua New Guinea: *Global AIDS Report 2012*. Port Moresby: National AIDS Council Secretariat; 2012.
2. Reid E: **Reading Generalised HIV Epidemics as a woman.** In *State Society and Governance in Melanesia*. Canberra: Australian National University; 2011. Discussion Paper 2011/4.
3. Eves R: **Masculinity Matters: Men, Gender-Based Violence and the AIDS Epidemic in Papua New Guinea.** In *Civic Insecurity: Law, Order and HIV in Papua New Guinea*, Volume 1. Edited by Luker V, Dinnen S. Canberra: ANU E-Press; 2010:34.
4. Butt L, Eves R: *Making Sense of AIDS: culture, sex and power in Melanesia*. Honolulu: University of Hawai'i; 2008.
5. Lewis PM: *Ethnologue: Languages of the World*. 16th edition. Dallas: SIL International; 2009.
6. Secretariat of the Pacific Community: *SPC SDP 2011 Populations data sheet*. Noumea: Secretariat of the Pacific Community; 2011.

7. National Statistical Office of Papua New Guinea: *Census 2000 National Report*. Port Moresby: National Statistical Office of Papua New Guinea; 2000.
8. Pacific Islands AIDS Foundation. HIV in the Pacific. http://www.pacificaids.org/index.php?option=com_content&view=article&id=77&Itemid=111.
9. Coghlan B, Millan J, Malau C, Kaldor J, Toole M: **The HIV epidemic in Papua New Guinea.** *J Acquir Immune Defic Syndr* 2011, **58**(2):e48–e51.
10. Vallely A, Page A, Dias S, Siba P, Lupiwa T, Law G, Millan J, Wilson DP, Murray JM, Toole M, *et al*: **The prevalence of sexually transmitted infections in Papua New Guinea: A systematic review and meta-analysis.** *PLoS One* 2010, **5**(12):e15586. doi:10.1371/journal.pone.0015586.
11. National AIDS Council Secretariat: *UNGASS 2010 Country Progress Report Papua New Guinea*. Port Moresby: National AIDS Council Secretariat (NACS); 2010.
12. Kelly A, Kupul M, Man WYN, Nosi S, Lote N, Rawstorne P, Halim G, Ryan C, Worth H: *Askim na save (Ask and understand): People who sell and/or exchange sex in Port Moresby. Key Quantitative Findings*. Goroka: Papua New Guinea Institute of Medical Research and the University of New South Wales; 2011.
13. Keck V: **Knowledge, morality and 'Kastom': SikAIDS among young Yupno people, Finisterre Range, Papua New Guinea.** *Oceania* 2007, **77**(1):43(15).
14. World Health Organization: *Country Health Profile: Papua New Guinea*, Data from the Global Health Observatory. Port Moresby: World Health Organization; 2010.
15. *A third woman is declared for the 2012 PNG elections*. 2012. http://www.ausaid.gov.au/HotTopics/Pages/Display.aspx?QID=757.
16. *Maternal mortality ratio per 100,000 live births*. http://data.un.org/Data.aspx?q=maternal+mortality+ratio&d=MDG&f=seriesRowID%3a553.
17. Browne K: **Maternal Mortality Ratio PNG.** In *MMR rates and discrepancies in the literature*. Edited by Redman-MacLaren ML. Cairns: [personal communication]; 2012.
18. Ghanotakis E, Peacock D, Wilcher R: **The importance of addressing gender inequality in efforts to end vertical transmission of HIV.** *J Int AIDS Soc* 2012, **15**(4):1–10.
19. AusAID: *Intensifying the response*. Canberra: Halting the spread of HIV; 2009.
20. Secretariat of the Pacific Community: *The Pacific Regional Strategy on HIV & other STIs for 2009–2013*. Noumea: Secretariat of the Pacific Community; 2009.
21. Amnesty International: *Papua New Guinea: Violence against women: never inevitable, never acceptable!* Broadway: Amnesty International; 2006.
22. Lewis I, Maruia B, Walker S: **Violence against women in Papua New Guinea.** *J Fam Stud* 2008, **14**(2–3):183–197.
23. Valente M: *Violence Against Women Linked to HIV Risk*, Inter Press Service. Rome: IPS; 2010.
24. Schoeffel Meleisea P: *Gender and HIV in the Pacific Islands' Region*. Suva: UNDP; 2009:78.
25. Jenkins C, Buchanan-Aruwafu H: *HIV/AIDS, Culture and Sexuality in PNG*. Manila: Asian Development Bank; 2007.
26. Lukere V: *Gender, Women and Mothers: HIV/AIDS in the Pacific Gender Relations Centre, RSPAS. Working Paper No. 7*. Canberra: Australian National University; 2002.
27. National AIDS Council of Papua New Guinea: *Papua New Guinea National HIV and AIDS Strategy 2011–2015*. Port Moresby: National AIDS Council of Papua New Guinea; 2010.
28. World Health Organization: *Second Generation Surveys of HIV other STIs and Risk Behaviours in 6 Pacific Island Countries (2004–2005)*. Geneva: World Health Organization; 2006.
29. Buchanan-Aruwafu H: *An integrated picture: HIV risk and vulnerability in the Pacific*. Noumea: Secretariat of the Pacific Community; 2007.
30. Gare J, Lupiwa T, Suarkia DL, Paniu MM, Wahasoka A, Nivia H, Kono J, Yeka W, Reeder JC, Mgone CS: **High prevalence of sexually transmitted infections among female sex workers in the eastern highlands province of Papua New Guinea: correlates and recommendations.** *Sex Transm Dis* 2005, **32**(8):466–473.
31. Caldwell J, Isaac-Toua G: **AIDS in Papua New Guinea: Situation in the Pacific.** *J Heal Popul Nutr* 2002, **20**(2):104–111.
32. UNAIDS, WHO: *2007 Oceania AIDS epidemic update Regional Summary*. Geneva: UNAIDS/WHO; 2008.
33. National AIDS Council Papua New Guinea: *Papua New Guinea National Strategic Plan on HIV/AIDS 2006–2010*. Port Moresby: National AIDS Council of Papua New Guinea; 2006.
34. Lepani K: **Mobility, Violence and the Gendering of HIV in Papua New Guinea.** *Aust J Anthropol* 2008, **19**(2):150–164.
35. Kelly A: **The body of Christ has AIDS: the Catholic Church responding faithfully to HIV and AIDS in Papua New Guinea.** *J Relig Health* 2009, **48**(1):16–28.
36. Dundon A, Wilde C: **Introduction: HIV and AIDS in rural Papua New Guinea.** *Oceania* 2007, **77**:1–11.
37. Whittemore R, Knafl K: **The integrative review: updated methodology.** *J Adv Nurs* 2005, **52**(5):546–553.
38. *Pub Med Tutorial*. http://www.nlm.nih.gov/bsd/disted/pubmedtutorial/010_070.html.
39. *About Scopus*. http://www.info.sciverse.com/scopus/about.
40. Mantell JE, Correale J, Adams-Skinner J, Stein ZA: **Conflicts between conservative Christian institutions and secular groups in sub-Saharan Africa: Ideological discourses on sexualities, reproduction and HIV/AIDS.** *Glob Public Health* 2011, **6**:S192–S209.
41. King E, Lupiwa T: *A Systematic Literature Review of HIV and AIDS Research in Papua New Guinea 2007–2008*. Port Moresby: PNG National AIDS Council; 2010:1–80.
42. McBride WJ: **HIV/AIDS in Papua New Guinea: an unfolding disaster?** *Emerg Med Australas* 2005, **17**(4):304–306.
43. Sanson-Fisher R, Campbell E, Htun A, Bailey L, Millar C: **We are what we do: research outputs of public health.** *Am J Prev Med* 2008, **35**:380–385.
44. *Critical Appraisal Skills Programme (CASP)*. http://www.casp-uk.net/.
45. Moher D, Liberati A, Tetzlaff J, Altman DG: **Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement.** *J Clin Epidemiol* 2009, **62**(10):1006–1012.
46. Bazeley P: *Qualitative Data Analysis with NVivo*. London: SAGE Publications Ltd; 2007.
47. Birks M, Mills J: *Grounded Theory: A Practical Guide*. London: SAGE Publications; 2011.
48. Caplan P: *The cultural construction of sexuality*. London: Tavistock Publications; 1987.
49. Wingood GM, DiClemente RJ: **Application of the Theory of Gender and Power to Examine HIV-Related Exposures, Risk Factors, and Effective Interventions for Women.** *Health Educ Behav* 2000, **27**(5):539–565.
50. Bruce E, Bauai L, Yeka W, Sapuri M, Keogh L, Kaldor J, Fairley CK: **Knowledge, attitudes, practices and behaviour of female sex workers in Port Moresby, Papua New Guinea.** *Sex Heal* 2010, **7**(1):85–86.
51. Wardlow H: **Anger, Economy, and Female Agency: Problematizing "Prostitution" and "Sex Work" among the Huli of Papua New Guinea.** *Signs* 2004, **29**(4):1017–1040.
52. Beer B: **Buying Betel and Selling Sex: Contested Boundaries, Risk Milieus, and Discourses about HIV/AIDS in the Markham Valley, Papua New Guinea**. In *Making Sense of AIDS: Culture, Sexuality, and Power in Melanesia*. Edited by Butt L, Eves R. Honolulu: University of Hawai'i Press; 2008:97–115.
53. Bruce E, Bauai L, Sapuri M, Kaldor JM, Fairley CK, Keogh LA: **HIV knowledge, risk perception, and safer sex practices among female sex workers in Port Moresby, Papua New Guinea.** *Int J Womens Health* 2011, **3**:53–61.
54. Hammar L: **From Gift to Commodity . . . and Back Again: Form and Fluidity of Sexual Networking in Papua New Guinea**. In *Civic Insecurity: Law, Order and HIV in Papua New Guinea*. Edited by Luker V, Dinnen S. Canberra: ANU E-Press; 2010.
55. Wardlow H: **Men's extramarital sexuality in rural Papua New Guinea.** *Am J Public Health* 2007, **97**(6):1006–1014.
56. Kelly A, Worth H, Akuani F, Kepa B, Kupul M, Walizopa L, Emori R, Cangah B, Mek A, Nosi S, *et al*: **Gendered talk about sex, sexual relationships and HIV among young people in Papua New Guinea.** *Cult Health Sex* 2010, **12**(3):221–232.
57. Allison WE, Iobuna V, Kalebe V, Kiromat M, Vince J, Schaefer M, Kaldor J: **Attitudes to HIV testing among carers of children admitted to Port Moresby General Hospital, Papua New Guinea.** *J Paediatr Child Health* 2008, **44**(11):618–621.
58. Aruwafu H, Akuani F, Kupe F: *Bio-behavioural sentinel surveillance survey among women attending the Port Moresby General Hospital Antenatal (PPTCT) Clinic 2008*. Port Moresby: National Research Institute; 2010.
59. Haley N: **Witchcraft, Torture and HIV.** In *Civic Insecurity: Law, Order and HIV in Papua New Guinea*. Edited by Luker V, Dinnen S. Canberra: ANU E-Press; 2010:219–236.

60. Lewis IR: **At Risk: The Relationship between Experiences of Child Sexual Abuse and Women's HIV Status in Papua New Guinea.** *J Child Sex Abus* 2012, **21**(3):273–294.
61. Clark G, Chapman Y, Francis K: **Understanding the Context of Providing HIV Prevention and Treatment in Papua New Guinea.** *J Transcult Nurs* 2011, **22**(1):88–94.
62. Dundon A: **AIDS and 'building a wall' around Christian country in rural Papua New Guinea.** *Aust J Anthropol* 2010, **21**(2):171–187.
63. Dundon A: **Warrior Women, the Holy Spirit and HIV/AIDS in rural Papua New Guinea.** *Oceania* 2007, **77**(1):29(14).
64. Hammar L: **Fear and Loathing in Papua New Guinea: Sexual health in a nation under siege.** In *Making Sense of AIDS: Culture, Sexuality and Power in Melanesia.* Edited by Butt L, Eves R. Honolulu: University of Hawaii Press; 2008.
65. Seeley J, Butcher K: **Mainstreaming HIV in Papua New Guinea: putting gender equity first.** *Gend Dev* 2006, **14**(1):105–114.
66. Buchanan H, Akuani F, Kupe F, Amos A, Sapak K, Be F, Kawage T, Frank R, Couch M: *Behavioural surveillance research in rural development enclaves in Papua New Guinea*, A study with the Oil Search Limited workforce. Port Moresby: National Research Institute; 2010:166.
67. Aruwafu H, Akuani F, Kupe F: *Bio-behavioural sentinel surveillance survey among women attending Lae friends STI clinic 2008.* Port Moresby: National Research Institute; 2010.
68. Beer B: **Buying Betel and Selling Sex: Contested Boundarids, Risk Milieus, and Discourses about HIV/AIDS in the Markham Valley, Papua New Guinea.** In *Making Sense of AIDS Culture, Sexuality and Power in Melanesia.* Edited by Butt L, Eves R. Honolulu: University of Hawai'i Press; 2008.
69. Hayley N: **Witchcraft, Torture and HIV.** In *Civic Insecurity: Law, Order and HIV in Papua New Guinea.* Edited by Luker V, Dinnen S. Canberra: ePress ANU; 2010.
70. Kelly A, Kupul M, Aeno H, Shih P, Naketrumb R, Neo J, Fitzgerald L, Kaldor JM, Siba PM, Vallely A: **Why Women Object to Male Circumcision to Prevent HIV in a Moderate-Prevalence Setting.** *Qual Heal Res* 2013, **23**(2):180–193.
71. Remme JHF, Adam T, Becerra-Posada F, D'Arcangues C, Devlin M, Gardner C, Ghaffar A, Hombach J, Kengeya JFK, Mbewu A, *et al*: **Defining Research to Improve Health Systems.** *PLoS Med* 2010, **7**(11):e1001000.
72. World Health Organization: *Framework for Operations and Implementation Research in Health and Disease Control Programs.* Geneva: WHO (The Global Fund); 2008.
73. United Nations Population Fund: *The Programme Managers Planning, Monitoring and Evaluation Toolkit: Purposes for Evaluation.* Geneva: UNFPA; 2004.
74. *Operational Research.* http://www.theglobalfund.org/en/me/documents/operationalresearch/.
75. Tommbe R: **Condoms and conflict in PNG.** Edited by Redman-MacLaren ML. Port Moresby: [personal communication]; 2012.
76. Lepani K: *"Everything has come up to the open space": Talking about sex in an epidemic. Working Paper No. 15.* Canberra: Australian National University; 2005.
77. Ware M: *Peer review: benefits, perceptions and alternatives.* London: Publishing Research Consortium; 2008.
78. Ingersoll KS, Van Zyl C, Cropsey KL: **Publishing HIV/AIDS behavioural science reports: An author's guide.** *AIDS Care* 2006, **18**(7):674–680.

doi:10.1186/1471-2458-13-552
Cite this article as: Redman-MacLaren *et al.*: **Women and HIV in a moderate prevalence setting: an integrative review.** *BMC Public Health* 2013 **13**:552.

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3.8 Summary

In this background chapter, I have:

- established the need to conduct this doctoral research
- provided a brief description and history of HIV
- summarised the current global response to HIV
- highlighted male circumcision as a HIV prevention option, including current male circumcision research in PNG
- explored issues for women arising from male circumcision as a HIV prevention option
- contextualised the doctoral research through an integrative review of the literature about women and HIV in PNG.

In the chapter that follows, I will:

- Introduce an expanded grounded theory methodology developed to explore the substantive area of enquiry. TGT is underpinned by critical realism and informed by critical research methodologies, including participatory action research and decolonising methodologies.

4 Methodology

Is It Real?

Is it real?
Can it be known?
How can you be so sure?
These concepts I struggled with
Wrestled, and I was
Left spent
I did not want to hold
In contempt any
Constructed,
De-structured
Modern and post
Structurally sound or not?
What I was left with
Was real in its form,
My experience and yours
Different they are
But shared we have
An understanding of what
Happens when this,
Meets this,
And he meets her
And how we feel when
It doesn't all work
When you have no choice
When I lose my voice
When the laughter bubbles
In the midst of struggles
That's the real I know.
The whys, we will work on
The hows will come too
But for now
I am content to know me and you
Real, and together.

4.1 Chapter Outline

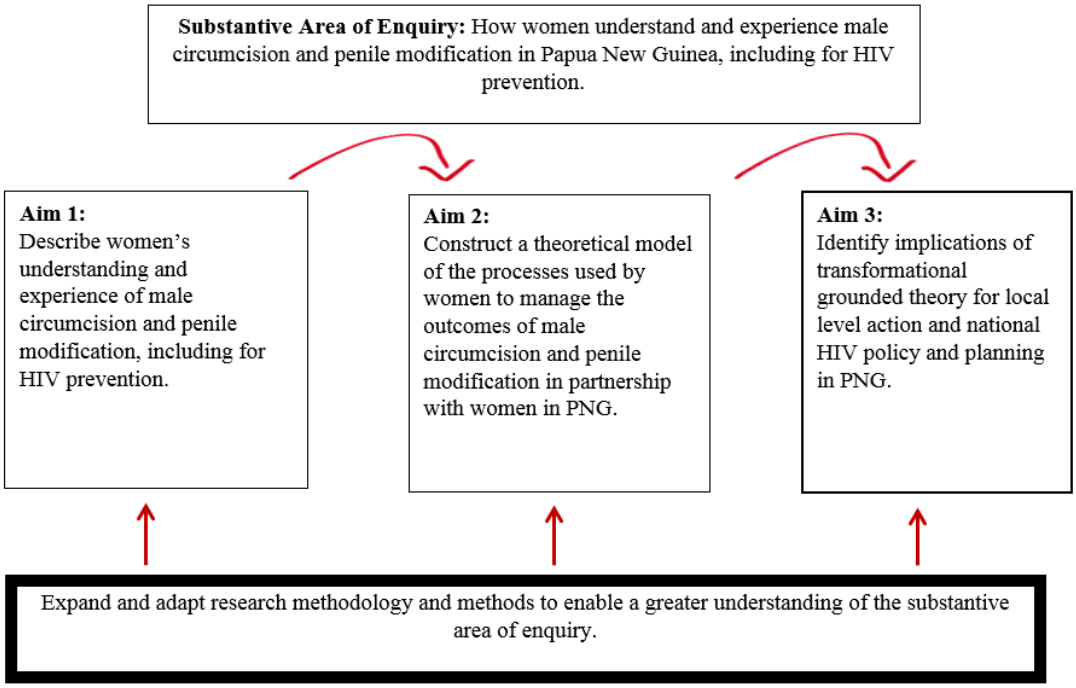


Figure 5 Focus of Chapter Four

In this chapter, I explore and extend the methodology of grounded theory, beginning with epistemological and ontological positioning within critical realism, a brief history of grounded theory and key elements of other research methodologies that contribute to the development of TGT, used to explore the substantive area of enquiry reported in this thesis. The methodology used in the PhD research and reported in this chapter is described in the article below. This article has been accepted for publication by the *International Journal of Qualitative Methods.*

The citation will be:

Redman-MacLaren, M., & Mills, J. Transformational Grounded Theory: Theory, voice and action. *International Journal of Qualitative Methods* (In Press; accepted 4 October 2014).

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4.2 Transformational Grounded Theory: Theory, Voice and Action.

4.2.1 Abstract

Grounded theory has been evolving methodologically since Barney Glaser and Anselm Strauss first described it in the late 1960s. Initially underpinned by modernist philosophy, grounded theory has had recent turns including the adoption of both constructivism and postmodernism. This article explores ontological offerings of critical realism as a basis for Transformational Grounded Theory (TGT) informed by participatory action research and decolonising research methodologies. The potential for both theory and action to result from this critical grounded theory methodology, which promotes greater participation and equity of power for positive change, is the transformational in TGT.

4.2.2 Keywords

qualitative research; critical methods; grounded theory; participatory action research; power/empowerment; decolonising; cross-cultural

4.2.3 Introduction

Glaser and Strauss challenge grounded theorists to develop their *own* [original emphasis] methods for generating theory (1967, p. 8). More recently, grounded theorists have called for an explicit description of the philosophical underpinnings of grounded theory (Birks & Mills 2011; Charmaz 2008; Morse, Stern, Corbin, Bowers, Charmaz & Clarke 2009). Transformational Grounded Theory (TGT) is an expanded grounded theory methodology I developed during my PhD study in response to this challenge. TGT, underpinned by critical realism, incorporates participatory action research and decolonising methodologies. Participatory action researchers enable both action and new understandings (Stringer 2013), while decolonising researchers ensure the research agenda is determined by, or at very least agreed to by, Indigenous research participants (Smith 2012). The development of TGT adds possibilities for more rigorous inquiry, with a focus on participation by co-researchers and a critical analysis of the context in which research is occurring. Actively identifying power in the research process, as described by decolonising researchers, further enhances the intellectual synthesis. In this

article, we provide a rationale for expanding grounded theory methodology, explain TGT as a critical grounded theory methodology and provide examples of how this methodology has informed research. The privileging of participation, redistribution of power and action for positive change, is the *transformational* in TGT.

4.2.4 Transformational Grounded Theory: A Rationale

As a white Australian woman, I[7] (MRM) have lived or worked in Pacific Island countries for many years. More recently, I have explored issues of power and decolonising approaches to research and capacity strengthening (Redman-MacLaren, MacLaren, Harrington, Asugeni, Timothy-Harrington, & Speare 2012). This work also informed my doctoral research, where I adapted a grounded theory methodology to explore HIV risk for women in PNG.[8] Specifically, I explored the implications of male circumcision for women in PNG, including for HIV prevention. This research study had two phases. In the first phase, I conducted a secondary analysis of theoretically sampled data from an existing dataset. This dataset had been generated during a large multisite study that I had managed (2010–2012) (MacLaren, Tommbe, Mafile'o, Manineng, Fregonese, Redman-MacLaren, & McBride 2013). In the second phase, a PNG colleague and I returned to two sites in PNG and co-generated primary data with 67 women and one man during interpretive focus groups and individual interviews (Redman-MacLaren, Tommbe, & Mills 2014). Human Research Ethics Committees of PAU (PNG), JCU (Australia) and PNG National AIDS Council Secretariat provided ethics clearance for this doctoral research (Appendix 10.3). As I designed and enacted the research to incorporate my values, philosophy, methodology and methods with my supervisor (JM), it became evident to me that I could extend existing grounded theory methodology. This paper introduces TGT. Underpinned by a critical realist philosophy, TGT is inductive and participatory, seeks to identify and redistribute power between researcher and co-researchers with both the research process and findings contributing to positive change.

Research methodology is a set of principles that inform the design of a research study. Grounded theory methodology systematically and inductively answers research

[7]The first author will be referred to in the first person throughout the manuscript to indicate that this manuscript is based on her doctoral study.
[8]Papua New Guinea is a lower middle-income country of 7 million people in the South Pacific.

questions about how people relate to each other—including social and psycho-social processes (Birks & Mills 2011). This inductive approach to theory generation was originally developed by Glaser and Strauss and published in 'The Discovery of Grounded Theory' (1967) as a rejoinder to both quantitative and qualitative researchers who sought to verify a hypothesis (Kelle 2007, p. 194). Grounded theory privileges emic (insider) views and challenges the 'context stripping' approach of variable-focused research (Guba & Lincoln 1994, p. 106). Largely connected by common research methods, grounded theory can be underpinned by a range of philosophical positions (Urquhart 2013). Recently grounded theorists have more explicitly identified their ontological and epistemological positions. This has resulted in more diversified interpretations and applications of core grounded theory methods (Amsteus 2014; Gibson 2007; Kushner & Morrow 2003). These core methods include: coding and categorisation of data; concurrent data generation and analysis; theoretical sampling; selecting a core category; constant comparative analysis along with theoretical sensitivity, saturation and integration (Birks & Mills 2011).

4.2.5 Making Explicit the Base: Axiology, Ontology and Epistemology Defined

The worldview of the researcher determines the way research is conceived and conducted. This is important because, 'what can be known and how we can know are inseparable' (Clarke 2009, p. 197). A researcher's worldview arises from their ideas about the nature of reality, the relationship between the researcher, what can be known and the best way to discover reality (Annells 1996). By being explicit about one's conceptual framework, the researcher explicates beliefs about knowledge production and how those beliefs will affect the research process (Kovach 2009). Thus, it is important to establish the metatheory—the axiology, ontology, and epistemology that forms the basis for TGT.

Axiology describes values central to the research process, the way of being in and doing research. Mertens defines axiology as a researcher's assumptions about the ethics of research (2009), while ontology describes how the researcher conceives the nature of reality and the theory of the existence of things. Buchanan states ontology, at its most fundamental, 'seeks to answer the question why there is something rather than nothing' (2010, p. 352). Epistemology describes how we gain knowledge about the nature of reality (for example, through research or evaluation) (Wadsworth 2010). To

clearly understand and communicate my ontological, epistemological, and axiological position, I have considered a variety of philosophical positions. These include: positivism (reality is apprehendable); postpositivisim (reality is only imperfectly apprehendable); structuralism (social and cultural reality is understood in the context of an overarching structure, evidenced in language); poststructuralism (reality is never able to be completely known); constructivism (reality is dependent upon perceptions based upon previous experiences and thus constructed); and postmodernism (reality is a social construct) (Potter & Lopez 2001; Buchanan 2010; Lincoln, Lynham & Guba 2011). Recent exploration of grounded theory situated in a critical realist paradigm by Oliver makes the case for a grounded theory approach 'which attends to social structure as well as individual action' (2012, p. 382). Critical realism posits reality exists, but is not limited to human interpretation or construction. This philosophy provides a framework consistent with my experience of varied worldviews in Pacific Island countries informed by cultural, social and spiritual beliefs and practices. Beliefs about TGT are summarised in Table 1 and described in more detail below.

Table 1 Summary of Beliefs about Transformational Grounded Theory

Element of Metatheory	Characteristics
Axiology (values)	Love, social justice, equality
Ontology (nature of reality)	Critical realism
Epistemology (how knowledge is gained about the nature of reality)	Knowledge is culturally and historically situated
Methodology (principles that inform steps taken to gain this knowledge)	Grounded theory combined with Participatory action research, and Decolonising methodologies

4.2.6 Critical Realism

Critical realists posit there is a truth but it can never be known in its entirety. Altheide and Johnson explain, 'while our theories, concepts, and perspectives might approach some kind of understanding they cannot and do not exhaust the phenomena of our interest' (2011, p. 581). Roy Bhaskar (1975; 1986; 1998) is the philosopher attributed with developing critical realism. Bhaskar (1998) argues there are three aspects of

reality: empirical (experience and expression), actual (actual events) and real (for example, structures, powers and mechanisms). Two dimensions capture these concepts: the intransitive dimension (it simply is, things are independent of our beliefs, perceptions or 'knowledge'); and the transitive dimension (our knowledge and beliefs are fallible) (Potter & Lopez 2001; Iosifides 2011). It is within this realm of physical reality (intransitive) and social experience and interpretation (transitive) that researchers operate in order to understand and contribute to knowledge creation for positive change.

Findings can be represented as the truth for participants and the researcher (being mindful that the researcher usually has more power to represent that 'truth'); however, the picture will never be fully complete. Hockey (2010, p. 366) explains, 'Knowledge is thus not only socially constructed, but it is knowledge about something, about a layered, differentiated reality'. How do we create knowledge if we subscribe to critical realism? 'Critical realism puts forward epistemological caution with respect to scientific knowledge' (as opposed to self-defeating relativist skepticism) (Potter & Lopez 2001, p. 9). Critical realism holds that culture and history situate knowledge. A grounded theory study about women's experience of HIV in a lower middle-income nation, for example, requires an exploration of the social, cultural and economic history and position of the women to inform knowledge generated.

Grounded theory as originally described by Glaser and Strauss reflected a modernist ontology (Charmaz 2006). Other philosophical positions such as constructivism and postmodernism have provided alternative approaches to the methodology (Charmaz 2006; Clarke 2005; Mills, Bonner & Francis 2006). Recently, Urquart (2013) stated that the successful use of grounded theory as a methodology is not contingent on a particular ontological platform on which the researcher stands. While we agree with this position, we also believe it is important that an ontological position be established to 'illuminate the epistemological and methodological possibilities' the researcher has available to them in a grounded theory study (Mills et al. 2006, p. 2). Utilising a critical research approach, TGT generates theory that can be used to challenge excluding and oppressive structures and systems for positive change. Consistent with other critical approaches (Buchanan 2010), researchers using TGT explore connections and interfaces between the individual and society. As Gibson (2007, p. 440) argues, a grounded theory 'that seeks to accommodate critical theory without reflecting on society would cease to be critical'. Critical theories, initially

associated with the Frankfurt School of Sociology in the 1930s, have developed and diversified enormously, reflecting the reflexive nature of those adhering to the approach (Buchanan 2010).

Critical theorists often theorise in isolation to preserve a distance between themselves and their research subjects (Buchanan 2010; Gibson 2007). Many critical theorists claim experience is an invalid basis for claims about knowledge because the experience alone does not take into account the historical context (Gibson 2007). From a critical realist position, we counter this argument in the belief that we can only partially know the phenomena and that this knowing is socially, culturally and historically bound. TGT allows for the researcher's experience (of being a woman, a worker, from a particular cultural group and so forth) to enable engagement with people experiencing the phenomena being researched while maintaining a commitment to a structural critique for positive social change. Including a critical examination of social, cultural and economic structures provides opportunity for a more complete and TGT.

4.2.7 Participation, Action and Transformational Grounded Theory

Researchers can expand their understanding of a phenomenon by including participants throughout the research project. Bob Dick (2008) makes a central contribution to this argument by outlining what grounded theory and action research can learn from each other. Grounded theory methods of explicit, systematic data generation and analysis enhance action research. Grounded theorists can also learn from action research, which typically includes research with individuals and/or groups. Participation, a key tenant in action research, will increase both the researcher's knowledge and the participants' knowledge of the phenomenon through the sharing of both insider knowledge held by people participating in the research and the technical knowledge of the researcher. If validity in a realist grounded theory is regulated by socially constructed reality 'as it really is' (Lomborg & Kirkevold 2003, p. 189), then greater participation of those who have experience of the phenomenon has the potential to increase the rigour of research results (Mertens 2009).

Action research employs the term co-researcher (or co-inquirer) to describe research participants who jointly assist in the inquiry process (Reason & Bradbury 2008). The use of these terms centralises participation (and power sharing) in the

research process and enables the 'researched' to become researchers into their own concerns (Stringer 2013). Purposeful participation means co-researchers are involved in the cycles of research: research design; data generation; data analysis; and reporting of research results. Action research is known by various names; however, we have chosen to use 'participatory action research' in the context of TGT, emphasising 'our equal interest in participation and action without making a choice between the A and the P' (Teram, Schachter & Stalker 2005).

During phase one of the research, I undertook an initial inductive analysis of the existing dataset using grounded theory methods of theoretical sampling, coding and categorising using constant comparison, complemented by writing memos. I identified portions of data that represented the emerging categories and discussed these with my senior co-researcher from PNG, Rachael Tommbe. In phase two of the doctoral research, participatory approaches were centralised during interpretive focus groups. Groups of women analysed portions of the existing dataset in small story circles and co-generated new understandings of those data using storyboarding methods (Redman-MacLaren et al. 2014). Data co-generated from this phase of the research study were analysed using grounded theory methods, supervised by JM. Reflecting the cyclical nature of action research, co-researchers were again involved in knowledge generation when we returned to the field sites the following year to discuss the developing TGT. Women explained how the theory reflected their lived reality. They also shared actions they had taken since we had met the previous year, including plans to have their sons circumcised. By discussing and adapting the developing grounded theory with co-researchers who had experienced the phenomenon being studied, the final grounded theory had greater fit, grab, relevance and modifiability than if the theory had been generated by the researcher alone (Dick, 2008; Lomborg & Kirkevold 2003). This meant the research process was more rigorous than if the findings had been developed and reported in isolation of co-researchers.

By centralising participation in the research process, TGT diverges from a Glaserian approach of research subjects being transformed into theoretical objects (Gibson 2007). Many grounded theorists now agree that the researcher has 'considerable power to (mis)represent the researched by turning them into an object' and are beginning to challenge this approach to 'realise emancipation in the process of social enquiry' (Gibson 2007, p. 442). The possibility of partnership is exemplified

when taking a TGT approach to the key grounded theory method of theoretical sampling. When the researcher makes a strategic decision about, 'what or who will provide the most information rich source of data to meet their analytical needs' they are theoretically sampling (Birks & Mills 2011, p. 11). In TGT, the researcher and co-researchers decide together who will have additional information about the phenomena under study. In focus groups and interviews conducted about HIV in PNG, the researcher and co-researchers discussed whom else to invite to share information about HIV prevention and its impact on women. Consequently, a number of individual interviews were conducted that generated more rich data.

Data generated and analysed in partnership with co-researchers is less likely to be 'forced' into a particular theoretical position by a researcher, a key concern of data analysis in grounded theory (Glaser & Strauss 1967; Glaser 1992). Including co-researchers throughout the research process increases the theoretical sensitivity of both the researcher and co-researchers. Theoretical sensitivity incorporates both personal insight and intellectual history (Birks & Mills 2011, p. 11), enabling the researcher/s to see possibilities, establish connections and ask relevant questions (Charmaz 2006). Researchers who are theoretically sensitive will be less likely to preconceive the relevance of data (Glaser & Strauss 1967, p. 143) during concurrent data collection and analysis. Collaborative analysis at critical junctures in a TGT study enhances theoretical sampling and strengthens decision making about concurrent data generation and analysis. Examples of grounded theorists who have generated and analysed data in partnership with research participants include feminist grounded theorists Favero and Health (2012) and Merritt-Grey and Wuest (1995). Participatory research processes facilitate the traditional power balance between the researcher and co-researchers, enabling an increase in power for co-researchers (Mertens 2009). Researchers who enact decolonising methodologies also prioritise power redistribution.

4.2.8 Decolonising Research Methodologies and Transformational Grounded Theory

Researchers typically have more power than participants in research do. Purposeful participation of co-researchers can reduce the power imbalance (Stringer 2013), but is participation enough? Charmaz (2006) highlights the importance of creating knowledge together with research participants for a socially just outcome. However, it is also

essential for the researcher to critically examine (individually and in partnership with co-researchers) the nature of the relationship in which the knowledge is being created together. What historical, social and cultural relationships do the researcher and co-researchers share? Is there a colonial history between the researcher and co-researchers? Are there gender or economic differences? How will these differences affect data generated and the emergent grounded theory? Structural positioning of the research and the co-researchers (including White privilege and/or other power differentials) is critical to constructing knowledge together in TGT. Paulo Frèire (1994) and Frantz Fanon (1963; 1967) challenged structural inequality and the unequal power in relationships between colonised and coloniser, which historically led to other dichotomies such as educated and uneducated, wealthy and poor. Although constructivist and postmodernist understandings of society have led to the challenge of a binary view of social structures (Bidois 2011), nonetheless the concepts continue to be instructive for identifying power inequity.

Building on this intellectual history, decolonising research methodologies offer a framework for critically analysing oppressive assumptions about the research process. Linda Tuhiwai Smith (2012) states decolonising research acknowledges the reality of colonisation, rejects Western ideologies as superior and privileges Indigenous ways of knowing and understanding history. We use the term 'decolonising' in this article to reflect the process of both challenging the colonial past and ongoing colonising processes. 'Even when (the colonizers) have left formally, the institutions and legacy of colonialism remains' (Smith 2012, p. 101). Smith asserts postcolonialism, as a term, has been employed by academics in the global North as a way of reclaiming authority in the research relationship (Smith 2012). A continued commitment to decolonising is important as 'the essentialism of Western thought pervading research has not been fully challenged in the academy' (Kovach 2009, p. 28). Supported by fellow decolonising researchers (Chilisa 2012; Liamputtong 2010), Smith (2012) challenges researchers to ensure the research agenda is determined by, or at very least agreed to by, Indigenous research participants. The doctoral research I undertook was a priority issue for co-researchers who participated and in response to a request by policymakers for more information about women's risk of HIV in PNG.

Enacting decolonising methodologies in knowledge creation can reduce power differences between the researcher and co-researcher and result in a more authentic

process of research inquiry. So how can we understand power in this context? Power is a productive force which 'produces things... it forms knowledge and produces discourse' (Foucault 2000, p. 120). The production of knowledge and discourse occurs in partnership with research participants when we are explicit about the historical conditions for the power distribution and who has power. Enacting principles of decolonising research in the field, I took small but deliberate steps to reduce my power as an international researcher and to increase the power of co-researchers. Women were invited to participate in the research by other women leaders in their community to increase the possibility that they would choose to participate in the HIV research, rather than feeling obliged to participate because the white *meri* (woman) was asking. I explicitly stated the women, as co-researchers, were the experts who were able to advise me as a researcher. It would be their ideas that would be communicated and considered for future health policy and health service decisions. Interpretive focus groups were co-facilitated with PNG colleague, Rachael Tommbe, to enhance cultural safety. We shared stories about ourselves, our families and where we came from, which enabled co-researchers to 'place' us before we started discussing the sensitive research topic. Stories about family, place and shared connections are markers for developing relationship and trust in PNG, as in many Indigenous communities (Kovach 2009). When conducting focus groups and interviews, we spoke in PNG *Tok Pisin* (a lingua franca of PNG) rather than English (the language of the ex-coloniser) and I purposefully sat on a mat alongside of women (rather than a chair). In addition to the planned research activities, we also discussed what women wanted to discuss about HIV, using local metaphors and stories. Further, trust between researcher and co-researchers was enhanced when I returned to discuss in more detail the women's original ideas and to plan action to address identified HIV risks. Along with Chilisa (2012, p. 6), I am committed to developing and supporting transformative research methodologies and methods, in the small spaces in which we operate, so that they are 'inclusive of the [I]ndigenous knowledge systems and life experiences of the historically colonized, disenfranchised, and dispossessed communities'.

4.2.9 How Transformational Grounded Theory Expands Grounded Theory

How does including the elements of participation and redistribution of power contribute to grounded theory? Has the inclusion of these critical approaches already been

addressed in grounded theory literature? A number of authors have made important contributions about social justice in grounded theory. In particular, Charmaz (2006, 2011, 2012) has written extensively about social justice and grounded theory. Oliver (2012) has shown how critical realism can enhance the applicability of grounded theory as a research methodology in the human services such as social work. Building upon this important base, TGT is a methodology that can be used to explore differences in power between the researcher and co-researchers and how this power difference affects the data generated to be used for a socially just outcome. TGT adds to decolonising methodologies as a way of setting a shared agenda and increasing co-researcher participation. Often researchers benefit greatly from co-researchers' knowledge, experiences and generously shared stories. It is transformative when mutual benefits for understanding the phenomena are explicitly stated (Redman-MacLaren et al. 2012). TGT can be used in any context and, to borrow a phrase from Potts and Brown (2005, p. 258), is 'not contingent upon physical or political location'. During the second phase of my research, I returned to PNG to discuss the developing grounded theory with co-researchers consistent with the process of concurrent data generation and analysis. During this field trip, my co-researchers expressed their concern that men in their villages had limited knowledge of sexual and reproductive health and this was contributing to their risk of acquiring HIV. Women recommended training about sexual and reproductive health for men in their village. This was arranged with the host organisation and in July 2014, sexual health training was provided for 22 managers and 327 male fieldworkers at one field site. In addition, a two-day clinician's course was facilitated with 11 male and 11 female clinic staff in the Province. Enacting a participatory, action-oriented, power-sharing approach to the methodological spectrum in the form of TGT, underpinned by critical realism, seeks to inductively generate a grounded theory that is socially, culturally and historically bound. TGT is participatory in nature, actively seeking to identify and redistribute power in researcher-co-researcher relationships and is particularly, although not exclusively, applicable to cross-cultural and Indigenous research settings with the aim of contributing to positive action.

While the use of TGT is particularly relevant for research conducted with Indigenous people, it is methodology that can also inform research conducted in other cross-cultural or non-Indigenous contexts. A decolonising approach underpinned by critical theory is especially 'effective in analyzing power differences between groups;

that it provides hope for transformation; that there is a role for structural change and personal agency in resistance' (Kovach 2009, p. 80). If a researcher is working with non-Indigenous people, TGT can accommodate alternate critical theories such as feminist theory, queer theory or critical disability theory. TGT has at its core respect for co-researchers as knowledge holders. Partnership is centralised throughout the research process, in determining research findings and conducting resultant action. Therefore, this methodology could be relevant to researchers in a variety of settings with a range of theoretical underpinnings.

4.2.10 Limitations of Transformational Grounded Theory

A key limitation of TGT methodology is the challenge of sustaining co-researcher participation. Participation of co-researchers throughout the multiple iterations of the research cycle is not always possible, as experienced in this study and reported in participatory action research literature more widely (Stringer 2013). Ongoing participation is especially challenging when researching with transient populations, such as university students and plantation workers. In this study we found the same co-researchers were not always present for all iterations of the research cycle (for example, discussion about the developing theory after the data had been co-generated). Nevertheless, co-researchers who did participate throughout often took leadership roles in the research process.

Trusting relationships, co-generation of knowledge and plans for action are conceived of and enacted more effectively when researcher and co-researchers share *graun* (literally, ground) or place. The researcher living in a different location to co-researchers is a limitation. However, this limitation can be somewhat ameliorated by deliberate use of the participatory and decolonising methods described above.

4.2.11 Conclusion

Grounded theory has evolved over time and now accommodates diverse philosophical positions. TGT, underpinned by critical realism, builds upon core grounded theory methods while centralising participatory action research and decolonising methodologies for enabling action and generation of new knowledge in the context of more equal power between the researcher and co-researcher. This research methodology

will be of use when working towards making changes with people across social, cultural, and gendered divides. In the tradition of critical realism, we offer this framework in the time-bound cultural, social and academic context in which we are now. This might change as we have more experience of grounded theory research and as our colleagues from other cultures and research traditions offer their experiences and opinions. However, in the spirit of collective reflexivity it is important to take the initial step towards rethinking grounded theory methodology.

4.2.12 References (for the article using format required by journal)

Altheide, D. L., & Johnson, J. M. (2011). Reflections on interpretive adequacy in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 581–594). Thousand Oaks: Sage Publications, Inc.

Amsteus, M. L. (2014). The validity of divergent grounded theory method. *International Journal of Qualitative Methods* 13, 71–87. Retrieved from: https://ejournals.library.ualberta.ca/index.php/IJQM/article/view/18938

Annells, M. (1996). Grounded theory method: Philosophical perspectives, paradigm of inquiry, and postmodernism. *Qualitative Health Research 6*(3): 379–393. doi:10.1177/104973239600600306

Bhaskar, R. (1975). *A realist theory of science.* Leeds: Leeds Books.

Bhaskar, R. (1986). *Reclaiming reality: A critical introduction to contemporary philosophy.* London: Verso.

Bhaskar, R. (1998). *The possibility of naturalism: A philosophical critique of the contemporary human sciences*. London: Routledge.

Bidois, V. (2011). *Destablising the binary: Reframing cultural identity postcolonial reflections in Aotearoa New Zealand* (Doctoral dissertation). University of Otago.

Birks, M. & Mills, J. (2011). *Grounded theory: A practical guide.* Thousand Oaks: Sage Publications, Inc.

Buchanan, I. (2010). *A dictionary of critical theory*. Oxford: Oxford University Press.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis.* London: Sage Publications, Inc.

Charmaz, K. (2008). Constructionism and the grounded theory method. In J. A. Holstein & J. Gubrium (Eds.), *Handbook of constructionist research* (pp. 397–412). New York: The Guilford Press.

Charmaz, K. (2011). Grounded theory methods in social justice. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 359–380). Thousand Oaks: Sage Publications, Inc.

Charmaz, K. (2012). The power and potential of grounded theory. *Medical Sociology Online 6*(3). Retrieved from: http://www.medicalsociologyonline.org/resources/Vol6Iss3/MSo-600x_The-Power-and-Potential-Grounded-Theory_Charmaz.pdf

Chilisa, B. (2012). *Indigenous research methods.* Thousand Oaks: Sage Publications, Inc.

Clarke, A. (2005). *Situational analysis: Grounded theory after the postmodern turn.* Thousand Oaks: Sage Publications, Inc.

Clarke, A. E. (2009). From grounded theory to situational analysis: What's new? Why? How?. In J. M. Morse & P. N. Stern (Eds.), *Developing grounded theory: The second generation* (pp. 194–221). Walnut Creek, California: Left Coast Press.

Dick, B. (2008). What can grounded theorists and action researchers learn from each other?. In A. Bryant & K. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 398–416). Los Angeles: Sage Publications, Inc.

Fanon, F. (1963). *The wretched of the Earth.* New York City: Grove Press.

Fanon, F. (1967). *Black skin, white masks: The experiences of a black man in a white world.* New York City: Grove Press.

Favero, L. W. & Heath, R. G. (2012). Generational perspectives in the workplace. *Journal of Business Communication 49*(4): 332–356. doi:10.1177/0021943612456037

Freire, P. (1994). *Pedagogy of the oppressed*. New York: Continuum.

Foucault, M. (2000). *Power: Essential works of Foucault, 1954–1984*. New York: The New Press.

Gibson, M. (2007). Accommodating critical theory. In A. Bryant & C. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 436–453). London: Sage Publications, Inc..

Glaser, B. G. (1992). *Basics of grounded theory analysis.* Mill Valley: The Sociology Press.

Glaser, B. G. & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research.* New Brunswisk: Aldine Transaction.

Guba, E. G. & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In E. G. Guba & Y. S. Lincoln. (Eds.), *Handbook of qualitative research* (pp.105–117). Thousand Oaks: Sage Publications, Inc.

Hockey, N. (2010). Engaging postcolonialism: Towards a critical realist Indigenist critique of an approach by Denzin and Lincoln. *Journal of Critical Realism 9*(3), 353–383. doi:10.1558/jcr.v9i3.353

Houston, S. (2010). Prising open the black box. *Qualitative Social Work 9*(1), 73–91. Retrieved from: http://qsw.sagepub.com/content/9/1/73.full.pdf doi:10.1177/1473325009355622

Iosifides, T. (2011). *Qualitative methods in migration studies: A critical realist perspective.* Surrey: Ashgate Publishing Limited.

Kelle, U. (2007). The development of categories: Different approaches. In A. Bryant & K. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 191–213). Thousand Oaks: Sage Publications, Inc.

Kovach, M. (2009). *Indigenous methodologies: Characteristics, conversations, and contexts*. Toronto: University of Toronto Press.

Kushner, K. E. & Morrow, R. (2003). Grounded theory, feminist theory, critical theory: toward theoretical triangulation. *Advances in Nursing Science 26*(1), 30–43.

Liamputtong, P. (2010). *Qualitative cross cultural research.* Cambridge: Cambridge University Press.

Lincoln, Y. S., Lynham, S.A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.)*, The Sage handbook of qualitative research* (pp. 97–128.). Thousand Oaks: Sage Publications, Inc.

Lomborg, K. & Kirkevold, M. (2003). Truth and validity in grounded theory—a reconsidered realist interpretation of the criteria: Fit, work, relevance and modifiability. *Nursing Philosophy: An International Journal for Healthcare Professionals 4*(3), 189–200. doi:10.1046/j.1466-769X.2003.00139.x

Merritt-Gray, M. & Wuest, J. (1995). Counteracting abuse and breaking free: The process of leaving revealed through women's voices. *Health Care for Women International 16*(5), 399–412. doi:10.1080/07399339509516194

MacLaren, D., R. Tommbe, T. Mafile'o, C. Manineng, F. Fregonese, M.Redman-MacLaren... McBride, W. J. (2013). Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea. *BMC Public Health 13*, 818. doi:10.1186/1471-2458-13-818

Mertens, D. M. (2009). *Transformative research and evaluation.* New York: The Guilford Press.

Mills, J. & Birks, M. (2014). *Qualitative methodology: A practical guide.* London: Sage Publications, Inc.

Mills, J., Bonner, A., & Francis, K. (2006). The development of constructivist grounded theory. *International Journal of Qualitative Methods*, *5*(1). Retrieved from: http://www.ualberta.ca/~iiqm/backissues/5_1/PDF/MILLS.PDF

Morse, J. M., Stern, P. N., Corbin, J., Bowers, B., Charmaz, C., & Clarke, A. (2009). *Developing grounded theory: The second generation.* Walnut Creek: Left Coast Press, Inc.

Oliver, C. (2012). Critical realist grounded theory: A new approach for social work research. *British Journal of Social Work 42*(2), 371–387. doi:10.1093/bjsw/bcr064

Potter, G. & Lopez, J. (2001). After postmodernism: The new millennium. In G. Potter & J. Lopez (Eds.), *After postmodernism: An introduction to critical realism* (pp. 1–18). London: The Athlone Press.

Potts, K. & Brown, L. (2005). Becoming an anti-oppressive researcher. In L. Brown & S. Streger (Eds.), *Research as resistance: Critical, Indigenous, and anti-oppressive approaches* (pp. 255–286). Toronto: Canadian Scholars Press.

Reason, P. & Bradbury, H. (2008). *The Sage handbook of action research: Participative inquiry and practice*. London: Sage Publications, Inc.

Redman-MacLaren, M., MacLaren, D., Harrington, H., Asugeni, R., Timothy-Harrington, R., Kekeubata, E., & Speare, R. (2012). Mutual research capacity strengthening: A qualitative study of two-way partnerships in public health research. *International Journal for Equity in Health 11*(1), 79. doi:10.1186/1475-9276-11-79

Redman-MacLaren, M., Mills, J. & Tommbe, R. (2014). Interpretive focus groups: A participatory method for interpreting and extending secondary analysis of qualitative data. *Global Health Action. 7*, 252140. doi:http://dx.doi.org/10.3402/gha.v7.25214

Smith, L. T. (2012). *Decolonizing methodologies: Research and Indigenous peoples.* London: Zed Books.

Stringer, E. (2013). *Action research.* Thousand Oaks: Sage Publications, Inc.

Teram, E., Schachter, C.L., & Stalker, C. A. (2005). The case for integrating grounded theory and participatory action research: Empowering clients to inform

professional practice. *Qualitative Health Research 15*(8): 1129–1140. doi:10.1177/1049732305275882

Urquhart, C. (2013). *Grounded theory for qualitative research: A practical guide.* London: Sage Publications, Inc.

Wadsworth, Y. (2010). *Building in research and evaluation: Human inquiry for living systems*. Crows Nest: Allen and Unwin.

4.2.13 Author Note

Due to journal constraints, it was not possible to include formal acknowledgements. Below are the acknowledgements I prepared to accompany this article.

4.2.14 Acknowledgements

We acknowledge the generous sharing of women who participated in the doctoral research that has taught us so much about conducting respectful research. We also acknowledge the contribution of Ms Robyn Lynn, whose experience in action research and work with Indigenous Australians has informed many important discussions—thank you Robyn. Dr Tracie Mafile'o has contributed by sharing her wisdom and guidance about Pacific approaches to research, which has greatly influenced this work—*malo 'aupito* Tracie.

4.3 Summary

In this methodology chapter, presented as a published article, I have:

- introduced the expanded grounded theory methodology of TGT
- outlined the summary of beliefs about TGT, including axiology, ontology, epistemology
- explored critical realism as a philosophical underpinning of the methodology
- outlined how participation and power sharing in research is central to TGT
- explored the role of decolonising methodology as a critical approach to research in postcolonial contexts
- discussed limitations of the methodology.

In the chapter that follows, I will:

- link methodology to methods used
- provide an ethics statement and ethics approvals
- describe the study locations
- describe the sampling method
- explain methods of theoretical sampling, co-generation of data, constant comparison and saturation
- introduce an expanded focus group method (published article)
- explore lessons learnt from cross-language research (published article)
- discuss the use of memos and an audit trail to increase trustworthiness in research.

5 Methods

Encircling Sensitivity

Knowing_____not knowing
Keeping the
balance
Here I am developing
Theoretical *sensitivity.*

Encircling
what I know,
what I knew,
what I need to discover
gently bringing
me
to the research that is with
you
other
together
grounded theory, on your ground
we meet in action
jointly we discover a response
to this question for
us.

5.1 Chapter Outline

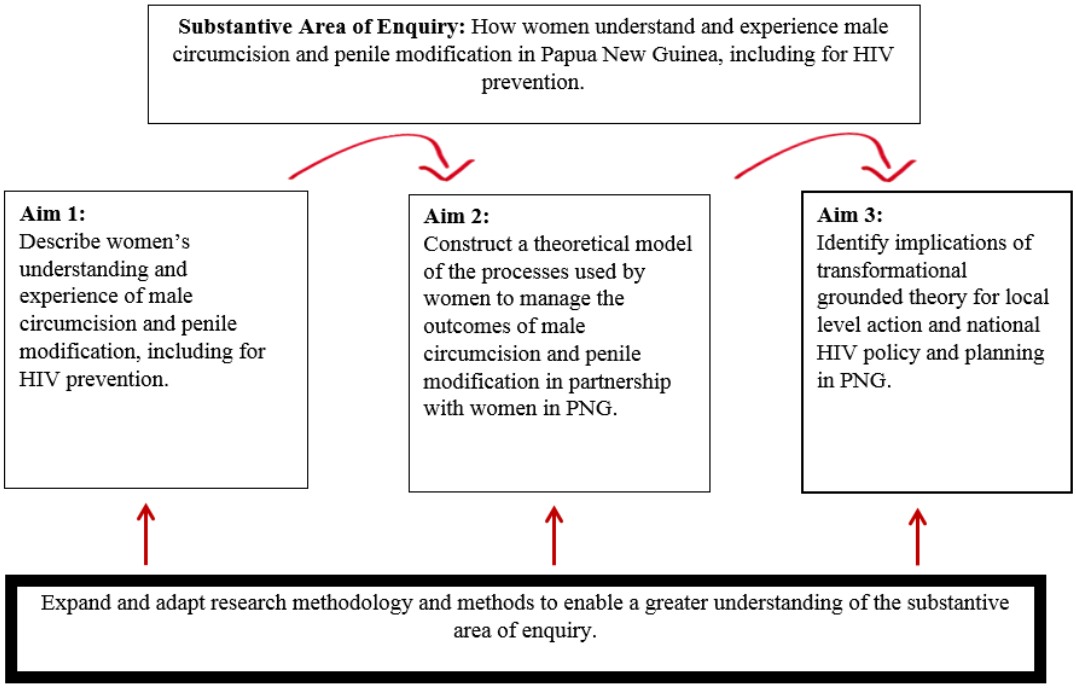


Figure 6 Focus of Chapter Five

In this chapter, I describe and reflect upon methods used in the study, consistent with TGT methodology. An ethics statement and explanation is provided. Use of theoretical sensitivity is explained and study locations are described. Expanded grounded theory techniques used to conduct secondary analysis of existing data along with co-generation and analysis of primary data are explained. I report characteristics of co-researchers, *NVivo* metrics, excerpts from memos recorded using *Evernote* and an audit trail of decision making using *Microsoft Excel*. The expanded qualitative method of interpretive focus groups is described in a published article included in this chapter. In addition, opportunities for cross-language research are explored in a separate book chapter, in preparation.

This chapter contains two co-authored contributions, one article published and one book chapter in preparation:

Redman-MacLaren, M., Tommbe, R., & Mills, J. (2014). Interpretive focus groups: A participatory method for interpreting and extending secondary analysis of qualitative data. *Global Health Action.* 7(25214), 6.

Redman-MacLaren, M., Mafile'o, T.A., Tommbe, R., MacLaren, D., & Mills, J. Meeting in the middle: cross-language qualitative health research using a non-Indigenous language in a Pacific country, in Liamputtong, P. (ed). *Research methods in health and social science*, Springer, Sydney (Forthcoming: book chapter).

5.2 Ethics Statement

In 2010, the Human Research Ethics Committees of PAU, PNG, DWU, PNG, JCU, Australia and National AIDS Council Secretariat of PNG provided ethics clearance for the *Acceptability of male circumcision for HIV prevention in Papua New Guinea* study (MC Study). Written support for the MC Study was also provided by the Provincial AIDS Committees of National Capital District, Madang, Oro Province and Enga provinces. Ethics for the PhD research was approved via extensions for each of the original MC Study approvals (Appendix 10.3). An ethics report for the PhD research has been provided to the Lead Investigator of the MC Study (Appendix 10.4).

Information and consent forms were provided to each person participating in the research. In Oro Province, the contact details for Rachael Tommbe, PAU and me at JCU were provided along with details of a local company employee at the NBPOL site in the event co-researchers wanted to discuss ethical issues after Rachael and I had left. At PAU, Rachael is a well-known senior lecturer and was the contact person. Aware of the sensitive nature of this sexual health research, Rachael and I spent a lot of time in the interpretive focus groups and before interviews explaining the purpose of the research, how it built upon the previous male circumcision research and the ethical issues surrounding this research. We explained our commitment to lead research that caused no harm. We explained participation was voluntary, the purpose of audio recording the groups and individual interviews and how a co-researcher could withdraw from the research at any time. Consent was explained in detail verbally in addition to providing written forms. The group did not continue without all co-researchers assuring the research team they understood their rights in the research process and how their information would be de-identified and represented. It was not uncommon to spend up to 20 minutes explaining these issues in focus group settings.

Cash payments were not made to co-researchers in exchange for participation. Gifts of appreciation were provided to thank co-researchers for their time and generosity. A PNG colleague, Mr Unia Api, had explained to me that it is the Melanesian way to not just say thank you but to say thank you *with a gift*. Below are details of gifts provided, as well as small payments to key people hosting the research and NBPOL research assistants (in lieu of their foregone wage for that day):

- Married women attending an interpretive focus group were gifted a JCU pen and a tea towel (sought after and useful items in a household).
- Single women in attending an interpretive focus group were gifted a JCU lanyard (apparently young women make more use of and are more appreciative of this type of gift).
- Women participating in individual interviews were given a JCU lanyard.
- One woman who had foregone a day at work in the oil palm plantation to participate was paid close to equivalent to her usual daily wage (relevant for one woman only, with the arrangement made after we realised what she had foregone to contribute to the research). In 2013, a NBPOL field worker could expect to be paid PGK16.25/day. We paid [name withheld] K20.
- Two key women at separate NBPOL estates who organised and hosted focus groups in their homes for two days were paid PGK20/day (in lieu of lost income).
- Three research assistants from NBPOL were paid PGK50, just a little higher than their normal daily rate. The company released them from their duties and we paid for their time (as was our practice previous times we had undertaken HIV research in Oro). In addition, research assistants were given a JCU t-shirt and hat.

5.2.1 Management and Storage of Data

Consistent with JCU ethics requirements and commitments provided to Ethics Review Committees at PAU and NACS, electronic copies of voice files were downloaded from audio recorders in the field and stored on a password-protected computer. These voice files and the corresponding transcribed data were secured on a password-protected

computer and a secure JCU server. Hard copies of data are stored in a locked filing cabinet at JCU, Cairns. Signed consent forms and hard copies of notes from interviews and interpretive focus groups are also stored in a locked filing cabinet at JCU, Cairns.

There were no complaints about the research made to the contacts at PAU or NBPOL and no complaints were made to the JCU, PAU or NACS Ethics Committees. Given the focus on power, rights and the moral principles that underpin this TGT research, ethics was a key consideration and given much time and attention throughout the research process. Draft research findings were discussed with co-researchers during the second fieldtrip (2014), consistent with participatory and decolonising methodologies (Cahill, Sultana et al. 2007; Manzo & Brightbill 2007). Co-researchers had a say in how the findings of the study were constructed and represented before they were publically released. This strategy provided an additional ethical safeguard within the research.

5.3 Increasing Theoretical Sensitivity

What a researcher has previously known and experienced determines a researcher's theoretical sensitivity (Birks & Mills 2011). The theoretical sensitivity of a researcher can be understood in two parts: (i) the personal history of the researcher and their existing knowledge of the research topic; and (ii) the researcher's intellectual history (1967). Consistent with the broad premise of qualitative research, grounded theorists are encouraged to remain sensitive to what is happening in the data while not being constrained by an existing hypothesis (Mills, Bonner et al. 2006). Making plain the theoretical sensitivity of the researcher makes plainer the relationship between researcher and data and increases the confidence one can have in the in the quality of the data.

HIV prevention in PNG has been a focus of my development consultancies and public health research work since 2005. I have designed, enabled and reported HIV research in PNG. During 2010, my family and I lived in PNG and I have ongoing relationships with HIV researchers and service providers there. Thus, when I began the doctoral research in 2012, I had a high level of personal and technical sensitivity to the topic of male circumcision within the cultural context of PNG. To further increase this sensitivity, I conducted an integrative review of peer-reviewed literature about women

and HIV in PNG (Redman-MacLaren, Mills et al. 2013). I also travelled to the PNG Medical Symposium in Kimbe, East New Britain in 2012 and attended additional specialty Sexual Health Society meetings. I wrote memos about the research process and context, my reactions to it and my understanding of data throughout the doctoral research, such as the following:

> *'If it is ultimately about the relationship between the researcher and the data, is there something there about the trust the researcher has in the quality of the data? This must be impacted by way data was collected … developing a methodological approach to grounded theory is almost a process of enculturation of self into the research process... finding a space that is comfortable, that helps me explore assumptions and any rub or misfit with existing values and experiences" (Memo, 15 March 2013).*

My role as a researcher, in particular my theoretical sensitivity, made me more aware of my influence as the researcher as I enacted the TGT.

5.4 Study Locations

PAU, National Capital District and NBPOL, Oro Province were the two field sites for study. These sites were previously field sites for the large MC Study and had been chosen for the diverse range of people with a variety of educational and cultural backgrounds (MacLaren, Tommbe et al. 2013). I had ongoing working relationships with women and leaders at both sites and the sites were accessible and safe (relatively) for me and my fellow female colleague Mrs Rachael Tommbe. There were trained and experienced research partners at both sites who were willing to facilitate access to co-researchers to discuss the sensitive sexual health topic.

5.4.1 Pacific Adventist University, National Capital District

PAU is a privately-run faith-based university owned and operated by the SDA Church. Located approximately 20 km from the centre of Port Moresby, the capital of PNG, the University is an aberration to most higher education facilities in PNG (Figure 7). Situated on over 200 acres of arable land traditionally owned by the Koiari people, PAU is beautifully landscaped with three lakes, an internationally renowned bird sanctuary

and a highly productive market garden. Many people come from Port Moresby to PAU on a Sunday morning to attend the market in the safety of the University compound. The University is surrounded by a 3 m high electrified fence, but inside the facility people move around with safety and ease. The staff and students of PAU live and work on campus, which also engenders a commitment to community along with shared social and cultural activities.

As the University is owned and operated by the SDA Church, there are strict taboos (rules) prohibiting the chewing of *buai* (betel nut), drinking of alcohol or smoking. Staff or students found to be involved in these activities are sanctioned or dismissed from the campus. Sexual relations outside of marriage can also result in being suspended or expelled. The University has a student body of approximately 1,000 people from across the 22 Pacific Islands Nations and Territories (PICTs), with the majority of students coming from PNG. PAU offers a variety of certificate, diploma and degree subjects in the arts and humanities, business, education, health sciences and theology. There is also a Masters level postgraduate programme, with a Master of Philosophy, Master of Divinity, and a Master of Business and Leadership available. PAU as yet has no doctorate programme. Lecturers for the tertiary programs are from PNG, other Pacific Island nations and territories, Australia and New Zealand along with a few from South East Asian nations such as the Philippines.

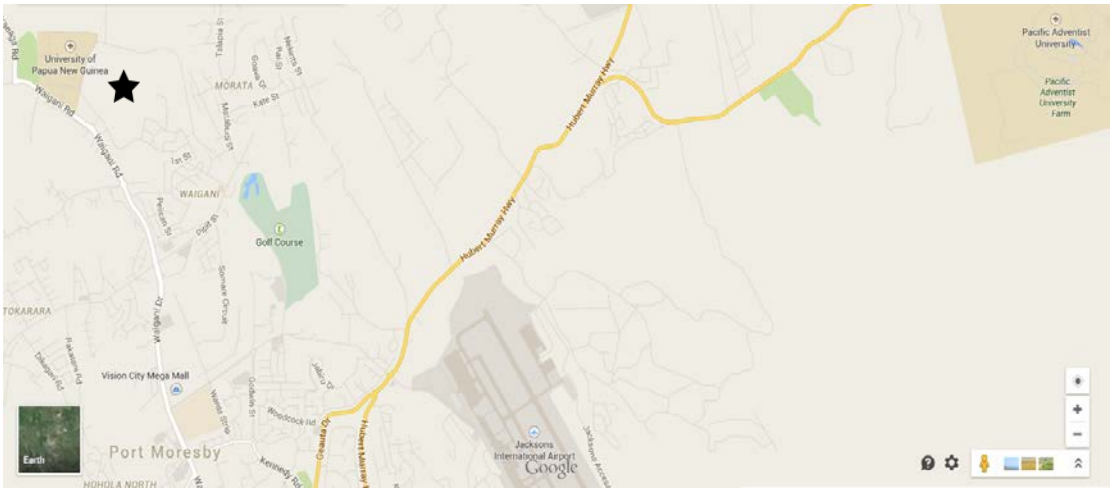


Figure 7 Map of Pacific Adventist University in relation to Port Moresby

Map source: Google Maps https://www.google.com.au/maps/@-9.4195778,147.2208365,14z accessed 23.03.2015

Research is new to PAU. Until the mid-2000s, PAU was a predominantly teaching institution. The establishment of a Department of Research and Postgraduate Studies in 2009 has given rise to many opportunities for collaboration outside of the institution. International partners are attracted to working with PAU due to its strong work ethic, rigorous financial management and safe working environment. This is not always the case for other institutions and government departments in PNG.

In 2009, a research partnership was formed between JCU and PAU to explore the feasibility of conducting HIV research about male circumcision in PNG. A pilot study funded by the PNG National AIDS Council Secretariat followed, led by researchers in the School of Health Science supported by researchers from JCU (Tommbe, Asugeni et al. 2012). On 25 February 2010, a formal memorandum of understanding was signed between the two universities to enable greater levels of cooperation and shared research agendas (Redman-MacLaren 2010). Dr David MacLaren and colleagues subsequently received a NHMRC grant to investigate the acceptability and feasibility of male circumcision for HIV prevention in PNG. I was appointed the project manager for this large multisite study in 2010. David and I moved to PNG, where we lived with our two children on the PAU campus. This enabled us to work closely with our colleagues at PAU to conduct the research (Tommbe, MacLaren et al. 2013).

Conducting sexual health research on a conservative Christian university campus is challenging. In PNG there are many cultural taboos about discussing sex. In addition, Christian beliefs about a biblical model of sexuality means there may be costs for students who participate and discuss their sexual activities. To assist in making students feel comfortable to participate, we had a number of research champions in the School of Health Science and in the Department of Research and Postgraduate Studies. Students were assured that if they did participate, they would be afforded a high level of confidentiality and there would be no adverse outcome for them revealing information about their sexual experiences. We used the existing social and cultural structures of student and cultural groups to provide information about the research, to inform the student and staff about the motivation for conducting the research and the possible contributions to the scientific body of knowledge and benefits to PNG should this research be successful (Tommbe, MacLaren et al. 2013). All of these processes laid a

platform for me to conduct this doctoral study in partnership with colleagues from PAU. The second field site was an oil palm plantation in the coastal province of Oro.

5.4.2 New Britain Palm Oil Limited, Oro Province

You who brings life,
I eat your offerings
I rest in your shade.

Maunten paia,*
Your violent story
Shapes my shade.

Man possesses,
A response of rage
Nature banished—no shade.

Simbaripa,
I am in awe, for
You are my shade.[9]
*mountain fire

Flying into Oro, one can see Simbaripa Mountain encircled by rows upon rows, hectares upon hectares of tall, dark-green palms on the plains below. Rivers and dusty roads wind their way throughout. Oil palm dominates the environmental, economic and social landscape of the area of Popondetta. The oil palm industry is by far PNG's largest agricultural export earner, with a value of PGK1,203 million for PNG in 2013 (Orrell 2014). There is much debate about the environmental impacts of oil palm production globally and within PNG specifically. Most current concern about the environmental impact of oil palm is the impact plantations are having on the primary forest (Nelson et al. 2010). Originally, much of the oil palm was established where there had been previous cropping, such as cocoa or coconut. In addition to concern about primary forest, there is also concern about the environmental sustainability once the plantations are established (Nelson 2012, p. 32). There are also effects on greenhouse gas emissions of converting various types of vegetation to oil palm and the impact upon the land and water through not only the development of oil palm but due to population pressure.

[9] For Stanley Ijimpa. Thank you for your precious Orokaiven Mountain story about the mighty mountain of Simbaripa, which you shared in her shade.

When oil palm plantations are developed, more pressure is put on other resources such as fisheries and gardens. For a detailed exposition of the aspects of environmental sustainability, see Nelson et al. (2010).

Research partner, NBPOL, is one of two oil palm producing companies in PNG (the other being Hargy Oil Palm). Both are both certified by the Roundtable on Sustainable Palm Oil. NBPOL has five sites across PNG, with the largest site being 36,948 hectares in West New Britain, located on New Britain Island. The field site for my PhD research is the NBPOL planation near Popondetta in Oro Province, where 8,761 hectares of land are managed by NBPOL (Orrell 2014). In addition to the company-owned plantation, smallholders on Oro Province grow oil palm on 12,650 hectares of customary or government-allocated land and sell fruit back to the company (Orrell 2014). Much of the smallholders' land has population pressure with families expanding and other (*wantoks*) family members wanting to join the cash-crop production of oil palm. Overcrowding has resulted on smallholder blocks.

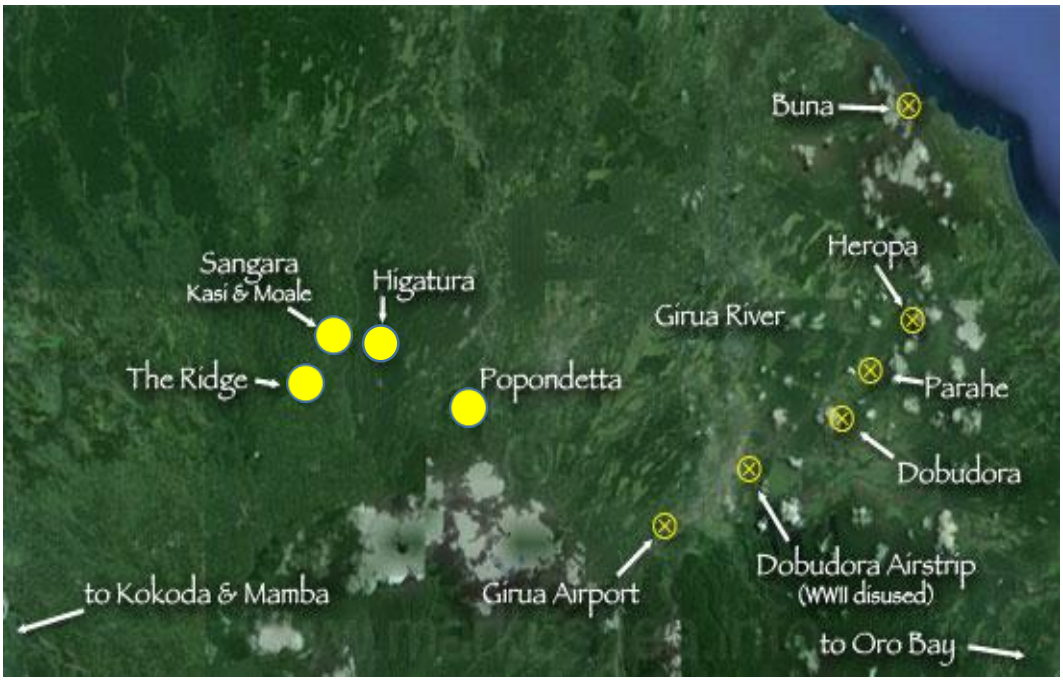


Figure 8 Map of New Britain Palm Oil Limited sites in relation to Popondetta, Oro Province

Map source: http://www.markoshea.info/research_fieldwork_papua13-3a.php accessed 05.05.2015

Scrutiny of the oil palm industry has not been limited to environmental concerns, with recent reports highlighting the social impact of the oil palm. Workers who come to the oil palm plantations come predominantly as fieldworkers, although there are some professionals including engineers, agriculturalists and business administers. The salaried workers of NBPOL in Oro live in company-run estates with oversight by a village warden. In addition to paid employees, smallholders and their family members and *wantoks* are drawn to the opportunity to move from a subsistence lifestyle to one that generates cash. A recent report published by *Tingim Laip* (2014) describes the relationship between increased access to cash and sexual networking. *Tingim Laip,* PNG's largest peer-led HIV prevention and care project operates in provinces where oil palm is produced, including Popondetta. Social and economic issues for Oro identified by *Tingim Laip* include availability of cash increasing transactional sex and sex work, increased public violence and family breakdown (Berry & McCallum 2013).

Estates (company villages) included in this study were Siroga, Sumbiripa and Irihambo (Figure 8). Each of these estates had a health clinic, two of which were used as bases for the research team. The three estates had been sites for the MC Study and had leaders willing to invite women to participate in the research. The decision about the most appropriate sites was made in partnership with research partners from NBPOL, Stanley Ijimpa, Clarles Yadup and John Jerry.

5.5 Phase One: Sampling and Analysis of Existing Data

Theoretical sampling was used for this study, essential to a grounded theory approach (Glaser & Strauss 1967; Charmaz 2000; Birks & Mills 2011). Theoretical sampling is the process of identifying and pursuing clues in the data to inform where-to-next for data collection (Birks & Mills 2011). For example: When I read a transcript from an interview with a married woman about her experience of male circumcision, it prompted questions about similarities and differences for a single woman in PNG. I then sampled a single woman's interview transcript. As I developed my ideas about what was happening in the data, I theoretically sampled more data and compared the new analysis in the light of my existing ideas. Constant comparison is a grounded theory approach to data analysis that informs the required next steps of theoretical sampling (a cyclical process).

For the PhD research, I had access to all data generated during the MC Study. The MC Study conducted from 2010—2012 was an observational cross-sectional multisite study conducted in four provinces of PNG. The MC Study sites included campuses of the two universities that were the research collaborators with JCU (i.e., PAU and DWU). The other two study sites were 'rural development' sites of Porgera Joint Venture, Enga Province and Higaturu Oil Palm (later known as NBPOL), Oro province. Study participants from the sites were citizens of PNG. Eight hundred and sixty-one men and 519 women participated in structured questionnaires. Focus groups (M=36; F=10) and semi-structured interviews (M=40; F=24) were also conducted. For the headline results of the MC Study, see MacLaren et al. (2013).

In phase one, I theoretically sampled nine interview transcripts and four focus group discussion transcripts that included single and married adult women from the four MC Study sites (Table 2). I 'fractured' the data by conducting line-by-line open coding (Saldana 2009; Birks & Mills 2011) and initially generated over 100 codes using the qualitative analysis software *NVivo*. I coded for processes, actions and meanings (Charmaz 2012). Constant comparison of the data being analysed assisted me to identify gaps in my knowledge for the development of the grounded theory (Birks & Mills 2011; Hoare, Mill et al. 2012). Steps for constantly comparing data included initial line-by-line coding, intermediate and advanced coding. In addition to these methods, I used data analysis techniques that further informed sampling such as the flip-flop method, far-out comparisons and waving the red flag. These methods described by Strauss and Corbin (1990) were used to ensure that nothing was taken for granted about the developing TGT. A detailed description of secondary analysis of existing data is included in the published article included below (Redman-MacLaren, Tommbe et al. 2014).

Table 2 Description of Participants by Site

Characteristic*^		
EXISTING DATASET	**Interview**	**Focus groups**
DWU		
Single	0	2
Married	2	0
PAU		
Single	1	1
Married	1	1
Porgera		
Single	1	0
Married	1	0
Popondetta		
Single	1	0
Married	2	0
TOTAL	**9**	**4**
PRIMARY DATASET		
PAU		
Single	2	1
Married**	4	2
Popondetta		
Single	0	1
Married	5	3
TOTAL	11	7
GRAND TOTAL	**20**	**11**

*All participants were over 18 years of age.

** One married male in sample, all others in sample were female.

^ Demographic data of residence, gender and marital status collected; all women except one.

Storyline technique was also used to explore possibilities for the developing TGT. Prior to the co-generation of primary data in PNG, I wrote five iterations of a storyline (approximately five pages in length) that captured what I thought was 'going on' in the data. Birks and Mills (2012, p. 12) refer to the storyline technique 'as a mechanism of both integrating and presenting grounded theory'. It is a technique for theoretical integration. It is important that storyline is not used as a framework to be imposed on the data, but as a tool to inductively weave together the ideas emerging from the data that have been analysed (Glaser 1992). The use of storyline in this research was consistent with the cultural context, where the oral tradition of storytelling is how knowledge is transmitted between and within generations (Narokobi 1983). The use of storyline technique was an opportunity to reconfigure this developing story, directed by *in vivo* codes from the dataset. The storyline incorporated data that were both consistent and appeared as a negative case (Morse 2008). The diversity of data added additional dimensions to the storyline and ultimately added both reach and explanatory power to the grounded theory itself (Strauss & Corbin 1998). I also used storyline as a tool to communicate the essence of the existing data with my supervisors and my PNG co-researcher, Rachael Tommbe. This integrating grounded theory technique assisted me to identify developing categories and directed the focus of the primary data co-generation during 2013.

5.6 Phase Two: Sampling, Co-generation and Analysis

Following the theoretical sampling and analysis of the existing dataset, I went to two of the four original sites to conduct semi-structured interviews and interpretive focus group discussions. The process of facilitating interpretive focus groups (n=7) is reported in the interpretive focus group article below (Redman-MacLaren, Tommbe et al. 2014).

Semi-structured interviews at PAU (n=6) and NBPOL (N=5) were based on questions that emerged during analysis of the existing data and data generated while in the field. The questions asked depended upon the co-researcher's marital status (a key organising characteristic in PNG), level of education and what gaps had been identified in the analysed data to date. The language used was different depending on what the co-researcher preferred. A detailed description of this process is included in the article about cross-language research below (Redman-MacLaren, Mafil'o et al. Under review). Examples of questions used to guide semi-structured interviews include:

- Do women know about male circumcision and why men are circumcised? What do they know?

- Do women have a say about male circumcision here? When do women have a say/make a decision for infant/child circumcision? Do women want a say about male circumcision here?

- Are there any stories about compensation and male circumcision?

- How do women in Oro understand male circumcision? Is that different from other places? Please explain.

- If you had the right to make a choice about male circumcision right now what would it be? Would it be a different decision if it were your husband or your son? What would be the safest option for women in your community?

- If we needed to make sure women weren't harmed by a decision about male circumcision, what decision would you make?

The interviews and interpretive focus groups were audio-recorded, transcribed and analysed. The transcribing was conducted by me (n=10) and two *Tok Pisin* speaking colleagues (n=7). Two focus groups did not successfully record, so I wrote notes immediately after the groups, supported by co-facilitator, Rachael Tommbe.

5.6.1 An Article As Data

'All is data' is a dictum of grounded theory (Glaser 2007). Commonly, research data are regarded as interview or focus group transcripts. In grounded theory, data can include generated (elicited) data such as interview data or collected (extant) data such as existing literature or artefacts (Birks & Mills 2011). Ralph and colleagues (2014, p. 3) present a spectrum of data used in grounded theory ranging from extant data such as documents and interactive media to elicited data such as field observations and interview data. The use of peer-reviewed literature as extant data is accepted in grounded theory research. For this study, a highly relevant peer-reviewed article was included since it reported the acceptability of male circumcision by women in PNG. This recent article examined the experience and attitudes of women towards male

circumcision, both for adult men and infants (Kelly, Kupul et al. 2013). This article was coded in *NVivo* and included in the dataset to extend understandings of the research topic.

The process of fracturing, integrating and analysing data was repeated, with codes from the primary data and the Kelly article (2013) enfolded into codes already developed out of the existing dataset. Analysis was conducted with a mindset of exploration, not description (Birks & Mills 2011; Charmaz 2012). Using *NVivo*, 162 codes were identified from the combined dataset. These codes were then combined into 93 sub-categories and finally grouped into the emerging categories of the Core Category and four other categories of the TGT (reported in Chapter Six: Findings).

5.7 Conceptual Saturation: Saturation Meets Cultural Obligation

Saturation in grounded theory occurs when data is co-generated that develops and refines tentative theoretical or conceptual categories (Charmaz 2012). There are two specific challenges when conducting grounded theory methodology in rural and remote areas internationally.

The first is the challenge of analysing data in order to inform the next round of data collection. The concurrent data generation and analysis cycle is spun at a very high rate when you are working in the field for a short period, depending on the support of people who live there. It is not possible to transcribe and analyse each interview conducted during the day (which may be a day of 10 hours taking into account travel time and other social commitments with the host organisation/community) prior to re-entering the field. At best, I managed to download the data, begin transcriptions, and write notes on my reflections on the interview, specifically what was new or what was outstanding. This preliminary analysis informed a list of questions for the next day's interviews and focus groups. This form of concurrent data generation and analysis was not nearly at the level of detailed analysis in real time that would occur if I were collecting data in a more controlled environment, for example in my home town, over a longer period.

The challenge of analysing data while in the field was also exacerbated by cultural expectations about participation in research. It is our constant experience in

both Solomon Islands and PNG that people want to participate in research. In these collective societies, everybody wants to know what is going on and everybody wants to know what is being said. This is very different to other Indigenous contexts, such as Australia for example where it is not always easy to find people who feel willing and/or safe to participate (NHMRC 2003). In the Pacific, when one comes with language and cultural understandings along with support and preparation of research assistants from that place, many people want to be interviewed. The expectations can sometimes exceed what is physically possible. For the fieldwork at NBPOL, I came to the conclusion that for us to honour and respect those with whom we were prepared to speak, Rachel would also need to interview some people so that we could talk to all of the women who wanted to talk. We then rearranged schedules so that we did not raise expectations about there being more individual interviews. This is a really challenging area of work. Maggie Kovach (2009) espouses the importance of analysing and using all data collected and not collecting data that will not progress the research. I am confident that the data collected have informed the research findings. However, this is a delicate balance and requires careful judgement and sound local advice when in the field.

Two published papers are included below. In Section 5.8, a paper describes the expanded focus group method of interpretive focus groups; in Section 5.9, a paper describes the benefits of working in the lingua franca of *Tok Pisin.*

5.8 Expanding Focus Group Methods

Redman-MacLaren, M., Tommbe, R., & Mills, J. (2014). 'Interpretive focus groups: A participatory method for interpreting and extending secondary analysis of qualitative data', *Global Health Action.* Vol. 7, (25214), pp. 1–6.

Global Health Action

COACTION PUBLISHING

ORIGINAL ARTICLE

Interpretive focus groups: a participatory method for interpreting and extending secondary analysis of qualitative data

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Background: Participatory approaches to qualitative research practice constantly change in response to evolving research environments. Researchers are increasingly encouraged to undertake secondary analysis of qualitative data, despite epistemological and ethical challenges. Interpretive focus groups can be described as a more participative method for groups to analyse qualitative data.

Objective: To facilitate interpretive focus groups with women in Papua New Guinea to extend analysis of existing qualitative data and co-create new primary data. The purpose of this was to inform a transformational grounded theory and subsequent health promoting action.

Design: A two-step approach was used in a grounded theory study about how women experience male circumcision in Papua New Guinea. Participants analysed portions or 'chunks' of existing qualitative data in story circles and built upon this analysis by using the visual research method of storyboarding.

Results: New understandings of the data were evoked when women in interpretive focus groups analysed the data 'chunks'. Interpretive focus groups encouraged women to share their personal experiences about male circumcision. The visual method of storyboarding enabled women to draw pictures to represent their experiences. This provided an additional focus for whole-of-group discussions about the research topic.

Conclusions: Interpretive focus groups offer opportunity to enhance trustworthiness of findings when researchers undertake secondary analysis of qualitative data. The co-analysis of existing data and co-generation of new data between research participants and researchers informed an emergent transformational grounded theory and subsequent health promoting action.

Keywords: *interpretive focus groups*; *secondary analysis*; *decolonizing methodologies*; *qualitative research*; *Papua New Guinea*

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Received: 16 June 2014; Revised: 19 July 2014; Accepted: 21 July 2014; Published: 18 August 2014

Participatory approaches to research practice constantly expand and change (1, 2). Increasingly, researchers are being encouraged to undertake secondary analysis of qualitative data in order to maximise the utility of previous research studies. Secondary analysis of qualitative data is the use of existing data to develop new understandings of a research topic or methodology (3). By using existing qualitative data, researchers gain significant efficiencies in cost savings, time taken, and human resources required. In addition, secondary analysis of data addresses the ethical imperative to use data that may otherwise have lain dormant, and which in turn enhances outcomes from the impost placed upon research participants (4–6).

Despite the benefits of secondary analysis of qualitative data, there are a number of epistemological and ethical challenges for qualitative researchers. Rather than 'collect' data as quantitative researchers do, most qualitative researchers co-generate data in the context of a purposeful relationship (7, 8). This approach is underpinned by the researcher's epistemological and methodological position (8). It is possible the qualitative data were collected in a manner inconsistent with the researcher's epistemological and methodological position (9) and the quality of data

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Citation: Glob Health Action 2014, **7**: 25214 - http://dx.doi.org/10.3402/gha.v7.25214
(page number not for citation purpose)

may not be able to be verified (10). There are also ethical considerations when reusing qualitative data, including the challenge of providing ongoing anonymity for participants and the ability to obtain participant consent for the re-use of the data to address a different research question (11).

Secondary analysis of data can be conducted using different methods, depending upon the purpose of the research. Heaton (12) describes five types of secondary analysis of qualitative data. These are:

1. Supra analysis: examines new empirical, theoretical, or methodological questions.
2. Supplementary analysis: a more in-depth investigation of an emergent issue.
3. Re-analysis: data are re-analysed to verify or corroborate primary analysis of primary data.
4. Amplified analysis: combines data from two or more primary studies to compare or enlarge a sample.
5. Assorted analysis: combines secondary analysis of data with primary research.

There is a multiplicity of approaches and issues surrounding secondary analysis of existing qualitative data. In this article, we describe how we undertook secondary analysis of existing qualitative data about the acceptability of male circumcision by women in Papua New Guinea (PNG). We then describe how we facilitated primary research to explore how women understand, experience and manage male circumcision in PNG. Consistent with *assorted analysis* described by Heaton, we explain a two-step approach used to co-analyse existing qualitative data through story circles and then co-generate primary data through storyboarding. This approach resulted in data that informed an emergent transformational grounded theory and subsequent health promoting action. Below we expand previous descriptions of interpretive focus groups. We also describe modifications made to the research methods, consistent with participatory and decolonizing approaches to research practice.

Interpretive focus groups

Focus groups are commonly used in qualitative research to explore and construct knowledge about a phenomenon with research participants in small groups (13–16). In health and development research, the researcher typically leads focus group discussions, with recordings of participant contributions made using audio recording devices and/or by having an observer in the focus group write down the contributions of participants (15). Specific focus group methods reflect the epistemological position of the researcher. Participatory and power-sharing approaches to focus group facilitation have been described by feminist researchers (17), action researchers (1, 18), decolonizing (19–21), and indigenous researchers (who also describe variations on focus groups such as conversational method, talking circles or research-sharing circle methods) (22, 23). One specific approach to focus group facilitation, originally described by feminist researchers, is the *interpretive focus group* (24, 25). Interpretive focus groups are facilitated with groups of people who have similar characteristics, brought together for their specific knowledge or experience to analyse data generated by others in a similar socio-economic setting (26, 27). Interpretive focus groups with participants of similar educational and/or cultural backgrounds reduce the risk of 'missing the mark' and increases trustworthiness of interpretation of the research findings (24). Below we describe an expanded two-step method of interpretive focus groups facilitated to: 1) analyse data from an existing data set using story circles and 2) co-generate new knowledge using storyboards. This paper expands interpretive focus group method by describing an iteration informed by participatory and decolonizing research methodologies. This expanded method informed the development of a transformational grounded theory and subsequent health promoting action to address human immunodeficiency virus (HIV) risk with women and men in PNG (28).

The research context: Papua New Guinea

Papua New Guinea (PNG) is a diverse middle-income, Pacific Island nation of 6.8 million people who gained independence from Australia in 1975. In this hyper-diverse nation, over 800 languages are spoken and the rural majority (85%) live a predominantly subsistence lifestyle. PNG faces many health and development challenges, one of which is how to respond to HIV. In PNG, HIV is predominantly heterosexually transmitted and affects approximately 0.5% of the population, with some regions and populations (such as women) more affected (29). Evidence from three large randomised controlled trials in Africa showed a reduction in HIV acquisition of up to 60% for heterosexual men (30–32). Male circumcision is now being researched as a HIV prevention option in PNG, where male circumcision (the full removal of the foreskin from the penis) is only practiced by men in a small number of specific cultural groups (33). Given the low social and educational status of women in PNG (34), it is important to understand the implications of male circumcision for women. This will reduce the risk of negative, unintended consequences that may result from proposed health prevention programs, such as making it harder for women to negotiate safe sex. The doctoral research of MRM (Author 1) explored how women understand, experience, and manage the outcomes of male circumcision, building upon an existing research agenda investigating the acceptability and feasibility of male circumcision for HIV prevention in PNG (33, 35–37).

Citation: Glob Health Action 2014, **7**: 25214 - http://dx.doi.org/10.3402/gha.v7.25214

This grounded theory study drew upon an existing data set that included quantitative and qualitative data from a large mixed methods, multi-site male circumcision study, with 861 male and 519 female participants (33). Before undertaking doctoral research, MRM was project manager for this study (2010–2012) and RT an investigator on the study. RT had led many of the original interviews and focus group discussions and was familiar to some of the women who later participated in this subsequent study.

Design: interpretive focus groups

Initially, MRM theoretically sampled data from individual interviews and focus group discussions from the existing data set. Rich interviews and focus group transcripts were imported and analysed using the computer software program, *NVivo* (Version10) with grounded theory data analysis methods employed, including initial, intermediate and advanced coding (8). Preliminary categories were developed from the existing data. Portions or 'chunks' of data that exemplified the developing categories selected were printed and laminated in multiple copies to be discussed by women in interpretive focus groups.

Seven interpretive focus groups were co-facilitated with 64 women at one urban university site and one rural site in PNG, both of which were sites in the previous multi-site male circumcision study (33). Theoretical sampling methods were employed to select participants, consistent with grounded theory methods (8). At the beginning of each interpretive focus group, researchers facilitated introductions, discussed the purpose of the focus group, and sought consent from the women to participate in the research. The groups were facilitated by MRM (an Australian researcher) and RT (a PNG researcher) in the languages of PNG Tok Pisin or English (for a detailed examination of cross-language research as enacted in this study, refer to Redman-MacLaren et al., forthcoming). Prior to discussing the data, a confidentiality agreement was made with women, based on an adapted agreement developed by Pittaway & Bartolomei:

'Confidentiality means that we all promise not to discuss anything we hear in this group without the permission of the person who tells the story. It is a *promise* that we give each other, including facilitators and participants. If we agree to this, then we learn to *trust* each other and discuss things openly, because we all know it will not be spread around the community or used in reports without permission' (emphasis used in interpretive focus groups) (38).

Human Research Ethics Committees of Pacific Adventist University (Papua New Guinea), James Cook University (Australia), and National AIDS Council Secretariat of PNG provided ethics clearance for this doctoral research.



Fig. 1. Young women draw their storyboards, supported by Rachael Tommbe (Reproduced with permission by M. Redman-MacLaren).

Results

Step One: Interpreting data 'chunks' in story circles

Researchers invited women to discuss portions of data or data 'chunks' that had been identified during initial analysis of the data. The discussions took place in smaller story circles (typically 2–4 women) within the larger interpretive focus group. Four data 'chunks' were provided to women in English and/or Tok Pisin on two A4-sized pages. One page included two data 'chunks' about adult male circumcision and the other page included two data 'chunks' about infant male circumcision. Women discussed the data in story circles in a way they themselves determined. This process evoked a sharing of personal experiences – women discussed their interpretation of the data, their personal positions in relation to the data, and shared much laughter as well. The atmosphere in the groups was comfortable as women discussed their own stories, or accounts they could relate to, and this ignited further discussion. A spokeswoman from each story circle was then invited to share the 'big ideas' that had emerged from the story circle with the larger interpretive focus group. The story circles within the interpretive focus groups and this broader discussion were audio recorded using multiple digital audio recorders. In addition, notes from the whole-of-group discussion were handwritten by RT.

Step Two: Storyboarding

Following the whole-of-group discussion, women were again invited to work in their story circles to extend their ideas about the data using storyboards. Storyboarding is a technique used in the visual arts that has recently been adapted for use in community development and participatory research (38). Women drew storyboards based on

their discussions about the data 'chunks', focused by a set of questions developed by MRM during the initial coding of the existing data set. The questions were:

1. What is happening (how, who, where, when)?
2. What is the outcome for men?
3. What is outcome for women?
4. What needs to happen next?

Women drew pictures on their storyboards on large sheets of paper using crayons, felt pens, highlighter pens, and pencils (Figure 1). Various sized drawings emerged and women organised their information and drawings differently – some women drew only pictures and some drew a combination of pictures and words. Some women started drawing immediately, other story circles took more time to discuss the questions first and then draw their considered responses. Once again, a spokeswoman from each story circle shared the drawings and an explanation with the whole interpretive focus group, which often led to extended discussions. The whole-of-group discussions were audio recorded and later transcribed. Refreshments were provided at all groups.

Following the facilitation of interpretive focus groups at the two sites, MRM analysed the storyboards, the audio recordings, and handwritten notes. Use of grounded theory data analysis methods including constant comparison, memoing and initial, intermediate and advanced coding led to a tentative transformational grounded theory. The developing theory was then discussed in detail during a second round of discussions at the two field sites with women who had participated in the interpretive focus groups. In addition, the developing theory was discussed with relevant stakeholders such as health workers, company managers, and employees of non-government organisations. Final modifications were made to the grounded theory and first steps of the requested health promoting action were taken. This has included sexual health awareness sessions (39).

Discussion

This two-step approach to interpretive focus groups was relevant for these people who live in a collective culture. Most women have low literacy levels, live in a postcolonial context, and many were involved in sensitive, sexual health research for the first time. Interpretive focus groups were a participatory way of undertaking a secondary analysis of existing data. This power-sharing approach is consistent with decolonizing methods when working across cultures and goes some way to addressing the dilemma of a researcher from a different cultural background interpreting existing data on 'behalf' of others. This two-step approach to interpretive focus group facilitation is a research method consistent with collective approaches to meaning-making that occur regularly in Pacific island and indigenous communities (19).

Focus groups are often designed in a top–down manner, with participants carefully sampled and numbers restricted to a recommended number (18). However, consistent with the participatory and decolonizing approaches, combined with the lived reality of research in the Pacific, the interpretive focus groups, we facilitated a more bottom-up approach. The sizes of groups varied according to the local social, cultural, and physical conditions. The number of women in the interpretive focus groups ranged from 4–15 women. On one occasion (30 July, 2013), MRM and RT arrived at a village in a rural area expecting to facilitate individual interviews, consistent with the research 'design'. Instead, we were greeted by a group of women (n = 8) ready for a collective discussion. We responded by facilitating an adapted focus group discussion (unfortunately, we were not prepared to facilitate a group and did not have our storyboarding materials with us). Being responsive and devolving power in groups requires researcher flexibility while being consistent with research principles and ethics. Researchers using this expanded interpretive focus group method can enable leadership and co-participation within story circles and the broader interpretive focus group, which can produce new understandings of existing data and generate new primary data.

Storyboarding in interpretive focus groups is a visual research method that encourages a different kind of participation and an additional way of communicating about sensitive sexual health issues. In this case, storyboarding stimulated succinct, targeted representations of women's knowledge and experience of male circumcision, beyond that possible by words alone (38). Storyboarding was therefore used to enable a visual representation of the data appropriate for cultural expressions in this Pacific context. Visual methods, including storyboarding, have also been used in other indigenous research (40, 41).

A participatory approach to interpretive focus groups reduces power differences between researcher and research participant (co-researcher), which is critical in a postcolonial context (1, 19). In PNG, white (in particular, white Australian) researchers have typically been seen as a continuation of the former colonial system. This approach to focus group facilitation centralises 'story' as a key medium for communicating meaning-making about the existing data, consistent with decolonizing methodologies (22). The groups' agenda can be directed by participants on the micro level, increasing the likelihood of participation in the research and potentiating the goal of co-generating results that reflect the understandings of participants.

One major benefit of this two-step approach to interpretive focus groups was the way it enabled discussion about the sensitive sexual health subject of male

Citation: Glob Health Action 2014, **7**: 25214 - http://dx.doi.org/10.3402/gha.v7.25214

circumcision and the implications for women in PNG. Secondary analysis of the existing data showed many women know a lot about male circumcision but few are culturally or socially sanctioned to speak about it. Discussion about sensitive data in small story circles resulted in a 'gentling' into the sensitive sexual health topic – women became more comfortable discussing the topic in safer, small story circles before it was discussed in the large group. For those not comfortable discussing the topic in a larger group, their opinions and experiences were still represented by their story circle spokeswoman and audio recorded for future analysis.

Limitations of interpretive focus groups

There are a number of limitations to the methods described above. The two-step interpretive focus groups relied heavily on the researcher's analysis of existing qualitative data (in this case MRM). MRM chose the data included in the data 'chunks'. Participatory action researchers typically analyse data generated with participants, not in isolation from them (1). One way of reducing the centrality of a specific researcher could be to undertake data analysis as a research team, with researchers from the country in which the data were collected. In this case, MRM and RT had previously examined and reported preliminary thematic findings from this data set (42) and thus data were not analysed in isolation of knowledge of social and cultural interpretations.

A further limitation of the method described is the small amount of data analysed by women in the interpretive focus groups when compared with the amount of qualitative data in the existing data set. The overwhelming majority of analysis of the existing qualitative data was conducted by MRM, with support from JM and RT, not the women participating in interpretive focus groups. However, the proportion of data being examined by the participants in interpretive focus groups should be weighed up against their other commitments and challenges (in this case, women who live a largely subsistence lifestyle and have limited literacy).

If the groups had more time, we would have negotiated our own confidentiality agreement with women rather than imposing one. Using an existing confidentiality agreement was a deliberate compromise given the constraints and context of the study. Many of the limitations experienced in this study reflect the competing demands and lived reality of participatory research in other contexts (18).

Conclusions

This paper describes an approach that extends the interpretive focus group method previously described. Women discussed 'chunks' of existing data in story circles and then built upon this analysis, generating new (primary) data using storyboarding. The approach is consistent with participatory action research methods and power-sharing, decolonizing research methods, especially appropriate to Pacific islands and other indigenous research contexts. The extended interpretive focus groups enabled co-analysis of existing data and co-generation of primary data that informed an emergent transformational grounded theory and subsequent health promoting action.

Authors' contributions

MRM conceived of and conducted the research, drafted and edited the manuscript.

JM provided important intellectual content and edited the manuscript.

RT co-facilitated the interpretive focus groups, provided important intellectual content, and edited the manuscript.

Acknowledgements

Thank you to the women involved in the study who so generously shared their experiences of this sensitive health topic – they taught us so much. Thank you also to partners at Pacific Adventist University and New Britain Palm Oil Limited, Oro Province for your ongoing support of this research.

Conflict of interest and funding

The authors declare there they have no conflict of interest. Financial support for the research was provided by the National Health and Medical Research Council of Australia (GNT1038200), School of Medicine and Dentistry, James Cook University, and the Far North Queensland Hospital Foundation.

References

1. Stringer E. Action research. 4th ed. Thousand Oaks, CA: Sage; 2014.
2. Mills J, Birks M. Qualitative methodology: a practical guide. London: Sage; 2014.
3. Irwin S. Qualitative secondary data analysis: ethics, epistemology and context. Prog Dev Stud 2013; 13: 295–306.
4. Whiteside M, Mills J, McCalman J. Using secondary data for grounded theory analysis. Aust Soc Work. 2012: 1–13. Available from: http://www.tandfonline.com/doi/abs/10.1080/0312407X.2011.645165#.U59_bPmSydw [cited 5 August 2014].
5. Bainbridge R, Whiteside M, McCalman J. Being, knowing, and doing: a phronetic approach to constructing grounded theory with Aboriginal Australian partners. Qual Health Res 2013; 23: 275–88. DOI: 10.1177/1049732312467853.
6. Broom A, Cheshire L, Emmison M. Qualitative researchers' understandings of their practice and the implications for data archiving and sharing. Sociology. 2009; 43: 1163–80. DOI: 10.1177/0038038509345704.
7. Charmaz K. Constructing grounded theory. 2nd ed. London: Sage; 2014.
8. Birks M, Mills J. Grounded theory: a practical guide. London: Sage; 2011.

9. Corti L, Day A, Backhouse G. Confidentiality and informed consent: issues for consideration in the preservation of and provision of access to qualitative data archives. Forum Qualitative Sozialforschung/Forum: Qualitative Social Research. 2000; 1: Art.7. Available from: http://www.qualitative-research.net/index.php/fqs/article/view/1024/2208 [cited 4 August 2014].
10. Alston M, Bowles W. Research for social workers. 3rd ed. Crows Nest, Australia: Allen & Unwin; 2012.
11. Yardley SJ, Watts KM, Pearson J, Richardson JC. Ethical issues in the reuse of qualitative data: perspectives from literature, practice, and participants. Qual Health Res. 2014; 24: 102–13. DOI: 10.1177/1049732313518373.
12. Heaton J. Reworking qualitative data. London: Sage; 2004.
13. Krueger R, Casey MA. Focus groups: a practical guide for applied research. 3rd ed. Thousand Oaks, CA: Sage; 2000.
14. Morgan DL. Focus groups as qualitative research. Thousand Oaks, CA: Sage; 1988. 85 p.
15. Liamputtong P. Focus group methodology: principles and practice. London: Sage; 2011.
16. Kitzinger J. Qualitative research: introducing focus groups. BMJ (Clinical research ed). 1995; 311: 299–302.
17. Wilkinson S. Focus groups in feminist research: power, interaction, and the co-construction of meaning. Wom Stud Int Forum. 1998; 21: 111–25. DOI: http://dx.doi.org/10.1016/S0277-5395(97)00080-0
18. Chiu LF. Transformational potential of focus group practice in participatory action research. Action Res. 2003; 1: 165–83. DOI: 10.1177/14767503030012006.
19. Smith LT. Decolonizing methodologies: research and indigenous peoples. 2nd ed. London: Zed Books; 2012.
20. Mertens DM. Transformative research and evaluation. New York: The Guilford Press; 2009.
21. Genat B. Building emergent situated knowledges in participatory action research. Action Res. 2009; 7: 101–15. DOI: 10.1177/1476750308099600.
22. Kovach M. Indigenous methodologies: characteristics, conversations, and contexts. 1st ed. Toronto: University of Toronto Press; 2009.
23. Chilisa B. Indigenous research methods. Thousand Oaks, CA: Sage; 2012.
24. Dodson L, Schmalzbauer L, Piatelli D. A conversation about Interpretive Focus Groups. In: Hesse-Biber SN, Leavy PL, eds. Feminist research practice: a primer. Thousand Oaks, CA: Sage; 2007.
25. Dodson L, Schmalzbauer L. Poor mothers and habits of hiding: participatory methods in poverty research. J Marriage Fam. 2005; 67: 949–59. DOI: 10.1111/j.1741-3737.2005.00186.x.
26. Leavy P. The practice of feminist oral history and focus group interviews. In: Hesse-Biber SN, Leavy PL, eds. Feminist research practice: a primer. Thousand Oaks, CA: SAGE research methods; 2007.
27. Favero LW, Heath RG. Generational perspectives in the workplace. J Bus Comm. 2012; 49: 332–56. DOI: 10.1177/0021943612456037.
28. Redman-MacLaren M, Tommbe R, Mills J, MacLaren DJ, McBride J. Women's experience of male circumcision in Papua New Guinea: a grounded theory study. 20th International AIDS Conference 20–25 July, 2014.
29. Redman-MacLaren ML, Mills J, Tommbe R, MacLaren DJ, Speare R, McBride WJ. Women and HIV in a moderate prevalence setting: an integrative review. BMC Public Health. 2013; 13: 552. DOI: 10.1186/1471-2458-13-552.
30. Auvert B, Taljaard D, Lagarde E, Sobngwi-Tambekou J, Sitta R, Puren A. Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 trial. PLoS Med. 2005; 2: e298.
31. Bailey RC, Moses S, Parker CB, Agot K, Maclean I, Krieger JN, et al. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. Lancet. 2007; 369: 643–56.
32. Gray RH, Kigozi G, Serwadda D, Makumbi F, Watya S, Nalugoda F, et al. Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial. Lancet. 2007; 369: 657–66.
33. MacLaren D, Tommbe R, Mafile'o T, Manineng C, Fregonese F, Redman-MacLaren M, et al. Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea. BMC Public Health. 2013; 13: 818. DOI: 10.1186/1471-2458-13-818.
34. Explanatory note on 2013 HDR composite indices: Papua New Guinea [Internet]. Geneva; 2013. The Rise of the South: Human Progress in a Diverse World. Available from: http://hdr.undp.org/sites/default/files/Country-Profiles/PNG.pdf.
35. Vallely A, MacLaren D, Kaleva W, Millan J, Tommbe R, Marape W, et al. Male circumcision for HIV prevention in PNG: a summary of research evidence and recommendations for public health. PNG Med J. 2011; 54: 91–108.
36. Vallely A, MacLaren D. Male circumcision for HIV prevention in Papua New Guinea: a summary of two research projects. Briefing document, Papua New Guinea Institute of Medical Research and James Cook University. Cairns; 2011.
37. Tommbe R, MacLaren D, Researching male circumcision for HIV prevention in Papua New Guinea: a process that incorporates science, faith and culture. Health Res Pol Syst. 2013; 11: 1–8. DOI: 10.1186/1478-4505-11-44.
38. Pittaway E, Bartolomei L. Community consultations using reciprocal research methodologies. Sydney: Centre for Refugee Research, University of New South Wales; 2012.
39. Redman-MacLaren M, Browne K. Gendered responses to male circumcision for HIV prevention. Cairns HIV Hub Conference 2014; 28–29 July, 2014.
40. Liebenberg L. The visual image as discussion point: increasing validity in boundary crossing research. Qual Res. 2009; 9: 441–67. DOI: 10.1177/1468794109337877.
41. Simeon L, Tracie Mo, Api UK, Gane B, Thomas B. Successful models of youth leadership: a study of Papua New Guinea Youth. Port Moresby: Pacific Adventist University with Pacific Leadership Program, AusAID; 2010.
42. Tommbe R, Redman-MacLaren M, Mafile'o T, Manineng C, McBride W, MacLaren D. Acceptability of male circumcision for HIV prevention in PNG: positives and negatives for women. PNG Sexual Health Society Meeting, PNG Medical Symposium 8–9 September, 2011.

5.9 Cross-language Research in Papua New Guinea

In addition to expanding qualitative methods of focus groups, I am also leading the publication of a book chapter that describes the benefits of working in the lingua franca of *Tok Pisin.* This publication in preparation reflects values and methods consistent with TGT methodology.

Redman-MacLaren, M, Mafile'o, TA, Tommbe, R, MacLaren, D & Mills, J 'Meeting in the middle: Cross-language qualitative health research using a non-Indigenous language in a Pacific country', in Liamputtong, P (ed), *Research methods in health and social science*. Springer, Sydney. (Forthcoming: book chapter).

5.9.1 Abstract

Background

With words as data, qualitative researchers rely upon language to understand the meaning participants make of the phenomena under study. Cross-language research requires researchers to communicate about and between linguistic systems of meaning, with language a site of power. This paper describes the value of using the shared, non-Indigenous lingua franca of *Tok Pisin* to explore the implications of male circumcision for HIV prevention for women in PNG.

Methods

Utilising a TGT methodology, this doctoral research began with an analysis of existing data from a large, mixed methods study that described the acceptability and feasibility of male circumcision for HIV prevention in PNG. In the second phase of the doctoral research, individual interviews and interpretive focus groups were used to explore preliminary categories identified in the initial analysis. The focus groups and interviews were conducted in *Tok Pisin* or English, depending upon the preference of the participants. Audio recordings were transcribed and analysed using grounded theory methods. Researchers returned to the two sites and discussed research findings and recommendations for actions. This paper focuses on the cross-language aspect of the doctoral research.

Results

Researchers identified a number of opportunities resulting from cross-language research. Cross-language research heightened researcher awareness of the role of language, facilitated a state of naïve inquirer for researchers and centralised the participants' responses. In addition to linguistic proficiency, worldview proficiency was required to explore the meaning participants attributed to the phenomena being researched. Using a shared language closer to the lived experience of participants devolved power of the researchers, consistent with the decolonising and participatory methodologies employed.

Conclusions

Cross-language research provides opportunities for researchers. In particular, the use of a lingua franca such as *Tok Pisin* enhances relationships and builds trust in the research process. It is critical researchers address hierarchies of language when conducting research in order to enable co-generation of quality research findings for improved public health.

Keywords

cross-language, qualitative research, cross-cultural, international health, global health, grounded theory, TGT

5.9.2 Background

Qualitative research seeks to understand the meaning participants make of a specific phenomenon (Mills & Birks 2014). With words as data, qualitative researchers rely upon language to communicate with research participants about the phenomena under study. A qualitative researcher needs to consider cultural implications of the use of language, what language can best communicate key concepts and be aware of what language is commonly spoken by and among research participants (Mertens 2009). Language provides 'primary access to people's experiences … and the production of these data requires an awareness of the issues involved in languaged expressions of experience' (Polkinghorne 2005, p.139). Cross-language research is the term used when there is a language 'barrier' between researcher and research participants (Squires

2009). Cross-language research requires the researcher to communicate about and between linguistic systems of meaning with research participants. Both oral and/or written translation can be required in cross-language research (Bogusia, Temple & Young 2004). When and how to use translation for successful qualitative research has been increasingly explored in methodological literature globally (Björk, Brämberg & Dahlberg 2013; Court & Abbas 2013; Esposito 2001; Hsin-Chun Tsai et al. 2004; Larkin, Dierckx de Casterlé, & Schotsmans 2007; Mafile`o 2005; Nurjannah, Mills, Park, & Usher 2014; Tamasese, Peteru, & Waldegrave 1997; B. Temple, Edwards, & Alexander 2006).

Language is a site of power in qualitative research, with 'hierarchies of language' represented by the language used to conduct and report research (Bogusia Temple & Young, 2004). The epistemological position of the qualitative researcher will influence attention given to language and its associated power. Data generated are a combination of the experiences of both participants and researchers, although it is the participant's story we as researchers seek (Court & Abbas 2013). Recognising the process of co-creating knowledge can provide opportunities for power sharing (Charmaz 2006). Ways researchers and research participants can share or withhold power during the process of inquiry is through selective use of words or language. The choice of language used by researchers is central to transformative, power-sharing research (Hole 2007; Mafile`o 2005; Mertens 2009). This is especially pertinent when researching in partnership with Indigenous people (Bird, Wiles, Okalik, Kilabuk, & Egeland 2009; Lincoln & González 2008; Mafile`o 2005; Smith 2012; Tamasese et al., 1997). In this article, we outline an example of cross-cultural qualitative research undertaken in a shared, but non-Indigenous language in the Pacific Island nation of PNG. We go beyond the identified challenges of conducting cross-language research to identify opportunities for participative and power-sharing processes. This article provides an account of researching in a language we all shared—a meeting in the middle.

An Example of Cross-language Research

This cross-language doctoral research was undertaken by MRM and supported by fellow authors. The TGT study explored implications of male circumcision for HIV prevention with women in PNG. TGT is a critical grounded theory methodology that

incorporates participatory action research and decolonising approaches to co-generate, co-analyse and act upon data generated (Redman-MacLaren & Mills, In Press). MRM led the study, with RT as co-researcher, cultural broker, interpreter and translator. The other two authors of this study (TM and JM) provided supervision and support. This study emerged from existing research that MRM, TM and RT have been involved in since 2009 (MacLaren et al. 2013; Tommbe et al. 2013). JM was the primary supervisor for the doctoral study. The cross-language research was undertaken in the non-Indigenous Melanesian language of *Tok Pisin* with intermittent use of English.

The Country and Its Languages: Papua New Guinea and Tok Pisin

PNG is a hyper-diverse, lower middle-income country in the South Pacific with a population of approximately seven million people. PNG gained independence from Australia in 1975. Over 800 separate languages are spoken in PNG, with three national languages: English, *Tok Pisin* and *Hiri Motu* (Muhlhausler & Romaine 2003). Most people speak a *Tok Ples* language (mother tongue) (de Groot 2008), with many also speaking one of the two lingua francas of PNG (*Hiri Motu* and *Tok Pisin*). Formal education in PNG is usually conducted in English. Papuan peoples in the Southern region of PNG speak *Hiri Motu*, with *Tok Pisin* spoken throughout much of the remainder of the country. Increasingly, people in the Southern Region are also speaking *Tok Pisin*. *Tok Pisin* is a rapidly and continuously expanding language, characterised by regional differences and generational iterations (de Groot 2008). There are an estimated three to five million speakers of *Tok Pisin*, with up to 500,000 first-language speakers of *Tok Pisin* in PNG (Smith & Siegel 2013) including young people from mixed parentage or who grow up in urban areas. Emerging from plantations during colonial rule in the mid-late 1800s, *Tok Pisin* has been variously known as NeoMelanesian, Melanesian Pidgin, New Guinea Pidgin, *Tok Vaitman* and *Tok Boi*, with the name '*Tok Pisin'* adopted in 1981 (Romaine 1992). The various names of the language reflect the history of speakers from expatriates to PNG plantation workers and finally to broader PNG. In the early 1900s, *Tok Pisin* spread into villages and 'knowledge of the language was generally accepted as the means of achieving material prosperity … and power' (Muhlhausler & Romaine 2003, p.6). Skills in *Tok Pisin* created an opportunity for PNG people to communicate with colonial masters, who had control of resources (and opportunities) not available to village-based people. In intervening years, colonial

administrators introduced English, which is now the formal language for education, business and government. English is less commonly spoken in social contexts, with *Tok Pisin* recognised as a sign of national identify among PNG citizens (Shelley 2013). Despite the high status of *Tok Pisin* previously, those who now speak English are more likely to achieve material prosperity and power as they access education, resources and opportunities in the rapidly modernising and globalising country of PNG.

5.9.3 Methods

This research built upon a large mixed methods study across four sites exploring the acceptability and feasibility of male circumcision for HIV prevention in PNG (2010–2013) (MacLaren et al. 2013). Utilising a TGT methodology (Redman-MacLaren & Mills, In Press), this study began by MRM analysing existing data from the large male circumcision study (Glaser & Strauss 1967). Following this, MRM supported by RT, facilitated individual interviews and interpretive focus groups to explore chunks of data that represented emerging themes (Redman-MacLaren, Tommbe & Mills 2014). MRM and RT co-generated the primary data with 68 participants at two study sites: a rural site (an oil palm plantation) and an urban site (a faith-based university).

The participants (67 women and one man) had the option of holding discussions in *Tok Pisin*, in English or a combination of both. Most participants in this research spoke at least three or four languages, which is typical in PNG. A variety of *Tok Ples* languages were spoken by participants at both study sites. Two provinces (East New Britain and Enga) in PNG have only one *Tok Ples* language with the remaining provinces having multiple *Tok Ples* languages. Study participants were from across PNG and they spoke many different *Tok Ples* languages. In addition, a few participants spoke *Hiri Motu*, almost all spoke *Tok Pisin* and many educated participants spoke English. No translation of *Tok Ples* languages was made available (nor was it expected by the participants) due to the high number of languages represented in any one group.

Linguistic Background of Researchers Involved in Data Collection

MRM is a first-language English speaker from Australia who learnt to speak (by immersion) the Melanesian language of Solomon Islands *Pijin* in 1992. MRM has been speaking *Pijin* for public talks, teaching research and conducting public health work.

From 2005, MRM began to develop language skills in the closely-related PNG language of *Tok Pisin*. During 2010, MRM lived in PNG where she became proficient in *Tok Pisin* (verbal and written, largely thanks to RT who continues to instruct). Collaborative focus group facilitation and public reporting of research findings conducted in *Tok Pisin*, along with transcription and analysis of data for my doctoral research evidence this proficiency.

RT is a Papua New Guinean woman whose *Tok Ples* is Engan, from the Highlands of PNG. Her second language is *Melpa Tok Ples* of Western Highlands Province. RT learnt this language in her childhood days when her father was working as a health worker in this part of the Highlands. RT's third language is *Tok Pisin* and her fourth language is English. RT learnt to speak fluent *Tok Pisin* as a child and is highly proficient in English. RT completed all of her education in English, including international postgraduate education.

Why have we included this seemingly indulgent history of our respective (her)stories of language acquisition and proficiency? Explication of language proficiency is key to conducting and reporting cross-language qualitative research (Squires 2009). Squires builds on the work of a number of linguists in describing four kinds of language knowledge as important for language competence. These are: grammatical competence (can speak and write simple sentences); discourse competence (complex sentence structures to facilitate story telling, including contextual differentiation); sociolinguistic competence (integrates cultural norms into communication process); and strategic competence (can describe a word enough for a first-language speaker to nominate the correct word) (Squires 2008, p. 266–267). By having these levels of language knowledge in both *Tok Pisin* and English, we researchers could provide language options and could conduct research in *Tok Pisin,* a language closer to the lived experience of the research participants.

At the rural site, MRM facilitated all four interpretive focus groups in *Tok Pisin* and three of the five interviews in *Tok Pisin*. RT conducted two interviews at the rural site, with one interview in *Tok Pisin* with a field worker and one interview in English with a professional woman. At the university site, two of the three interpretive focus groups (student nurses and faculty staff) were undertaken predominantly in English (with a small amount of *Tok Pisin*). The third group (with spouses of married students)

was conducted predominantly in *Tok Pisin* with a small amount of English. Five of the six interviews at the university were predominantly undertaken in English, the preference of the largely educated participants.

The interviews and interpretive focus groups were voice recorded and transcribed verbatim in the language used to collect the data. Transcription was done by MRM (n= 13) or by one of two different research assistants who provided *Tok Pisin* translation (n=5). Analysis of the data occurred in the language in which the interview was undertaken, consistent with Pacific approaches to research (Mafile`o 2005; Tamasese et al., 1997). In 2014, MRM and RT returned to the research participants at the two sites to discuss research findings and identify recommendations for actions. At the oil palm plantation, we facilitated three feedback sessions with women in *Tok Pisin* (n=14) and shared results with a number of groups predominantly in English (with some use of *Tok Pisin*). These groups included health clinic staff (n=13), a team from a non-government organisation (n=12), a provincial AIDS Committee (n=3) and company management (n=19). At the university we facilitated three feedback sessions with research participants (n=24) and an open feedback session for faculty. As summarised in Table 3, a variety of cross-language research processes were required throughout the study.

Table 3 Sites of Cross-language Research Action

Stage of Research	Research Process	Translation Action
Pre-field work: first phase of data analysis	Analysis of data from secondary dataset	Analysed data recorded in *Tok Pisin* and English; constant and deliberate translation in first-language and non-first-language
Pre-field work: after first phase of data analysis	Identifying and preparing theoretically sampled data 'chunks' to discuss in the interpretive focus groups	Revision of *Tok Pisin* and English data sampled, ensuring the data chosen captured the emerging codes and categories from initial and intermediate coding of dataset
Pre and during first field trip	Preparing questions for semi-structured interviews: some variation in questions, informed by constant comparison of data (consistent with grounded theory analysis)	Revision of initial codes and categories emerging from secondary and primary data, informed by constant comparison of both sources of data
During first field trip	During interpretive focus groups and interviews	Conducting interpretive focus groups and interviews in *Tok Pisin* and English
Post first field trip	Verbatim transcription of interpretive focus group and interviews	Translating language from an oral to written form
Post first field trip	Analysis of data from primary dataset, revisiting secondary dataset with specific questions	Identification and revision of codes and categories emerging from data, informed by constant comparison of data
During second fieldtrip	Discussion of findings and action steps	Facilitating group feedback sessions
Post second field trip	Adapting of model, documenting TGT, including supporting evidence from data	Revision of voice recordings of feedback discussions and codes and categories from both primary and secondary datasets
Post second field trip	Reporting research findings (organisations, institutions, policymakers, conferences, publications)	Interpreting findings between English and *Tok Pisin*, depending upon audience requirements; written reporting in English

Human Research Ethics Committees of PAU (PNG), JCU (Australia) and PNG National AIDS Council provided ethics clearance for this doctoral research. All participants gave their informed consent to participate in the study.

5.9.4 Results

The premise that cross-language research presents a barrier between the researcher and research participants may mask the opportunities that it brings. By undertaking this study, we have learnt that cross-language research heightens the researcher's awareness of the role of language and provides opportunity to enhance trustworthiness of findings. Research is not value-free and qualitative research, in particular, is grounded in the social world of the researchers and participants (Hsin-Chun Tsai et al. 2004; Mafile`o 2005; Smith 2012).An increased awareness of difference between the researcher and the participants can lead to more explicit steps to share power, with hierarchies of language purposively addressed (Kovach 2009; Smith 2012; Tamasese et al. 1997). When MRM introduced herself to the research participants, she shared where she was from and her relationship with the Pacific, and PNG specifically. MRM deliberately discussed the use of language, the limitations of her *Tok Pisin* proficiency and the role RT would have in ensuring the exchange of meaning. This helped shift her position from 'expert' researcher from the ex-colonial power explicitly sharing language vulnerability and this reducing her power in the group. This created an opportunity of conducting research in a more power-sharing manner.

Researching across languages can also heighten the researcher's status of naïve inquirer, consistent with participatory approaches (Stringer 2013). MRM and RT reinforced their status of naïve inquirer by being explicit that the participants were the experts about the phenomena being discussed. By using *Tok Pisin,* the shared language closest to the lived experience of the research participants, to discuss the implications of male circumcision, we were able to learn more intimate details than would have been possible than if using a language more removed from the participants' lived experience (Mafile`o 2005). In this study, participants used *Tok Pisin* terms and phrases for male circumcision and penile modifications such as *stret kat (*straight cut) and *raun kat* (round cut) and *katim skin blo kok* (cutting skin of the penis). Relationship dynamics were explicated. For example, to describe the English term 'husband' some women in the study used the phrase '*boss blong* mi' (my boss). The use of the word '*boss*' made explicit the power dynamic between a wife and her husband, with the husband having power over his wife. In the predominantly patriarchal cultures of PNG, the husband is seen as the leader or the head of their family as they provide for both nuclear and extended family. Women are to respect and submit to their husband's decisions because

of their position as the family head. The *Tok Pisin* phrase *'boss blong mi'* evidenced the accepted nature of relationships between many men and women in this study.

Cross-language research brings opportunity to examine more carefully the representations of meaning held in language. 'Translating relates not only to language but also to culture' (Chen & Boore 2010, p.235). During all focus group discussions, MRM was supported by RT. This provided opportunity for clarification, correction or translation as required for communicating between MRM as a non-PNG researcher facilitating a group in *Tok Pisin*. It ensured an accurate understanding of actual words spoken and the worldview of the participants, as represented by language used. Codes and categories were recorded, transcribed and analysed in *Tok Pisin*, translated into English by MRM and then systematically reviewed by fellow researchers and *Tok Pisin* speakers for accuracy. RT reviewed written data before it was taken back to participants during the feedback trips and reviewed data reported. This ensured the translation was not a mechanical or literal translation but included an understanding of the cultural context in which it was shared. One example is the *Tok Pisin* word *bung*. Interpretive focus groups were described as *bungs. Bung* can literally be translated as 'meet together'. However, most *bungs* in Melanesian societies come with food. The person who hosts a *bung* decides whether to provide a light meal, a more substantial ('heavy') meal or no meal at all. Hosting with food reflects on the host in a positive way. Food strongly binds the relationships between the group members. For these *bungs,* light refreshments were provided which strengthened relationships between participants and the research team. As demonstrated by the *Tok Pisin* word *bung*, the process of meaning transfer and related actions have much to do with reconstructing the value of a term (Simon 1996). Literal language proficiency does not equate to 'worldview proficiency'.

Worldview Proficiency

In order to explore the meaning people attribute to the phenomena being researched, the researcher and participants need to be able to communicate about, if not share, a worldview (Mertens, 2009). Linguistic competency also requires sociolinguistic and strategic competence (Squires, 2008). In the desire to co-create culturally relevant health knowledge, we were mindful that MRM analysed the data as a non-Papua New Guinean. Some researchers have experimented using co-researchers and translators from the target population to ensure not only language is translated correctly but also

interpreted consistent with the worldview of research participants. 'The complexity of qualitative data and the potential for error in translation leads to the recommendation to use a panel of experts to enhance the rigour of the work. This panel of experts should include those with language, cultural, subject and methodological expertise to ensure adequate debate on the issues that impinge on the translation' (Chen & Boore 2010 p.238). MRM found it invaluable to have RT as a co-researcher from PNG to ensure there are minimal 'misses' when interpreting the worldview of participants through the language presented. This was critical during and after interviews and/or focus groups had been undertaken and during the reporting process. The cyclical research methods of TGT meant the research findings were checked, discussed and changed as required with participants prior to public reporting. This participatory process is highly relevant to cross-language research as it reduces the risk of misunderstanding when researchers and participants are not operating in their first-language—that is linguistically speaking, they are meeting on middle ground.

Language is constantly changing, reflecting the social, cultural, spiritual and economic conditions in which it is constructed (Smith 2000). Change occurs when younger generations express themselves using slang, street-talk and locally-specific words and phrases, which are constantly evolving. There is some convergence occurring between *Tok Pisin* and English in PNG (Smith 2000). The ability for both researchers and participants to move between and use different languages meant that there were increased options for expressing a concept or describe the phenomena using the most representative and familiar words and tone. This moving between languages enriched the tapestry of the qualitative research endeavour. It allowed for mental scaffolding of ideas being discussed and centralised the research participants' comfort and experience.

The use of *Tok Pisin* in this qualitative health research study undertaken in PNG is consistent with decolonising methodologies that intentionally devolve power, epitomised by the participant's power to choose *Tok Pisin* or English. Decolonising research shares similarities with participatory, community-based approaches to research in that both these approaches seek to share power between the researcher and participants. However, decolonising research methodologies also provide a framework to critically analyse oppressive assumptions about the research process, including Western paradigm assumptions about the nature of reality and oppressive and exploitative research practices (Kovach 2009; Smith 2012). The sharing of power

enabled by the limited or non-use of English (the ex-colonisers' language) was commented on and appreciated by research participants at both field sites, consistent with our experience of conducting research in *Pijin* in neighbouring Solomon Islands (Redman-MacLaren et al. 2010). The ability of MRM to undertake research in *Tok Pisin* conveyed more than language proficiency. It also demonstrated a sustained engagement with PNG and a commitment to centralising the experience of PNG people.

Limitations of Meeting in the Middle

The act of meeting in the middle—of undertaking research in a non-Indigenous language of *Tok Pisin*—meant that on occasions, participants conferred about the best word or phrase to use in *Tok Pisin* or English (depending on the language the group was being conducted in). The research process using multiple languages and moving between languages was on occasions messy and unpredictable. However, using multiple languages did allow for an exploration of the research topic in a richer way. There was a recursive process between participants and researchers with MRM on occasions also conferring with RT in English about the best word or phrase to use in *Tok Pisin*.

Conducting cross-language research in *Tok Pisin* contributed to an enhanced connection and understanding between researchers and participants. However, there may have been a different result again if participants used *Tok Ples* in the groups. It was not practicable in the current study, but future research that is more localised and ethnic/language specific could explore the topic differently. The limitation of a more localised, ethnic-specific approach would be that a different (and perhaps reduced) contribution could be made at a national level, when compared to this study.

It is not always possible for a researcher from 'outside' to be fluent in the language of the communities in which she is working (Bogusia Temple & Young 2004). This situation, as is MRM's experience of cross-language research, has many benefits but 'does not imply that the final text is nearer "the truth" …as epistemology cannot be easily tied to social location' (Bogusia Temple & Young 2004 p.168). It is crucial cross-language proficiency does not result in methodological carelessness but enhances the meaning exchange between researchers and participants.

5.9.5 Conclusions

As qualitative researchers, we recognise the process of co-creation of knowledge between researchers and participants about a phenomenon. This chapter has critically reflected upon language and meaning-making issues facing researchers who undertake research in a shared but non-Indigenous language, using the example of research undertaken in *Tok Pisin*, a commonly spoken *lingua franca* (bridge) language in PNG. It is critical that researchers address the hierarchies of language when conducting research across language and cultures and locate the sites of power in knowledge generation when conducting international health research.

5.9.6 Acknowledgements

Thank you to the people involved in the study that so generously shared their experiences of this sensitive health topic and taught us so much. We thank Dr Clement Manineng for reviewing this manuscript. Financial support for the research was provided by the NHMRC of Australia (GNT1038658), College of Medicine and Dentistry, JCU and the Far North Queensland Hospital Foundation.

5.9.7 References

Bird S, Wiles JL, Okalik L, Kilabuk J, & Egeland GM 2009, 'Methodological consideration of story telling in qualitative research involving Indigenous Peoples', *Global Health Promotion*, vol. 16, no. 4, pp. 16–26.

Björk Brämberg E & Dahlberg K 2013, 'Interpreters in cross-cultural interviews: A three-way coconstruction of data', *Qualitative Health Research*, vol. 23, no. 2, pp. 241–247.

Charmaz K 2014, *Constructing grounded theory*, 2nd edn, Sage Publications Ltd, London.

Chen H-Y, Boore JRP 2009, 'Translation and back-translation in qualitative nursing research: Methodological review', *J Clin Nurs*, vol. 19, no. 1–2, pp. 234–239.

Court D & Abbas R 2013, 'Whose interview is it, anyway? Methodological and ethical challenges of insider–outsider research, multiple languages, and dual-researcher cooperation', *Qualitative Inquiry*, vol. 19, no. 6, pp. 480–488.

de Groot N 2008, *Papua New Guinea: Tok Pisin English dictionary*, Oxford University Press, Melbourne.

Esposito N 2001, 'From meaning to meaning: The influence of translation techniques on Non-English focus group research', *Qualitative Health Research*, vol. 11, no. 4, pp. 568–579.

Glaser BG & Strauss A 1967, 'The discovery of grounded theory: Strategies for qualitative research', vol. 1, New Brunswisk: Aldine Transaction.

Heaton J 2004, *Reworking Qualitative Data*, Sage Publications Ltd, London.

Hole R 2007, 'Working between languages and cultures: Issues of representation, voice, and authority intensified', *Qualitative Inquiry*, vol. 13, no. 5, pp. 696–710.

Holmes J 2013, *An introduction to sociolinguistics*, 4th edn, Routledge, Abingdon, Oxon.

Hsin-Chun Tsai J, Choe JH, Mu Chen Lim J, Acorda E, Chan NL, Taylor V, Tu SP 2004, 'Developing culturally competent health knowledge: Issues of data analysis of cross-cultural, cross-language qualitative research', *International Journal of Qualitative Methods*, vol. 3, no. 4.

Kovach M 2009, *Indigenous methodologies: Characteristics, conversations, and contexts*, 1st edn, University of Toronto Press, Toronto.

Larkin PJ, Dierckx de Casterlé B, Schotsmans P 2007, 'Multilingual translation issues in qualitative research: Reflections on a metaphorical process', *Qualitative Health Research,* vol. 17, no. 4, pp. 468–476.

Lincoln YS, González EM 2008, 'The search for emerging decolonizing Methodologies in qualitative research: Further strategies for liberatory and democratic inquiry, *Qualitative Inquiry*, vol. 14, no. 5, pp. 784–805.

MacLaren D, Tommbe R, T. M, Manineng C, Fregonese F, Redman-MacLaren M, Wood M, Browne K, Muller R, Kaldor J et al 2013, 'Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea', *BMC Public Health*, vol. 13, no. 1, p. 818.

Mafile`o T 2005, *Tongan metaphors of social work practice: hangē ha Pā kuo Fa'u'*, Massey University, Palmerston North.

Mafile`o T 2004, 'Exploring Tongan social work: Fekau`aki(Connecting) and Fakatokilalo(humility), *Qualitative Social Work*, vol. 3, no. 3, pp. 239–257.

Mertens DM 2009, *Transformative research and evaluation*, New York, The Guilford Press.

Mills J, Birks, M 2014, *Qualitative methodology: A practical guide,* Sage Publications, Inc, London.

Muhlhausler P, Romaine S 2003, *Tok Pisin texts: From the beginning to the present*, John Benjamins Publishing Company, Philadelphia.

Polkinghorne DE 2005, 'Language and meaning: Data collection in qualitative research', *Journal of Counseling Psychology*, vol. 52, no. 2, pp. 137–145.

Redman-MacLaren M, MacLaren D, Solomon J, Muse A, Asugeni R, Harrington H, Kekuabata E, Speare R & Clough A 2010, 'Research workshop to research work: Initial steps in establishing health research systems on Malaita, Solomon Islands', *Health Research Policy and Systems*, vol. 8, no. 1, p. 33.

Redman-MacLaren, M & Mills, J In Press, 'Transformational grounded theory: Theory, voice and action', International Journal of Qualitative Methods.

Redman-MacLaren, M, Tommbe, R & Mills, J 2014, 'Interpretive focus groups: A participatory method for interpreting and extending secondary analysis of qualitative data', Global Health Action, vol. 7(25214), 6.

Romaine S 1992, *Language, education, and development: Urban and rural Tok Pisin in Papua New Guinea*, Oxford University Press, Oxford.

Shelley F 2013, *Nation shapes: The story behind the world's borders*, ABC-CLIO, LLC, California.

Simon S 1996, *Gender in translation: Cultural identity and the politics of transmission*, Routledge, London.

Smith GP 2000, 'Tok Pisin and English: The current relationship', in J Siegel (ed), *Processes of Language Contact: Studies from Australia and the South Pacific,* pp. 271–292.

Smith GP, Siegel J 2013, 'Tok Pisin', in SM Michaelis, P Maurer, M Haspelmath, M Huber (eds), *The Survey of Pidgin and Creole Languages Volume 1: English-based and Dutch-based languages,* Oxford University Press, Oxford, pp. 214–222.

Smith LT 2012, *Decolonizing methodologies: Research and Indigenous peoples,* 2nd edn. Zed Books, London.

Squires A 2009, 'Methodological challenges in cross-language qualitative research: A research review', *International Journal of Nursing Studies*, vol. 46, no. 2, pp. 277–287.

Squires A 2008, 'Language barriers and qualitative nursing research: Methodological considerations', *International Nursing Review*, vol. 55, no. 3, pp. 265–273.

Stringer E 2014, 'Action research', 4th edition, Sage Publications, Inc, Thousand Oaks.

Tamasese K, Peteru C, Waldegrave C 1997, 'Ole taeao afua: A qualitative investigation into Samoan perspectives no mental health and culturally appropriate services', in *Lower Hutt: The Family Centre*.

Temple B & Young A 2004, 'Qualitative research and translation dilemmas', *Qualitative Research*, vol. 4, no. 2, pp. 161–178.

Temple B, Edwards R, Alexander C 2006, 'Grasping at context: Cross language qualitative research as secondary qualitative data analysis, *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, vol. 7, no. 4, Art 10.

Tommbe R, Asugeni L, MacLaren D, Redman-MacLaren M, Mafile`o T 2012, *What Can be Learned about Male Circumcision and HIV Prevention from a Cohort of Students and Staff at a Papua New Guinea University?* Pacific Adventist University, Port Moresby, PNG.

Tommbe R, MacLaren DJ, Redman-MacLaren ML, T. M, Asugeni L, McBride WJ 2013, 'Researching male circumcision for HIV prevention in Papua New Guinea: A process that incorporates science, faith and culture', *Health research policy and systems/BioMed Central*, vol. 11, no. 1, pp. 1–8.

5.10 Returning to the Field

In March 2014, I returned to PNG to discuss the developing TGT and next steps. Consistent with participatory action research approaches (Dick, Stringer et al. 2009; Stringer 2014), I took the analysed data to groups to discuss what was consistent with their experience of male circumcision and penile modification, what needed to change and any recommendations for action. Rachael Tommbe worked with me to arrange and co-facilitate the feedback discussions. We repeated the ethics process of seeking consent and audio recording group discussions to ensure feedback and recommendations could be accurately represented and used to develop further the TGT.

At PAU, we met with married women (n=9), single women (n=13) and with one male colleague separately (n=1). In total, 23 people provided feedback about the TGT and recommendations for future action. On 28 August 2014 (during another trip), I presented at PAU's Research Colloquia (held monthly), to report the research process and findings to the wider PAU academic and student community. I was also invited to present to the HIV Committee where we discussed the findings and recommendations and planned for future action. These discussions have informed many of the recommendations found in Chapter Seven.

Rachael Tommbe and I also returned to Oro Province in March 2014, where we were graciously hosted by the NBPOL management team. During this field visit we were again supported by Charles Yadup, Stanley Ijimba and John Jerry, who arranged feedback meetings with co-researchers and others. Rachael and I facilitated three feedback groups with women (n=14) in three separate estates (Sumbaripa, Irihambo and

Siroga). At these meetings, we discussed the developing TGT and recommendations for action. In addition, we presented preliminary research findings during the weekly managers meeting at the 'Barn' on the NBPOL Estate (n=30), NBPOL Health Clinic staff (n=13). We also met presented preliminary research findings to the *Tingim Laip* team (n=12), Oro Provincial AIDS Council (n=3) and shared findings during a chance meeting with Provincial Governor, Gary Juffa, and his health team.

5.11 Memos

Memos were a key method I used to record insights and ideas about my research. Memo writing is a grounded theory method that helps the researcher to move from description to conceptualising data (Birks, Chapman et al. 2008). Memos are central to the formulation of theory and help to move the developing grounded theory towards an original contribution (Strauss & Corbin 1990; Charmaz 2012). Memos reflect the social lives that they interpret, and are often 'messy, incomplete, with undigested theories and nascent options' (Lempert 2007, p. 249). As demonstrated earlier in this chapter, I wrote memos reflecting upon the research topic, processes used in the research and my role as a researcher. Starting from the very beginning of my candidature, I wrote almost 40 memos in the software program *Evernote*™, which allowed for tagging by topic, easy retrieval and an ability to store documents related to the memos. The topics of the memos included women's opinions about male circumcision, women's experience of violence, and sexual disinhibition of men post-circumcision. The memo below shows how I began to think about women's perception of male circumcision.

> *'I have been thinking about the diversity of opinion about MC in the data and wondering about the perspective of the respondent—if they are young women with no marriage or other ties to men, maybe MC is sexy, lasts longer etc., but if you are married then MC is a threat to your relationship in a sex-negative environment like PNG?' (Memo written 23 April 2013).*

I also wrote about the process of research such as usefulness of transcribing for data analysis, possible ways of representing findings and my role in the Pacific. The excerpt below shows how memoing improved my research practice.

'I have been thinking about the role of the co-researcher at Popondetta and in particular the relationship between myself and Rachael as women coming from outside with Stanley, John and Charles (research assistants). One thing I think I could have done differently (i.e., better) is to have discussed the presentation with our three Popondetta colleagues prior to presenting to the management team. I did discuss the specific Higaturu slide with Charles and I did discuss the broad outline of the presentation with the men, while travelling in the car on the way to Siroga to meet Elizabeth. However, it may have been better to have shown the presentation prior to giving up and discussing, adapting etc is required. I did only have two hours to prepare the presentation which I did just before we left to field work commitments, so timing was difficult. Just in terms of authenticity and truly working in partnership, I think I could have done this differently (Memo, 12 August 2013).

UPDATE: during recent fieldwork March 2014, I did spend a lot more time with co-researchers John, Stanley and Charles and they were also pivotal to discussions with clinic staff following the presentation of findings. I went through the TGT with them prior to presentation to any women and they were happy with it. I did this much better the second time!' (Memo, 27 March 2014).

Memos were an essential process, and later resource, in this TGT study. An additional resource for conducting trustworthy research was the use of an audit trail.

5.12 Audit Trail

An audit trail is a record of decisions made in relation to the research (Mills & Birks 2014). It is a way of establishing and increasing trustworthiness of results by making the movement from raw data to theory visible and verifiable (Bowen 2009). In this study, an audit trail was undertaken in Microsoft Excel using the headings: Date; Trigger Point; Data Source; Action Taken; Results/Observations; Next Steps; and Notes (Appendix 10.5). Key to the success of this method was the Trigger Point, where I recorded the key question or insight often expanded upon in a corresponding memo.

This process moved me further into the existing data or informed questions for the next interviews of interpretive focus groups. This method was used most intensively during the development of codes and categories of both the existing and primary data (between May 2013 and February 2014). In addition to words, I also included photos of abstract situational mapping (Clarke 2005; Matahr 2008), mind maps and the developing grounded theory model. The audit trail was useful for recording key decisions about theoretical sampling and data analysis, documenting emerging questions and communicating my progress with supervisors. It is a record of my movement through the data to the TGT.

5.13 Summary

In this methods chapter I have:

- provided an ethics statement
- described the two research field sites
- explained theoretical sampling and constant comparative methods used in this TGT
- described the existing and primary datasets
- expanded the qualitative method of interpretive focus groups in a published article
- outlined the advantages of working across languages and the lessons I learnt in a chapter manuscript in preparation
- introduced and explained my use of memos and an audit trail to increase the level of analysis and trustworthiness of findings.

In the chapter that follows, I will:

- introduce the findings using a TGT model
- describe the core category and additional categories of the theory
- describe the intervening condition of safety and examine issues of trajectory.

6 Findings

In the Field

I come to you in good faith,
Theory up to my eyeballs
Reflecting, constructing,
Imagining, sweating on
Methodology, methods,
Theory consistent with
Values, ethics
Respect, as I know it.

Then there is the ‘real’ world.

Sweat and dirt lock arms
With muscles that gleam
Meri blaus blows bright colours
Over gardens green.
Our connection a
Diversion from
Digging and doughnuts and
*Susu bebe blong yu?**

I try not to hold too tight
We are here to speak
For me—a privilege,
For you—a right.

*your breastfeeding baby

6.1 Chapter Outline

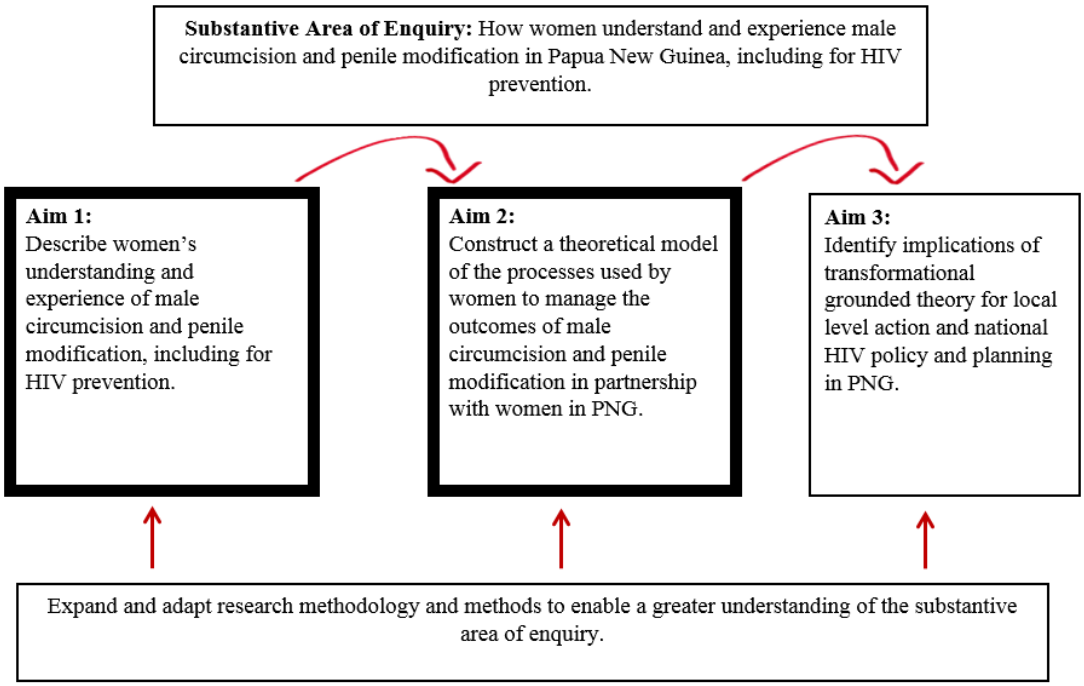


Figure 9 Focus of Chapter Six

In this chapter, I present data that describes how women understand, experience and manage male circumcision and penile modification in PNG. I begin by explaining what women had to do before they could talk with me. I then report a TGT identified from the data including categories, dimensions and conditions. The connecting categories and dimensions of the Base, Increasing Knowledge, Increasing Options and Acting on Choices are explained, as is the core category, Power of Choice. I then introduce the intervening condition, Safety of Women, which affects all categories in this TGT. The TGT presented here explains how women experience male circumcision and penile modification in PNG, including for HIV prevention.

6.1.1 Women Discussing Taboos Topics

Women know a lot about male circumcision and penile modification, despite the multitude of cultural taboos surrounding the topic. Women know who is conducting circumcisions, the various types of foreskin cutting, when circumcisions occur, how much it costs to be circumcised or have a penile modification, side effects, support required for men and boys after circumcision, what to eat (or not eat/drink), how long to

stay away from the men post-circumcision. Women in PNG collectively possess much knowledge about MC. Women know about the consequences of male circumcision or penile modifications for their relationships, including a potential change in the nature and expectations of their sexual relationship/s, or the perceived risk that men will increase their number of sexual partners. The detailed knowledge women have about male circumcision and penile modification challenges simplistic notions about the nature of gendered, taboo knowledge.[10]

Women involved in this study engaged in a range of processes before/while sharing knowledge. 'Cultural reason yeah … if I'm openly talking with my partner (about male circumcision) then I'm disregarding culture, because they don't talk about it' (DWU SSI 4). Another young woman stated plainly, 'It's against our culture to talk about it' (PAU FGD 2). In the rural setting of Oro Province, research partners employed by the oil palm plantation negotiated women's discussions about this taboo topic by sharing the nature and purpose of this study with women's husbands, fathers and male leaders of the villages. One co-researcher from a traditionally circumcising area explained that poisen (sorcery) can be used on a person who talks about male circumcision publically and this can result in death (PAU SSI 2). Co-researchers reported negotiating with their husbands, brothers and uncles to speak to me about male circumcision (as a researcher/outsider). One co-researcher explained:

> *'When I asked them (the brothers), I said I'm going for an interview with this lady, so they felt sorry for me and they said, "Oh, it's okay" for me to tell you.' (PAU SSI 3)*

Women acquire knowledge in a range of ways. One young woman explained she was told about circumcision when a man was affected by alcohol.

> *'Na sampela taim mi save askim ol, ol man save drink nambaut ol save tok olsem, blong yu, yu katim na yu save hamamas stret ya wantaim meri blong yu, dispela kain toktok.'* [Sometimes I ask them, the men who drink and

[10] Theoretical sampling meant women involved in the study have at least some knowledge of male circumcision. However, in the MC study there were some women (predominantly from the Highlands region) who reported knowing very little about male circumcision.

> they say things like this, 'with yours you cut it and are happy with your wife', this kind of talk]. *(PAU FGD 2)*

Another young woman told how a fellow student at the University told her about his newly acquired circumcision status in an attempt to attract her to have sex with him.

> *'*[O]*ne of my classmates, a boy, he went for the circumcision so when we went for our rural block we were telling stories and he said something like, you girls, if you girls have sex with someone who is circumcised you would want to, you would want to be with that guy, you would like to be with that circumcised guy. And then we asked him why and he was like, "well you should try to yourself". And we were like yes, those are like guys who have been circumcised they like to go around with women or, I don't know, try to test it out or sexual drive or something.' (PAU SSI 4)*

Some women described how the consequences of disclosing details of male circumcision outside of cultural and social norms depend upon how that secret knowledge is used. These women stated that culturally, some men fear they will lose their power if they share their taboo knowledge about male circumcision. *'It (male circumcision) is a taboo, it is a secret. They believe if they keep it a secret, they will be like strong, if they tell women like that the power will run out, so it keeps them strong'* (PAU SSI No 3). Another young woman reported, *'sori, em umi kam lo side blo ol man tasol, side blo ol man tasol ino blo side blo ol meri, hem oslem'* (sorry, but we are talking about something that belongs to men, it is not something for women, that's how it is) (NBPOL SSI 14). Having the power to talk about and influence decisions about male circumcision and penile modification is important. There are domains of power in men and women's business. One co-researcher explained 'secret' knowledge increases one's power—whether it is knowledge you have but are not culturally sanctioned to discuss or simply knowledge that you do not have. For some women, just keeping safe is their focus and they keep quiet about what they know. '*Yu mus got distance na respect long haus man'* (PAU SSI 2). There may be negative consequences, including to a woman's safety if this men's business is spoken about with the 'wrong' people. This reflects a dimension of the core category, Power of Choice.

6.2 Power of Choice (Core Category)

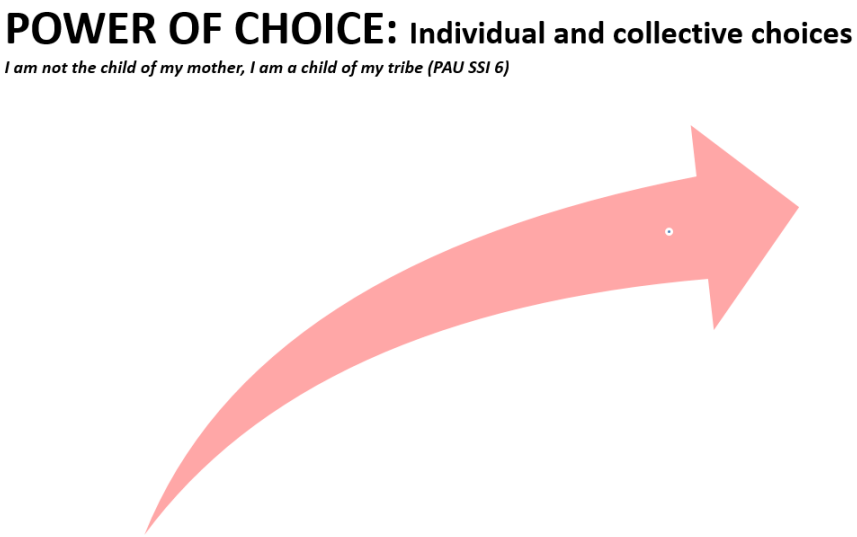


Figure 10 Core Category: Power of Choice

> *'I think for the woman, us like the educated ones, we can have a* ***power of choice****, like we can say if we want to but for the majority of women they are not able to be free or have the knowledge that we have, they are sort of just go with the flow, they just listen to the guys something like that.' (PAU SSI 4)*

The overarching core category represents the central phenomenon present in each of the categories (Strauss & Corbin 1990). Power of Choice, the core category presented throughout this TGT, is an *in vivo* code gifted during an interview with a young female student. This core category has two key concepts—*Power* and *Choice*, that when combined creates a phenomenon that encompasses the four categories and intervening condition of the theory. Power is the ability to influence and make decisions. Women require both knowledge and an enabling environment to have the power to make and act upon a decision. Women with more education have more power of choice. Choice refers to a woman's power to choose between the possibilities available without impunity. This core category contextualises and expands findings about women's experience of male circumcision and penile modifications.

A key dimension of the core category is the collective nature of cultural and social organisation in PNG. The experience of collectivism is encapsulated in the phrase, *'I am not the child of my mother, I am a child of my tribe'* (PAU SSI No.6). In PNG, this collective society is expressed through the reciprocal *wantok* system. The majority of the over 800 language groups in this country are patriarchal, a social structure which defines the nature of relationships between women and men, women and their male children and among women. This social and cultural context influences how individual women can or cannot make decisions and how women may experience and/or influence the decisions of men or other women. Western assumptions about the nature of a mother-child relationship, with related assumptions about women being able to decide about the circumcision of their male children, rarely hold in PNG.

6.3 The Base (Category One)

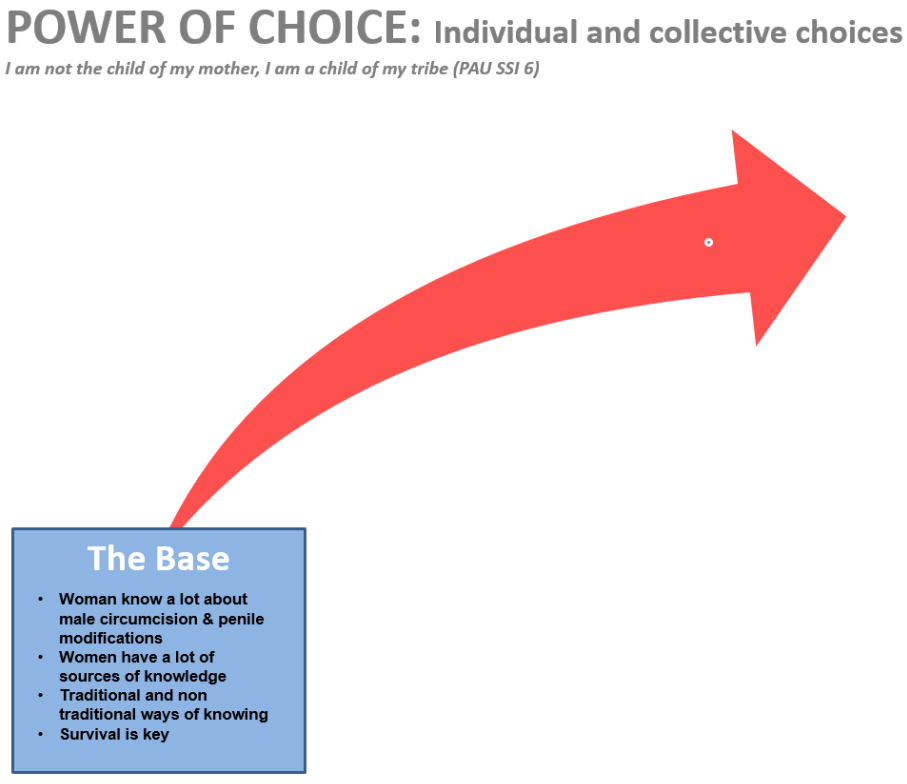


Figure 11 Category One: The Base

6.3.1 Women Know a Lot About Male Circumcision

Many women know a lot about male circumcision and penile modification (Figure 11). Many women can describe the procedure of circumcision, including the variety of cuts that occur, the local names of the cuts and how they differ from each other. Many women in this study could draw pictures of the various types of foreskin cuts. Names used to describe male circumcision include *raun kat* (round cut: Figure 12), which is the circumferential male circumcision, and *stret kat* (straight cut: Figure 13), the longitudinal cut or dorsal slit of the foreskin. These types of cuts have local names. The circumferential cut is known as *raun kat, kela, papa kela*, or *kaen blong Sepik. T*he dorsal slit or *stret kat* is also known as a *split kat, V-cut* or *banana split* with variations on these types of cut described as *cowboy cut* and *butterfly cut.*[11]

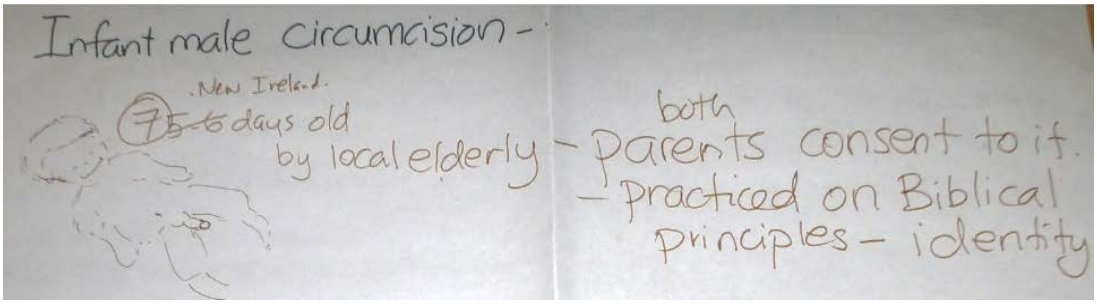


Figure 12 Storyboard Picture (PAU IFG 1): Round Cut

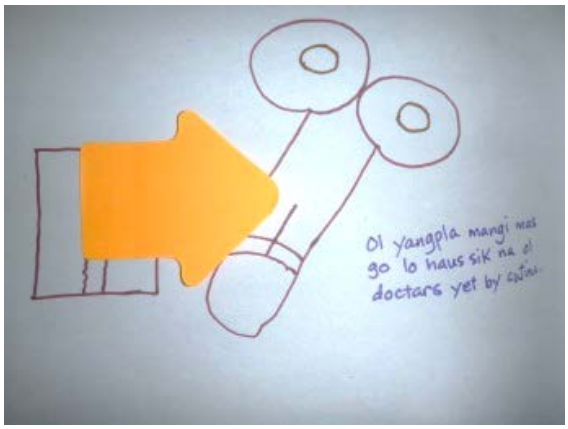


Figure 13 Storyboard Picture (NBPOL IFG 6): Straight Cut

[11] The *stret cut* (dorsal slit) is the most common form of foreskin cutting as reported in PNG (Vallely et al. 2011; MacLaren et al. 2013). Following the identification of this phenomenon, histological research has commenced to understand the possible HIV prevention mechanism of a dorsal slit, as reported in *Science* (2014).

Women know the range of ages that boys and men are circumcised. Women report traditional circumcision conducted on boys from a few days old up until they are young men of 18–20 years of age. The preferred age for traditional circumcision depends upon the cultural setting, resources of the family who prepares gifts and food to be shared after the circumcision and where the young man is living. If a young man lives away from his traditional land, for example in a town or city, he may wait until he and his family are able to return to be circumcised by an elder in his village. More recently, some boys and young men have not waited and instead have circumcised each other at school or university, without following the traditional practices of their home. This can result in conflict in families and communities. *'Parents bae krosim ol supos ol wokim blo ol yet. Why yu wokim dispela? Yumi should wokim bigpela kaikai, feast, money ... bikos em kalsa, ol mus kam long pleis na wokim. Dispela em no gut*' (the parents would be angry if the boys organised it themselves. 'Why did you do this? We should make a big feast, exchange money … because it is culture, you must come back to where you come from and be circumcised. This is no good'). (PAU SSI 2)

The storyboard picture below (Figure 14) shows the different roles and responses women and men have at the time a child is to be circumcised in a traditionally circumcision area. Mothers, women and sisters have mixed feelings about the sons and are sad, with the uncles happily receiving the nephew to conduct the circumcision.



Figure 14 Storyboard Picture (PAU IFG 3): Roles of Women in Traditional Circumcision

Whatever women's opinions about traditional circumcision, they have very little influence over when or how it happens for their male children, *''em culture blong*

mipela, mipela mus go thru long dispela process, e no decision blong mipela' [it is our culture, we have to go through this process, it is not our decision] (PAU SSI 2). Women who come from traditionally circumcising areas expect men to be circumcised to be real men.

Notably, women often report men who are circumcised are manly and strong, whether they are from traditionally circumcising areas or not.

> *'The men as you can see they become stronger and muscular, umm they can make good decisions. Yea and they look, they become sexy, look sexy and handsome.' (PAU IFG 2)*

These ideas are represented visually in Figure 15. In traditionally circumcising areas, men who are circumcised become real men and their lives go well. The following weaves in many of the positives expressed by women about male circumcision in PNG.

> *'Sapos ol circumcision you bai gat strong, ol man, you'll be a man enough,bai you gat strength like lo mekim wok blo ol man, ah like going fishing na time you fish bai u kisim planti fish, you'll be skillfull. Like that. Na because sapos displa foreskin em stap or displa kain olsem u bai nonap strongpla man, lo displa kind or like bai u sa behindim meri blo tasol or displa kain. So displa em olsem, ol bai mekim na u strong so time you go like fishing bai yu fish gut, yu go hunting olgeta samting by orait, gardening too everything will be okay, na, the other thing is you bai kamap olsem ah, after circumcision ol bai lukim olsem u man stret nau olsem u em, u man u nomo liklik mangi so nau em respect or wanem kian respensobiliti we u olsem bigpla man igat ah, ol by givim lo u so ol by nonap like treatim yu as a little boy anymore ol ba lukim u olsem wanpla man in the village yeah.'*
> [If they are circumcised, you will have strength, you will become a man, you will have strength like men to do men's work, like going fishing. When you are fishing, you will get a lot of fish and you will be skilful. Like that. If the foreskin remains or something like that, you won't be able to be a strong man, like that or you won't make your own decisions or you will just do what your wife says or something like that. So it is like this, once they have done it, you will be strong so when you go fishing you will catch fish, you

go hunting, everything will be alright, gardening too everything will be okay, the other things will be okay ah, after circumcision they will look like a real man, like you are no longer a boy so now you are respected or whatever responsibility grown men have, people will give them to you so they won't treat you like a little boy anymore, they will see you as a man in the village yeah.] *(DWI FGD 1).*

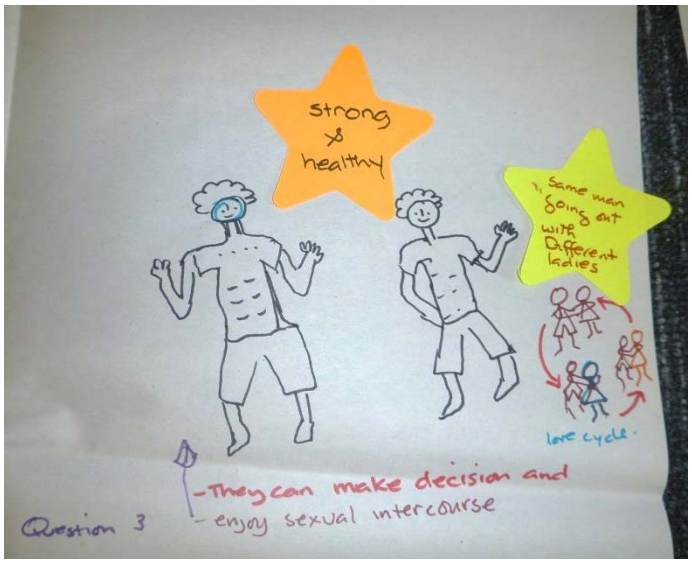


Figure 15 Storyboard Picture (PAU IFG 2): Masculinity After Circumcision

Young men who come from traditionally circumcising areas who have not had a traditional circumcision can experience alienation from their cultural peer group. One woman recalled the experience of a young man who came from a circumcising area. '*Ol kolim em girlie … So em spread long skul nau ia, displa pasin ia...yu no rausim yu bai kamap olsem girlie, girlie.* [They all called him a homosexual … so it spread through the school that he was this type of person … if you don't remove (the foreskin) you will be regarded as a homosexual. (PAU FGD 3)

Male circumcision occurs in a myriad of non-clinical settings, including: *haus tambaran* (ancestral house)*, haus man/haus boi* (men's house/boy's house), by the sea, by the river, under oil palms, in the forest, in the settlements, at school and in dormitories. One married woman explained, '*(L)ast year the circumcision was very popular on campus. A lot of staff and married students' children were circumcised and they do it in the bush*" (PAU IFG 10). Another woman, a female student, explained:

'They boiled the razor blade, you know the razor blade, they boiled the razor blade and then they removed it and then they did a slit, but we were not allowed to know about it. We knew about it but were not allowed to go near the boys yeah, the boys stayed in the room and we stayed away from them (laughter).' (PAU SSI 3)

Reports of young boys and men conducting peer-to-peer penile cutting in a variety of locations were common at all research sites. Male circumcision is conducted in settings such as clinics or a hospital, but this is much less common. One storyboard picture (Figure 16) reports an incident at a local primary school, where a number of upper primary school boys cut each other's foreskins (*stret kat*) underneath banana trees near the school. One boy had a lot of bleeding (represented in red in the drawing), with the boy hospitalised as a result. This was a very serious incident for the school and resulted in the parents of the boy being upset with both the child and his peers. One co-researcher reported:

'Yeh, like now because plenti ol educated they discuss this with their, with their kids but, typical Highlanders long Highlands region they don't talk about this, pikinini na ol children laenim long street'. [Yes, now because a lot of educated people discuss this (male circumcision) with their children, but typical Highlanders in the Highlands region, they don't talk about this, their children learn about it on the street]. *(PAU SSI 6)*

It is uncommon for parents from non-circumcising areas to discuss penile cutting with their sons, but it is common for boys and young men to discuss and act upon this practice.



Figure 16 Storyboard Picture (PAU IFG 1): Penile Cutting at Primary School

(School name obscured)

Male circumcision can be a condition for boys and men to become members of a gang. One co-researcher explained, *'It (male circumcision) is expected of you, if you want to be part of the gang you will do this'* (PAU SSI 1). School gangs or 'cults' can also expect boys to be circumcised, with the shedding of blood a condition of membership into the group.[12] One co-researcher explained this cult membership and male circumcision, *'In rituals … there is a shedding of blood, capsizing of blood, it is a sacrifice involved'* (PAU SSI 6).

In addition to traditional and contemporary perspectives on male circumcision, women report a variety of religious perspectives that impact men's decision to be circumcised and their support of it. Some women explained Christian leaders have discouraged male circumcision in their region, *'(E)ven though their culture says they have to be circumcised because they're Christians or because they go church, it's a big no-no'* (PAU SSI No.17). Alternatively, women claim male circumcision is consistent with a biblical model.

> *'Yumi (we) Papua New Guinea we call ourselves Christian country, it's for the good of our country and we call ourselves Christians, we are saying that we are followers of Jesus. If Jesus can circumcise himself why can't we follow him?' (PAU FGD 10)*

[12] For a detailed explanation of 'cults' in PNG schools, refer to M.Phil thesis by Unia Kaise Api (2009).

Some women thought male circumcision was a way of renewing one's life tarnished by sin.

> *'Taim mi go thru lo Baibel na meri tok long circumsaisim ol, lo, bai mi tok wanem, ol i stap, ol bon i kamaut wantem sin, na, hau ol bilif blong ol, taim ol circumsais, olsem disla derti ol sa raus lo skin blong ol, so ol renewim nuipla laif gen.'* [When I went through the Bible and the woman talked about circumcision, it is like, how shall I explains it, it was there, when we are born we are born sinners, that is the belief of everyone, when they circumcise, this dirty that is removed with the skin of them, it renews a new way of living]. *(NBPOL IFG 4)*

Whether pro male circumcision or not, religious beliefs influence many women's acceptance of male circumcision.

A minority of male circumcision procedures occur in a *haus sik* (hospital or clinic) by a nurse, health extension officer, doctor or health worker.[13] In PNG, a wide range of non-health professionals perform male circumcision. Where male circumcision is a traditional practice, there are traditional 'cutters' who are responsible for the procedure and wellbeing of the boy or young man. The cutters are usually uncles, relatives or elders in the village. Those conducting the circumcision are mostly men, but can be women in some areas of PNG. On Mussau Island, New Ireland Province, male circumcision is conducted on baby boys a few days old and cutters can be either women or men. Where peers are conducting male circumcision, the cutter is often a young man who comes from a traditionally circumcising area or who has learnt from someone from a traditionally circumcising area. Peer 'cutters' may be schoolmates, fellow university students, friends, or members in a group or 'cult'.

Figure 17 shows a storyboard picture of contemporary, peer-initiated male circumcision as drawn by a group of young women. Women know a lot about male circumcision despite it being men's business.

[13] Conducting medical male circumcision is outside the formal scope of practice for nurses and health workers in PNG. However, health practitioners often perform dorsal slits (*stret kats*) using sterile equipment, averting the dangerous practice of boys and men self-circumcising (Tynan et al. 2013).

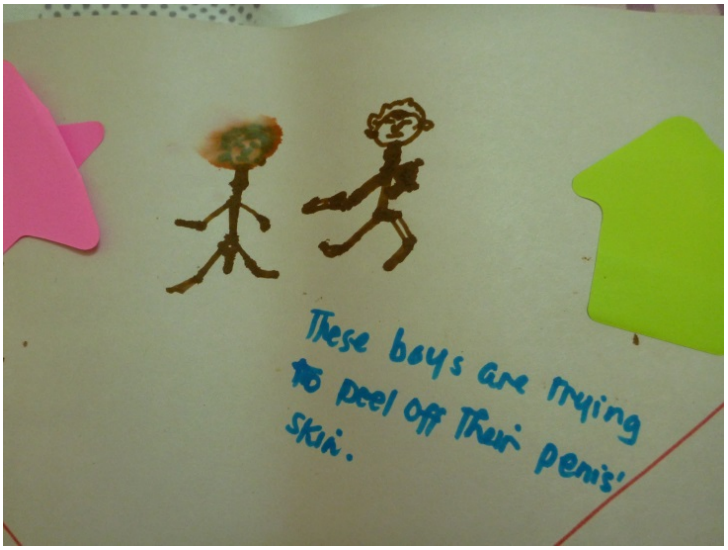


Figure 17 Storyboard Picture (NBPOL IFG 6): Peer-Initiated Cutting

6.3.2 Sources of Women's Knowledge

Women know a lot about male circumcision and penile modification from a variety of sources. They know a lot as sexual partners, participants in community feasts, health practitioners and family members. Many women find out if their male partner is circumcised by being in a sexual relationship. One co-researcher explained, *'Only their wives will find out or whoever is having sexual relationship with that man'* (DWU SSI 19). Another co-researcher explained, *'Basically the girl will notice during, like when they having sex and then the boy tells the girl'* (PAU SSI 3). Women report men also expect sex more often after circumcision, with some men requesting sex more often or increasing the number of sexual partners they have post male circumcision. Some women experience negative outcomes as sexual partners due to male circumcision. One female participant described her experience:

> *'I said it was okay but I did not tell you about how uncomfortable it is. From my experience with my partner, like at least it's okay but then in the middle it, it gets really uncomfortable for me. I think it's the way they cut the skin, it's a bit hard. And for me it really, really hurts, really uncomfortable. I don't know, I think if he had gone to the hospital, they would have done it properly, proper way to cut it but because it was like their own (peers), when I asked him he said oh. I told him sometimes it's really, really uncomfortable, and he said because we had styles its diamond head or*

square head or whatever, they cut it, the shape. It have to be squared, round, diamond or something. Like I said I'm not too sure how, the correct way to cut it. I think those people know they do it themselves; they like to do their own shapes and styles.' (DWU SSI 9)

Women who live in the same village know when a man is planning to, or has been, circumcised. In some traditionally circumcising areas, the whole community (men and women) plan for and celebrate the circumcision of a child or young man. One co-researcher from a traditionally circumcising area explained, *'Supos oli wokim feast, mipela meri allowed for go'* (if the make a feast, we women are allowed to go) (PAU SSI 2). This co-researcher also explained the exchange of gifts in traditionally circumcising areas: *'Even if you do the male circumcision in the haus sik, yu still make a liklik kaikai and a gift to mothers lain'* (Even if you do the male circumcision in the hospital/clinic, you still prepare food and give gifts to your mother's family) (PAU SSI 2). Women grow special gardens for the feast that follows the male circumcision of young men. Women bake and sell goods at markets to fund raise for post-circumcision celebrations. For some families, funding the celebration after male circumcision is more important than paying school fees (for boys and girls), as a son being circumcised brings increased status in society.

'Taim em kam long pleis em must givim planti ol moni, bag clothes, mat, bilum, blaus, putim long mat na givim long ol sista, ol meri…em got difference long dispela. K15-30,000 cash + (even 40–50,000) presents and gifts- ol bae scalem, long gift blong man ole bae sharim. Ol wok man na stop long town … ol man stap long pleis, ole givem cash too … olsem one sista bae givem 2,000, wanpela bae givem 1,000 em can wokim K4–5ooo, plus mat, rice, kaikai blong garden … em holdim back laif, na pasin blong lotu … laip em no flow, em holdim pasim, ole wokim huriup dispela feast … em save takim six months—two years to work this feast. This will mek big name blong society.' [When he comes home he must give a lot of money, bags of clothes, string bags, blouses, put it on the mat and give it to his sister, the women … there is a variety to this. K15–30,000 cash + (even 40–50,000) presents and gifts—they will distribute the gifts to the men and they will share. For the men who work in town … the men who live in the

village, they give cash too. It is like one sister will give 2,000, another sister will give 1,000 … this can add to 4–5,000, plus mat, rice, garden food. This holds back your life, your church life, it holds you back, it blocks you, if they quick in preparing the feast, it takes six months to two years to prepare this feast. This will bring you big name in society] *(PAU SSI 2).*

This idea of bringing a 'big name' or increased status is illustrated in Figure 18, where the text reads, *'Mama happy because child is circumcise–big name in society'* (PAU IFG 1). Women are often active participants in celebrating male circumcision in traditionally circumcising areas and thus are aware of when male circumcision is being conducted.

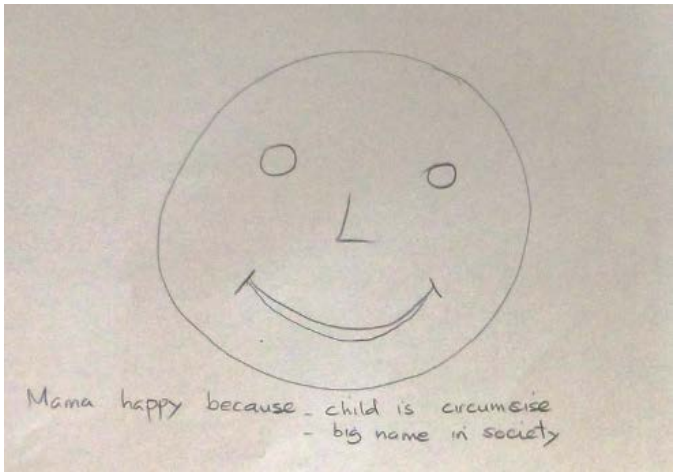


Figure 18 Storyboard Picture (PAU IFG 1): Mama is Happy

Women also know when men get circumcised. The men or boys as they often wear a *laplap* (sarong) instead of shorts or trousers. *'It's embarrassing if you see a big man being circumcised he will fasten a laplap and it's not normal for a man to fasten a laplap and walk around and if they see that one, there is something gone wrong'* (DWU FGD 1). The circumcision is also obvious when it is not performed correctly and there are negative outcomes.

'I remember one of my cousin brother in Wewak … I think all katim em karangi (cut him wrong) so he nearly bleed to death. In the shower the parents didn't know, and he was in the shower room and too shy to tell the mother about it. Somehow, some hours went by and the mother realised that she didn`t see the son around, they looked around and when they saw my

cousin, he was. It think klostu bai em (he almost) faint or something because he lost a lot. Because nogat ol (they haven't got) right or proper people to do, it`s because like his peers who did it for him. That's why ol ino katim em gut (they didn't cut him well) so he nearly bleed to death.' (DWU FGD 9)

Women who are nurses or health workers are identified as having specialist knowledge about HIV and do not usually perform the circumcision, but they are often asked to provide bandages, gauze and medications and assist boys and men post-circumcision.

'Mi yet mi work long haus sik na mi save lukim olsem mainly ol high school boys save kam. Ol bai ino walkabout stret. Ol bai tok sista plis givim mi sampela amoxicillin.' [I worked in the clinic and I see it for myself, mostly high school boys come. They don't walk normally. They ask me, 'sister, please give me some amoxicillin?']. *(PAU FGD 11)*

A co-researcher who had completed HIV training explained, *'ol save kam long mi taim ol sik … mi save helpim ol go long haus sik, mi save go long komuniti, mi save helpem ol'* (the men come to me when they are sick, I help them go to the clinic, I go into the community, I help them all) (NBPOL SSI 5). A mother also shared her experience of seeking help for her son.

'Mi go explainim long nurse meri na hem givem maracin blo em, mi go tok, olsem pikinini man … em katim skin blong em olsem noa em tok, "yu laik mi givim yu sampela marasin long pain marasin wantaim amoxicillin po dryim?", mi tok olsem na mi bin go kissim em.' [I went and explained to the woman nurse and she gave me medicine for him, I said 'my son has cut his skin', like that and she asked me, 'do you want me to give you some medicine for the pain with amoxicillin to dry the cut?' I said yes and I got it.] *(NBPOL SSI 7)*

A health worker explained how she encouraged men to talk with her about male circumcision by reminding them of the 'safety' that circumcision can provide men. *'Ol no sa bisi lo me. Mi sa tokim ol tu olsem em sefti so yupla laikim sefti na kam, so em nogat sumting so yupla no ken sem lo me or wanem.'* [They don't worry about me. I talk

to them (men) and say it is for their safety, if you want to be safe then come, so don't be ashamed to see me or anything] (NBPOL SSI 7). Some women receive information about male circumcision through health education talks, with mixed outcomes. One interviewee explained, *'mipela bai go daun na toktok tasol sampela ol bai* [we only go down there to talk, some will] *take it as fun, some will take it serious, some will accept it, some won't accept it'* (SSI PJV 15). Although cultural and religious taboos are still important, health practitioners can operate beyond these gendered constructs when men need health care.

Some women know about male circumcision occurring, as they are mothers or family members. Women are asked to prepare less food or different types of food such as dry *kaukau* (sweet potato) so that the young men do not have too much fluid, thus reducing the need to urinate. *'Ol bai stopim kaikai, stopim wara ol disp'la kain'* [They will stop eating, stop drinking water or things like that] (NBPOL SSI 12). Some men request to eat dry foods only, '*no sup … dry kaikai steret, paia (no soup … really dry food cooked in the fire)'* (NBPOL SSI 12). Family members often know about the healing process and how long it will take. One co-researcher explained her brother was healed in about four days; another reported healing took about one week for an infant nephew, who was circumcised in a traditional manner.

Women also learn about male circumcision from experienced friends. Friends whose sons are circumcised or who marry a man from a traditionally circumcising area often share the benefits of circumcision. One woman gave an example of her friend, who was a nurse married to a man from West New Britain, a traditionally circumcising area. In addition, the woman had a nursing background. The acceptance of male circumcision for the woman's sons was attributed to the knowledge gained by her professional background.

> *'(She) married to a West New Britain, in West New Britain they have this culture of circumcising infants, but she has got two boys and both sons have been circumcised, yes, infant circumcision … so whether it is for cultural purposes or for health purposes or maybe both, but I think she is happy with. She is married into the culture and accepts it, and she also has a nursing background, so I see that she has taken it well.' (PAU Female 5)*

6.3.3 Traditional and Non-traditional Ways of Knowing

Women from traditionally circumcising areas expect men to be circumcised. They see circumcised men as manly, capable of caring for a family, strong and healthy. They are able to take their rightful place in the community. However, if circumcision is not a traditional cultural practice, women understand men are motivated to be circumcised for different reasons. Increased attractiveness to women is frequently cited as the main reason men from non-traditionally circumcising areas get circumcised:

> *'They (young men) say it is for health reasons, but really it is because it attracts more partners' (PAU SSI 4). Another stated, 'taim ol katim … em isi lo kisim ol liklik yung gels tu, kain olsem'* [when they get cut (circumcised) … it is easy to have young girls too, like that] *(NBPOL SSI 13). 'So why do boys do more to the circumcision? Basically to attract the women, in a sexual way … the trend is that boys have a lot of girlfriends. If you have a lot of girlfriends "yu man" … so they circumcise themselves and the more women they sleep with, so it kind of, they also taken on the health side, but psychologically they want to be want seen as (tru man)' (PAU SSI 3).*

However, what changes? Enhanced sexual performance is reported as a reason men get circumcised if they are not from traditionally circumcising areas. *'Because of the circumcision they say that it brings more pleasure when they're in bed'* (MC PAU SSI 1). When a man is circumcised, women report it takes longer for the man to orgasm, thus increasing the sexual satisfaction for the woman. One co-researcher's husband told her, *'Oh, you remember when I have sex with you and I don't come until you are satisfied … well that is the reason why I did that, and my friends told me and I did that and I am comfortable with that'* (PAU SSI 1).

The physical mechanism for the enhanced sexual experience was described by one co-researcher in the following manner.

> *'Em olsem skin stap na olsem ol partner ol wok lo usim skin blo ol, ol no gat feelings blo ol so ol laik lo katim skin, hem katim skin na usim skin long ol meri, hem ol gat feelings blo disla na ol wok lo katim skin ok, so ol mangi*

tok, taim ol katim skin, ol pilim hem esi lo skin blong ol meri, ok, so ol laik, ol pilim olsem ol painim hamamas, ol meri painim hamamas. Yeah en displa ass tasol, nao ol cuttim skin.' [It is like this, the (fore)skin is intact and the partner uses the skin but does not have feelings so they cut the skin, they cut the skin and have sex with the woman, they have feelings from this one when they cut the skin, so the young ones say, when they cut the skin, they feel it is smooth against a woman's skin, ok, so like, they feel they have found satisfaction, the woman is satisfied. Yes for this reason, they all cut their skin]. *(POP SSI Female 4)*

Some women see men as sexier and more attractive because of their circumcision. They think men grow healthier, stronger and are 'real men' (*man tru*). One reason cited as to why men are seen as more attractive is due to the belief that a circumcision leads to the removal of the mother's blood.[14]

'When the mother's blood is removed their mind, the intellectual ability, they see women in a different way, they see the beauty of a woman … So it helps them to be attracted to the opposite sex. (PAU SSI 3)

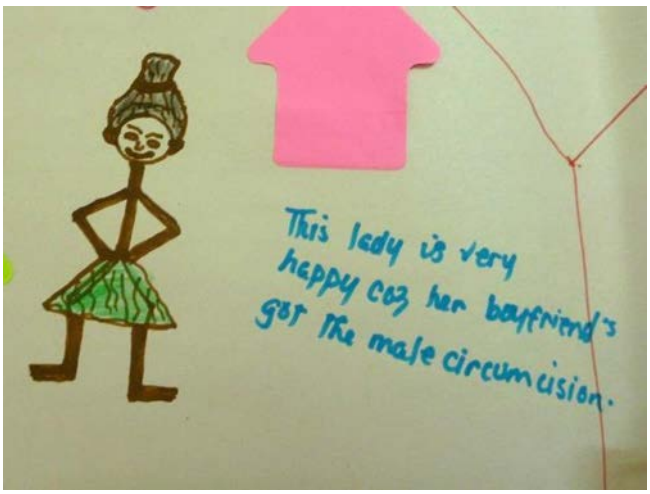


Figure 19 Storyboard Picture (NBPOL IFG 6): Lady is Happy

The single women who drew the image in Figure 19 explained their response to circumcised men in the following way. '*Meri em hamamas, em ai gris, mekim em*

[14] Many men in PNG believe that when they are young boys they have their mother's blood in their body. Some traditional male circumcision practices are promoted to remove the mother's blood, allowing the boys to become a man (Buchanan, Frank, Couch & Amos 2012, pp. 73–94).

smile…hello sista (laughter), putim grass, em werim grass, giamin mekim.' [The woman is happy, she is making herself attractive, doing her hair, wearing her hair, makes herself stylish even though she isn't] (NBPOL IFG No.6). Some women prefer men who are circumcised because it is perceived and experienced as sexy.

The changes for women following a male partner's circumcision are not always positive. Some women experience violence and family disharmony after male circumcision, with changes in the husband's sexual behaviour which causing conflict. *'That is one of the challenges that we have heard from others, because of concern about jealousy, if I tell my husband and no gud hem go raun'* [and it will not be good if he goes around] (PAU SSI 3). Another young woman explained:

> *'We call it love cycle because we say that maybe that umm person he's feeling like oh umm I'm sexy and we say yea it's active so it's a possibility that he can leave his wife or his partner go around with like go with go and sexual intercourse with maybe other ladies. So we say there's good and bad side to it too.' (PAU IFG 2)*

Women explain when their husband is circumcised it is often interpreted as the man intends to seek more sexual partners, which precipitates conflict, jealousy and suspicion. *'He can leave his wife or his partner, go around with like go with, go and sexual intercourse with maybe other ladies. So we say there's good and bad side to it too'* (PAU IFG 2). This is illustrated in Figure 20, which has the text included, *'the woman wouldn't trust the man, which may eventually lead to fighting'* (PAU IFG 2).

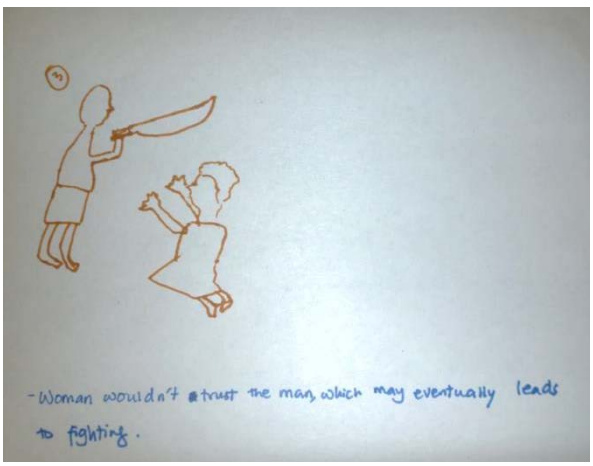


Figure 20 Storyboard Picture (PAU IFG 3): Fighting

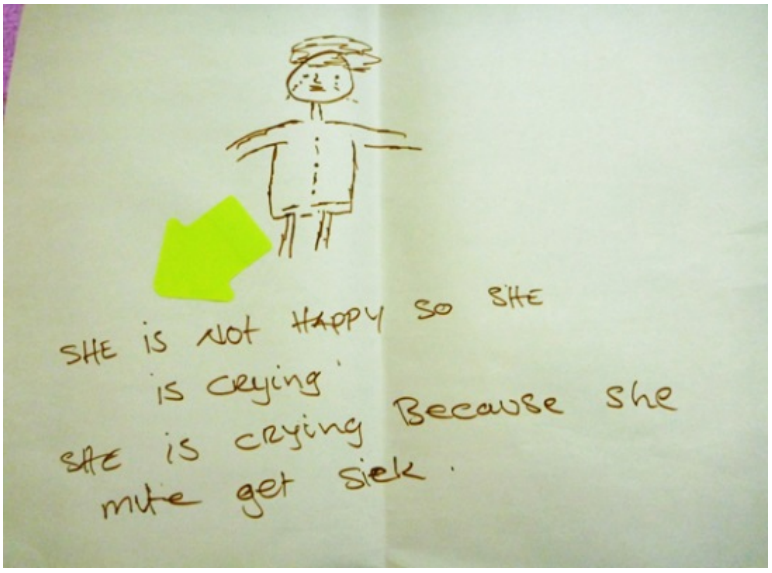


Figure 21 Storyboard picture (NBPOL IFG 5): Wife not happy.

Some women are also concerned that if her husband was circumcised, he would have more sexual partners and this will bring sickness to her. *'Mi tingim olsem em olrait but em bai lusim mi lo haus na em bai go roan na wokim pamuk pasin.'* [I think it (male circumcision) is okay, but he will leave me the house and go around and have sex with other people] (NBPOL IFG 7). This commonly expressed fear is illustrated in Figure 21, with the additional concern of sickness being brought back to the wife.

This is not every woman's experience. Some women reported they still trust their husbands after circumcision. *'Man blo mi wokim displa but man blo mi no save wokim pamuk pasin, nau em lukautim mi wantaim ol pikinini, em orait.'* [My husband got this (circumcision) but he is not promiscuous, he looks after me and our children, he is alright] (POP SSI 12). Male circumcision can precipitate both positive and negative changes in a relationship between a man and his wife.

Women clearly described the difference between male circumcision and other penile modifications. In addition to the variety of cuts to the foreskin, women know some men insert objects and/or inject substances into the wall of their penis. Women describe men inserting ball bearings (two to 15 reported), parts of toothbrush handles and other objects in the wall of their penis. One single female co-researcher from NBPOL explained her response to these practices. *'So mi bin go againstim displa, lo olsem katim stret na lo sait blo health or displa kain safety em orite tasol, lo somapim bearing na wanem kain ol samting em ino gutpla.'* [I am against these practices, if it is

like a straight cut for health reasons or this kind of safety, that is alright, sewing in bearing or something like that is bad] (MC POP SSI 2). Some women described men injecting substances into their penis and knew details about how long the substance stays in the wall of the penis, how hard the penis goes and the damage this causes women when men have sex with them. Women reported that when they have sex with a man who has penile modifications, such as insertion of objects or injecting of fluids, they often experience discomfort, pain and/or trauma. A number of co-researchers from the oil palm plantation gave graphic details of the terrible consequences of inserts and injections. *'Ol man kati' skin na putim bearing, rapeim ol, ol kisim bagarap.'* [Men cut their (fore)skin and put in bearings, rape and they (women) get very hurt] (HOP IFG Married 1). Some co-researchers had assisted both men and women with health care when the consequences of these practices were revealed. One co-researcher explained:

> *'Ol save tok olsem, olsem tupela ball bearing ol putim bearing ia, bearing taim em go insait long kan blo meri, em sigirap na em save kissim feelings. But not knowing that ol bagaripim mama. Ol tingim ol yet tasol, ol no save ol bagaripim ol mama.'* [They said, like two ball bearings were put in, when the bearing goes into the vagina of the woman, she feels really good, she feels stimulated. But they don't know they have really damaged the woman. They think of themselves—they don't think they have really damaged the woman]. *(NBPOL SSI 13)*

Some men with penile modifications are also known to rape women in groups, known in PNG as *lainup.* This has traumatic physical and emotional consequences for the women. Abuse of women by men with penile modifications has resulted in serious injury and/or death. Women at the oil palm plantation had much more knowledge of penile modifications than women on the university campus. Women know a lot about male circumcision and penile modification, despite it being a culturally taboo subject for them to discuss in public or with men. Women can take active, supporting roles when men are circumcised.

From this base, (that addresses Aim One) about how women understand and experience circumcision, we now move to connecting categories that are used to construct the TGT. The theory explains the process used by women to manage the outcomes of male circumcision and penile modification (Aim Two).

6.4 Increasing Knowledge (Category Two)

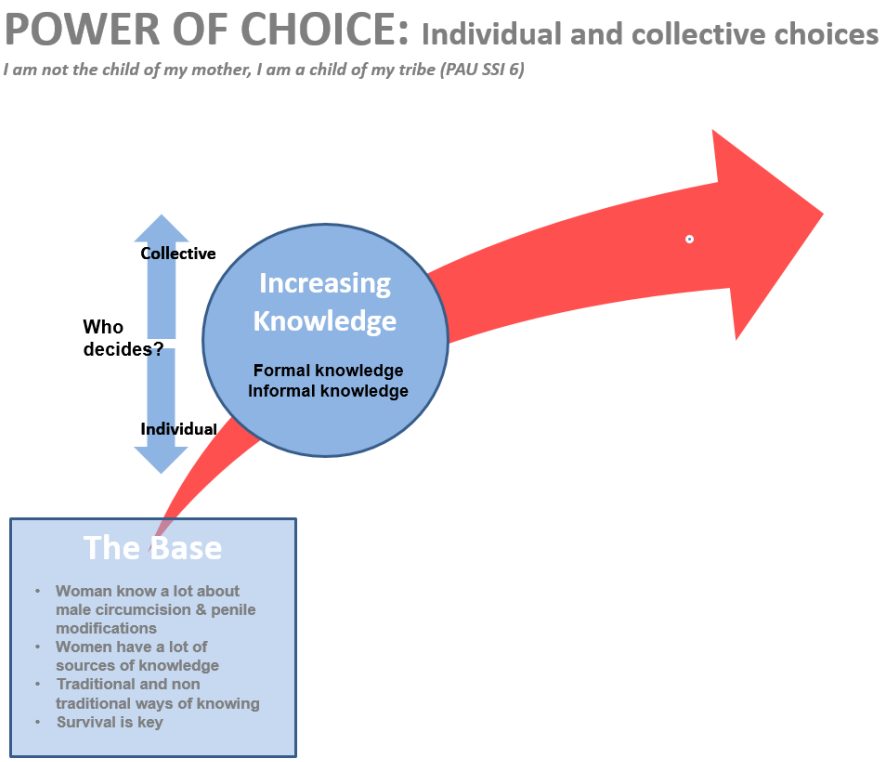


Figure 22 Category Two: Increasing Knowledge

When a woman has the opportunity of formal education or some training opportunity, she can identify an increased range of choices about male circumcision and penile modification in addition to other topics (Figure 22). The woman with education or training will also have increased status in her community. Co-researchers in this study had a wide range of educational and training experiences. Some had a primary school education only while others had high school, certificate, diploma, degree and postgraduate qualifications. Women who have the opportunity to complete their formal education beyond primary school are respected in their communities. The higher the degree the greater the respect afforded. However, not only formal education changes the status and thus options for women at a community level. Some form of community-recognised training, such as training to be HIV volunteer in local communities, changes both how the community members perceive a woman and how the woman perceives herself. This change is usually positive for the woman and her family. It brings increased status, affords more options and the women report having more autonomy. An educated woman has opportunity to mix socially beyond the usual social and cultural

norms and mores. She is more likely to be a person in the community that women (and some men) go to if they have a problem. When discussing male circumcision in one interpretive focus group, a qualified forestry worker participating in the research was referred to as the woman who had a *pepa*—a qualification. Other women deferred to this woman during the group discussion. Formal education or training is valued by community members and with this valuing comes possibilities not available to women who have not had those opportunities. Educated women in PNG are invited to be experts in not only their field of expertise, but also in many other aspects of community life.

A dimension of this category is the collective support required for a woman to participate in education or training. Participation in education or training requires both individual commitment and the approval of men and other women in the community. This includes approval by a woman's husband if she is married, or approval by a woman's father or brothers if the woman is not married. Often if a woman participates in training, another woman will take on some of the responsibilities that the trainee would normally do and thus there is a community impact that results from this opportunity. Women who train as volunteers, for example for *Tinkem Laip,*[15] must assess the benefits and risks of participating. One of the benefits of women participating in education and training is the increased number of options that result. Specifically, increasing knowledge results in a change in the way women understand and accept male circumcision. One co-researcher explained:

> *'(M)i no bin hamamas bipo taim mi bin lainim dispela samting … but bihain gen mi bin go insait long wok blong Tingim Laip, ol tok 'dispela em safe, dispela em safe na ol workim em safe so yupela no ken kross.'* [I was not happy before I learnt about this (male circumcision for HIV prevention) … but after I began the work with Tingim Laip, they told us 'this is safe, this is safe, they can do this safely so don't get angry.] *(NBPOL SSI 7)*

Education and training for women enables a change in the way women and men relate. This is especially so for women and men who are participating in HIV prevention activities. These changes bring benefits such as working together to understand

[15] *Tingim Laip* is a non-government organisation that provides community-based training for volunteers to conduct HIV prevention, see: www.tingimlaip.org.pg

difficulties experienced by men and women due to male circumcision or penile modification. Family members and other HIV or trained health workers become allies beyond cultural norms. These allies are called upon when there are difficult health issues faced by community members. A woman in Oro described an incident where a man had a penile injection, had sex with his wife and caused vaginal tearing. When the couple sought help from her, the female co-researcher was able to call on the help of a HIV-trained man and work together with the couple to get the assistance required, including medication.

> *'Injections na ol save putim, man save buyem K20 na kissim injection so mi bin painim aut dispela em wanem … mi bin go long* [name of male trainer]*, mipla* [name] *bin go sit down wantaem ol man. Mipla bin find out olsem after five months by kok blo man bai em slack na bai em painim hat long slip wantaim meri blong em, so em go kissem narapela injection gen.'* [The injections they all use, men pay twenty kina and get the injection, so I wanted to find out about this. I went to one [male trainer], [name] *and I sat down with the men. We found out that after five months, the man could not get an erection and have sex with his wife, so he went and got another injection and so it continued.] (NBPOP SSI 11)*

Women who had participated in previous male circumcision research projects, attended HIV debates organised by the university or had heard about male circumcision research findings had an increased knowledge about male circumcision and penile modification. For some women, this was the first time they had heard this information, and it inspired them find out more.

> *'For me as a young lady sitting there and listening to the lecturers talking, I found it shocking and also interesting to know* [how] *male go about being circumcised, and the processes and why and the reasons why they do these things and I went home one afternoon and I asked my parents, my dad, we practiced that back at home, and he elaborated further and the reasons why they do this practice. Or why ladies are not supposed to be made aware of this taking place. So I found that very fascinating and—like with the interviews and researches being going on, like it just got interesting.'(MC Study PAU SSI 1)*

Women's knowledge of male circumcision increased by being involved with HIV research. Trained as a HIV volunteer and supported by her husband's formal health worker skills, one co-researcher explained how she was confident to go beyond cultural taboos and provide advice about male circumcision to her male children and to her brothers.

> *'Wen I went to my village I tol my tu brathas, I said "Yupol nid to go and see bikos* [name] *yu in da clinic and* [name] *will kat yupols skin". And then they asked me "Big sis, wai wil we do that?" and I said "Oh, for yupols securiti resens so I'm saying". And then wen they want to ask moa I say "Go to yupipols tambu bikos he's a medics and he will teach yu pipol moa about wat I no", so they went and ask him. And then he said "Oh, she is rait. Yu pipol nid to kat yu pipols skin". So dey bot there things and my husben kat tu of the bois skin.'* [When I went to my village I told my brothers, I said, 'you people need to go and see [name] *because* [name] *will cut your (fore)skin. And they asked me, 'Big sis, why would we do that?" and I said, 'oh, for your security reasons, so I am saying.' And then when they wanted to ask more I said, 'Go to your in-law because he is a health workers and he will teach you people more about what I know', so they went and asked him. And then he said, 'oh, she is right. You all need to have your foreskin cut'. So they brought their things and my husband cut two of the boys' foreskins.] (NBPOL SSI 8)*

Without formal training and a community-sanctioned role to support HIV prevention, these types of cross-gender discussion are not usually acceptable in most PNG communities. Women with increased knowledge understand male circumcision and HIV differently. Women report a direct link between HIV training and HIV prevention and treatment adherence. One woman described how HIV training in her community is saving lives.

> *'Ol i gat pinis long em tu, yu ken die with your virus but em i gutpela moa long kisim gutpela skul na bihainim toktok blong ol lidas or ol trainers. Ol trainim yu long em, harim toktok blong em na stap bikos planti blong ol we bihainim dispela training kisim dispela skul nau ol planti istap long ples. Planti blong ol ol skul gut na bihainim dispela toktok; ol HIV virus positive,*

ol carriers tasol they are still alive.' [Some have already got it (HIV), you can die with your virus, but it is really good to learn some more and follow the advice of leaders or trainers. They train you about HIV, and if you listen that can save you because a lot of them followed in the way we were trained and they are still here in our place. A lot who had good training followed the advice, they are HIV positive, they are carriers (of HIV) but they are still alive.] *(PJV SSI 15)*

Women share information they have learnt with other women who are considering male circumcision for their children. One co-researcher explained the influence of her female friend.

'She is married into the culture and accepts it, and she also has a nursing background so I see that she has taken it well. And that kind of you know, motivated me too, her sons are circumcised, I think I better get mine, but I haven't said anything to the boys yet, maybe after talking with their dad and we will see what we can do.' (SSI PAU 5)

Some women hide their discussions about male circumcision from their husbands or partners. One co-researcher trained as a *Tingim Laip* volunteer described how women regularly seek her advice under the guise of discussing something else. *'Man (blong mi) no save ol kam … ol kam giaman long narapela sumting.'* [My husband doesn't know they come, they pretend to come about something else] (SSI NBPOL 5).

If women do not have the opportunity of an education or training, they are more vulnerable to HIV and other STIs. One woman explained, *'Sampela ol no save samting em rait na samting em rong ol save harim na bahin ol save tingim … ol kain kain sik olsem sik blong gonarea save kissim meri'.* [Some women don't know what is right and what is wrong—it is after (training) they know … many sicknesses, for example gonorrhoea infects women] (NBPOL SSI 11). Increasing knowledge for women also directly affects the way they understand and accept male circumcision, especially women from traditionally non-circumcising areas where women have little formal or informal knowledge about male circumcision practices.

> *'Yu save, ol meri we ol no skul long em, em em ol stap long long yet. Need yu, bae yumi educatim ol gud paistaem, na bae ol save na bae ol releasim man blong ol na kaen olsem. Becos ol no gat save na ol stap, em hard. Em olabout why yu caryim sumting nay u go wokim sumting na u kamkam long mi. Tok tok blong ol meri too ia.'* [Do you know what, women that haven't had education about male circumcision are still ignorant. You need, we should educate them well first, and then they will realise that their man is like that. Because they don't have the knowledge, it is hard. They talk inappropriately, 'why are you taking this thing and you go and do this thing (male circumcision) and then coming to me?' That is what women say.] *(NBPOL SSI Female 7)*

Women make an explicit link between knowledge about male circumcision (including its protective effects) and women's acceptance of it. *'Yes, coming into the HIV study and reading around the literature, I think it is important for them to be circumcised in the near future'* (PAU SSI Female 5). Another woman explained that she was happy with male circumcision because of her opportunity of increasing her knowledge about HIV. *'Mi hamamas long em, em OK. Bikos taim mipela raun long skul dispela kaen ol save tokem mipela.'* [I am happy with it (male circumcision), it is okay. Because when we went to our training we were told about it] (NBPOL SSI 7).

Women who have a formal education or have had training opportunities have greater status in their community. This increased status brings them and their families a greater number of options for managing the implications of male circumcision and penile modifications, and also increases the range of choices in other areas of their life.

6.5 Increasing Options (Category Three)

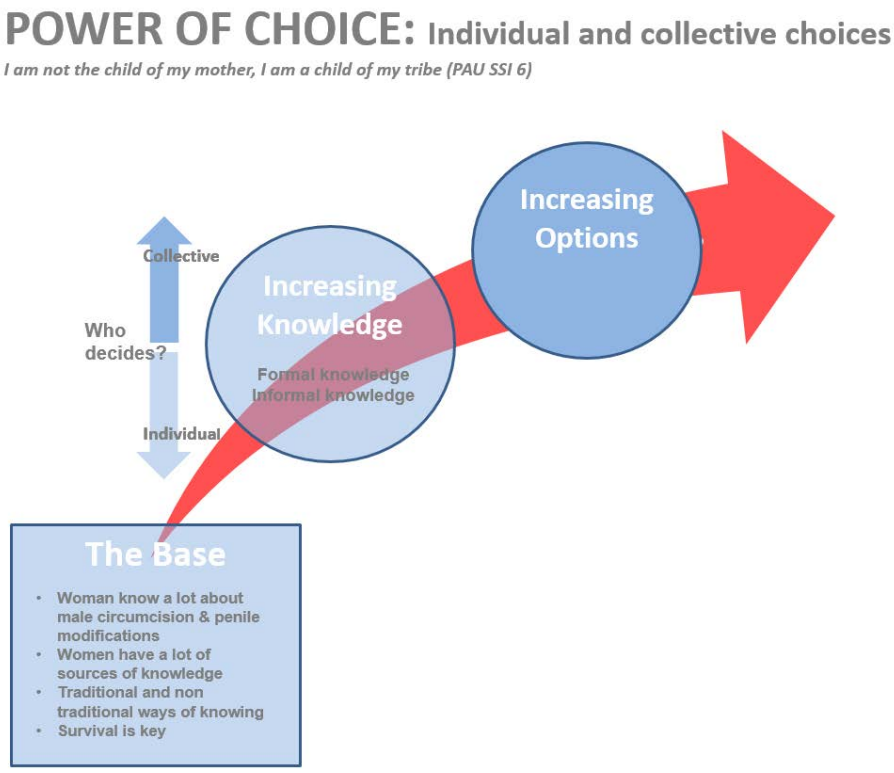


Figure 23 Category Three: Increasing Options

Women who have formal education or training or who are married have increased options (Figure 23). One woman explicitly stated this by saying, *'We can say if we want'* (PAU SSI 3). This may include options about the work they do, the people they spend time with, the way they relate to their partner, and their roles in other parts of their lives (church, community, family). Educated women are freer to say what they want and how they would like a situation to progress. If a woman learns about male circumcision and its protective effects, for example as a *Tinkem Laip* volunteer, she has more options open to her when discussing male circumcision with her husband, her sons or other family and community members. She has more options because she has more authority to speak. One co-researcher explained how her training with *Tingim Laip* changed the way her and her husband talked to their teenage children about HIV prevention.

> *'So mipla sa tokim ol olsem, lotu em yes, we ken teach yu pipol religious—I mean there's always lotu in us, but then we nid to no wats rili happening in*

our laif. The situation of hau we are living is, pipol have sex and they live. They just—we eat and sleep ya—that's wat pipol are doing. So yu nid tu bi on the saif said and have sex and stay—Enjoy for your rest of the laif.' [So we talk like this, Christianity yes, we can teach you Christianity—I mean there is always Christianity in us, but then we need to know what is really happening in our life. The situation of how we live is this, people have sex and they live. The just, we eat and sleep, that what people do. So you need to be on the safe side and have sex and stay, enjoy for the rest of your life.] *(NBPOL SSI 7)*

However, many women find it hard to identify options to act upon. It is not uncommon for a man to make accusations of unfaithfulness on the part of the woman if she requests a condom to be used and vice versa. Condoms used by a married couple are usually sanctioned by health workers as good for family planning, but a request to use a condom by a spouse often raises a level of distrust between partners (Figure 24). Co-researchers explain that if a spouse agrees to the use of a condom in marriage, it is seen to be accepting (and potentially condoning) extramarital sex. Therefore, partners often disagree about the use of condoms. Risks associated with this type of exchange in a married relationship typically move beyond relational disharmony and can include physical and sexual violence.



Figure 24 Storyboard Picture (PAU IFG 1): Offer of Condom Being Refused by the Woman Partner

Being educated increases the likelihood a woman has more power in her individual and collective relationships and usually leads to more options. As encapsulated in the core category used in this TGT, Power of Choice, an educated woman is more likely to be able to choose who she wants to have as a boyfriend, sexual partner or husband than most women in PNG. This level of individual agency and decision making is rare for most (predominantly rural) women in PNG.

Increased knowledge gained by both formal and informal education and training, results in increased choices and helps women move beyond survival, which characterises so many women's lives in PNG. Women think about themselves differently, see new possibilities for themselves and their families and identify an increased range of options, including how they understand, experience and manage the outcomes of men's male circumcision and penile modification. One participant stated, *'I wasn't aware of that, now that I'm aware, believe me, I'm going to have all my boys in my family, I will do it and I'm gonna do it. I will have to get them circumcised that`s it'* (DWU SS1 20). Women with knowledge assume leadership roles and assist in identifying sexual health and relationship options for other women and men. They can also identify what resources and support is required to act upon their desired option, with greater resources available than those with higher levels of education.

A woman's marital status is a social construct that affects her status and opportunities in PNG. Single women and married women have different options, because of how they are culturally and socially situated in society. This is especially evident in rural areas. Single women from rural areas have less authority than married women. Until a woman is married, there is little opportunity to contribute to a man or boy's decision about circumcision or penile modification. Single women, as sexual partners, sisters and daughters manage the outcomes of men's decisions, but rarely get to influence the decision, as evidenced in the dilemma presented below.

> *'For myself, yes I believe because of like you said it reduces the possibility of the risk of acquiring or being infected. At the same time, it's going to be a very sensitive issue, because will my partner willingly do it? Am I going to force him to do it and if I love him and say you have to be c (sic) before we marry, if he says then forget it, what am I going to do?' (DWU SSI 19)*

Another young woman explained if she requests her boyfriend to wear a condom when they have sex, it often engenders disharmony in the relationship or puts the relationship at risk.

> *'If they (women) refuse... to have sex with the guy who doesn't want to use a condom with them, but they like the guy then they would rather have sex with him because he wants it, because they want him, they will just do it without thinking of themselves.' (PAU SSI 4)*

Married woman who are 'good' or hardworking can be seen to have high status in their community, as they bring a big name to their husband and their clan.

> *'If you really look at this it is the ladies who will look after the pigs, feed the pigs everything so that when it comes to the pigs' ceremony, killing the pig, who takes the pig to the pigs ceremony? It is not the woman, it is the husband. And then, "oh, man ia, killem fatpela pig" "em takeim plenti pig" but em meri em lukautem, meri em laekim, man kam up bik man."* ['Oh, this man has killed a really fat pig' but it is the woman who has looked after the pig and cared for the pig, but the man is seen as the leader.] *(PAU SSI 6)*

This high status, however, is maintained if the woman's actions and beliefs reflect the collective view. When considering choices for her health and that of her family, this is not always going to reflect the social norms. Thus, even women with high social standing in their society may not be able to act outside of the social or cultural norms.

The increasing options available to trained and educated women lead to feelings of confidence and plan to act. 'I wasn't aware of that, now that I'm aware, believe me, I'm going to have all my boys in my family, I will do it and I'm gonna do it. I will have to get them circumcised, that`s it' (DWU SSI 20). Women with an increased number of options often work with other women and men to find the best options to respond to male circumcision or penile modification with community members. These roles go beyond the usual cultural roles woman would be expected to hold. One woman explained how she had helped after a penile injection had caused a man's penis to enlarge and cause damage to his wife.

> *'Man em bin kissem dispela sut na em kam usim na sumting blo meri em katkat so em bin tokim sumting blong em em bin go extra large, em sumting we em bin hat po go insait, so emi kissem katkat so mi kam long* [NAME] *na* [NAME] *kissem amoxicillin (for the woman).'* [A man had got an injection and then had sex and the woman's private areas were damaged. He told me his penis had got extra large and had made it hard to go inside the woman—that had caused the damage, so I went to [name] *and* [name] *and got some amoxicillin for the woman.] (NBPOL SSI 5)*

For a woman to discuss this sensitive topic with a man and get the treatment for his wife was not culturally sanctioned, but the options had expanded for the women and her fellow community members as they had been trained about HIV. This is important at the community level, as limited knowledge about male circumcision often results in suspicion.

Increasing options become available to women with increased knowledge and an enabling environment. A co-researcher was asked if women have influence in their families to give information and help them make healthy choices. The co-researcher responded, 'S*ome would, some might not, depending on different factors. Maybe their education levels, back to the cultural, how men see women in their society and stuff'* (PAU SSI 5). As explained in the section below, it does not always follow that once a woman knows about her options that she can act.

6.6 Acting on Choices (Category Four)

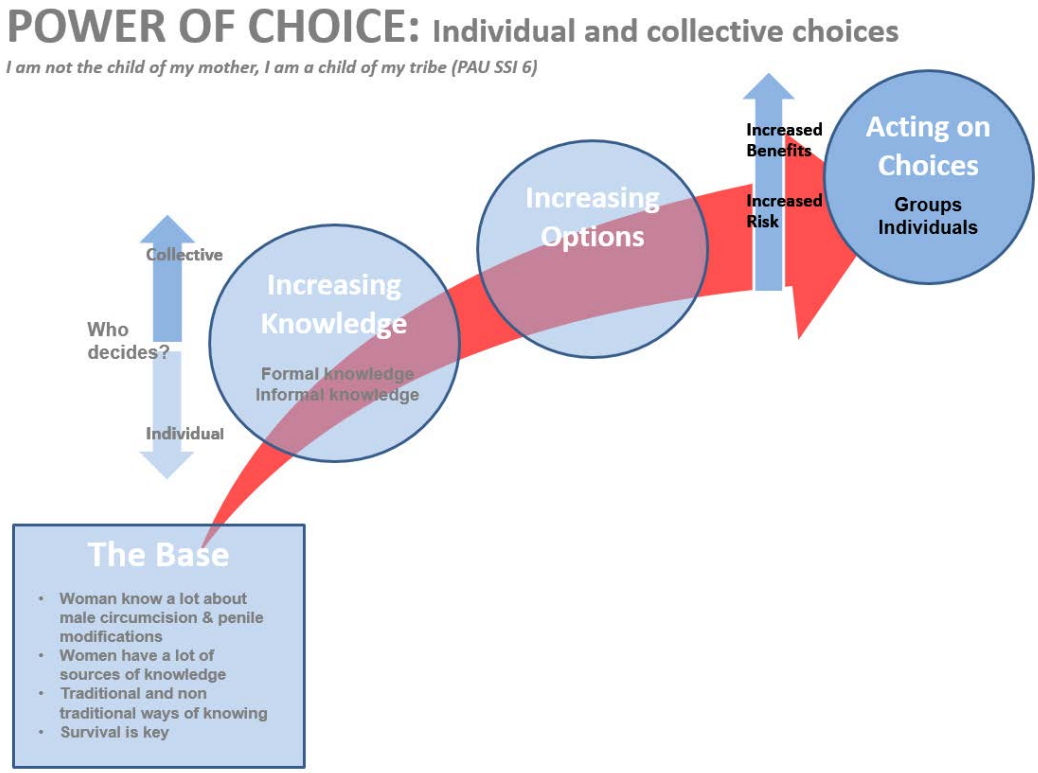


Figure 25 Category Four: Acting on Choices

Few women with increased options available to them report acting on their preferred choice about male circumcision (Figure 25). Women in this study who did act were usually married and educated women who understood the protective mechanisms of male circumcision and had the power to act to have their sons circumcised. One woman convinced her husband that their young son should be circumcised and arranged for the 'cutter' to come to their home to circumcise their son. This was with the support of her husband but against the will of her mother, as it was not a cultural practice where her family came from. Another educated woman arranged for the circumcision of her teenage son after convincing her former husband of the health benefits. During a feedback trip to discuss this developing TGT, a number of women reported taking the first step towards arranging male circumcision for their children. Specifically they discussed with their partners the new information they had about the protective nature of male circumcision, which they had acquired while asking questions in the focus group. A number of co-researchers who participated in the study discussed arranging circumcision for their sons after the initial interpretive focus group. As one co-

researcher explained, *'Papa em tok olrait … but mipla no klia husat bae operatim long ball blong pikinini so mipla stap just stap olsem'.* [My husband said we could have our son circumcised but we are not sure who would conduct the operation, so we have not done anything further] (NBPOL Feedback Group 1). This couple plans to have their sons medically circumcised as a result of the woman participating in the research.

A woman acting upon her choice about male circumcision is most often described as resulting from her having the opportunity to be educated or trained. Women in PNG do not usually make decisions about sex or sexual health matters. A code from the one article analysed as data for this study highlights this.[16]

> *'Strong gender divisions characterize the country, and these inequalities between men and women are an every-day aspect of social life. As a consequence, women in Papua New Guinea are frequently disempowered in negotiations around sex, particularly safe sex.' (Kelly, Kupul et al. 2013, p. 181)*

It is also uncommon for a woman to support a husband to be circumcised or arrange for male children to be circumcised in PNG. However, women who are educated or have an independent income are more likely to be accepting of male circumcision as a HIV prevention method (Kelly, Kupul et al. 2013). Even for these women, it is difficult to move beyond knowing about their options to act upon their choice. In addition to the structural inhibitors such as cost and available medical facilities, there are risks for the woman associated with this type of decision making. These risks include family retribution, isolation, alienation within the family, cultural and spiritual communities and the potential of personal violence.

If a woman is convinced of the increased benefits of male circumcision, how can she arrange to take action without harming her relationships or increasing the risk of harm to herself? A condition of safety is required. A woman needs to feel safe to take any action, including action relating to male circumcision and how it may affect her. In

[16] As explained in the Methods chapter (page 86), there was one article coded as data, consistent with grounded theory methods (Glaser 2007).

addition to the health concerns, there is often an association made between injections and additional sexual partners.

> *'Mi bin tokim em, "Sapos yu kisim displa sut na yu go raun wantaim narapla meri na yu raun lo displa meri, na meri ya kisim displa kain filins lo yu, em bai yu lusim mi wantaim pikinini blo mi na yu go maritim nuipla meri!'* [I told him, if you get this injection and go around with another woman and if you go around with this woman and this woman you take stays close to you, you will lose me and your children and you will have to marry someone else.] *(NBPOL IFG 2)*

The ability to *act* upon the choices women know are available is limited. Some women make decisions that are not culturally sanctioned or are against family wishes, while some women convince their husbands to act for themselves, their young or teenage sons to be circumcised. Only a few women take this action. For women to act, they need to be convicted about the benefits of the action, have power to make a decision, have options if it doesn't work out (own status separate from husband, resources and income) and/or have the support of family. If a woman is educated, male circumcision for her husband or children is more likely to be a joint decision between her and her partner.

> *'It is not a common thing in the Highlands to do it, but we have circumcised a little boy. We arranged for a nurse to come and mipla makim* [we did it]*. From those research where mi go thru na experiences wea mi harim* [that we went through and from the experiences we heard about]*, you know something that, e no save kam out long pleis blo mi but mi mekim* [it (male circumcision) is not something usually done where we come from, but we did it]*.' (PAU SSI 6)*

Women describe a dimension of risk associated with moving beyond socially and culturally sanctioned roles when it comes to sexual health issues such as male circumcision. If someone takes offence at a woman's involvement in 'men's business', whether that be her partner, her sons or other family or community members, there can be serious physical, social, cultural and economic costs for the woman and her family/community. Compensation can be requested of the woman's clan and she can

lose her status in the community. Women are also aware that when young boys decide themselves to be circumcised, there can be serious consequences from the father. One nurse described what happened to a 12-year-old male patient, who had a split cut without his parent's consent.

> *'The father bashed him up, belted him because they were not aware of it and maybe they do not want the child to be circumcised, or something like that. So the father has to belt the child up and they have to bring him and I was there and I advise to the father it is not good to belt the child first, you must at least bring him to us so we explained what is good and what is bad about it, so that was one I came across. Maybe the parents did not obvious to happen or they did not understand.' (NBPOL SSI 9)*

Women without status are most likely to leave the decision about male circumcision to their sons, even if the women think it is a good thing to do. Women report not wanting to face negative consequences when their sons grow up (Figure 26). Some fear their son may blame them as their mothers, a serious social and cultural consequence as adult children are responsible for providing the care of their older parents. An older woman said she would not want to have her son circumcised in case he would be unhappy and not care for her later in life (NBPOL IFG 2).[17] One co-researcher explained, *'An infant should not be... it should be done to those big enough to understand what's going on with them so they themselves should decide what's done with them'* (DWU FGD 3). Another said, *'Parents should let the children grow older first and then let them make the decision for themselves'* (DWU FGD1). Women who do take action to have their sons circumcised, counter to cultural and social norms, rely on their education about health (specifically HIV) to make the decision.

[17] There is no government social welfare system for citizens of Papua New Guinea.

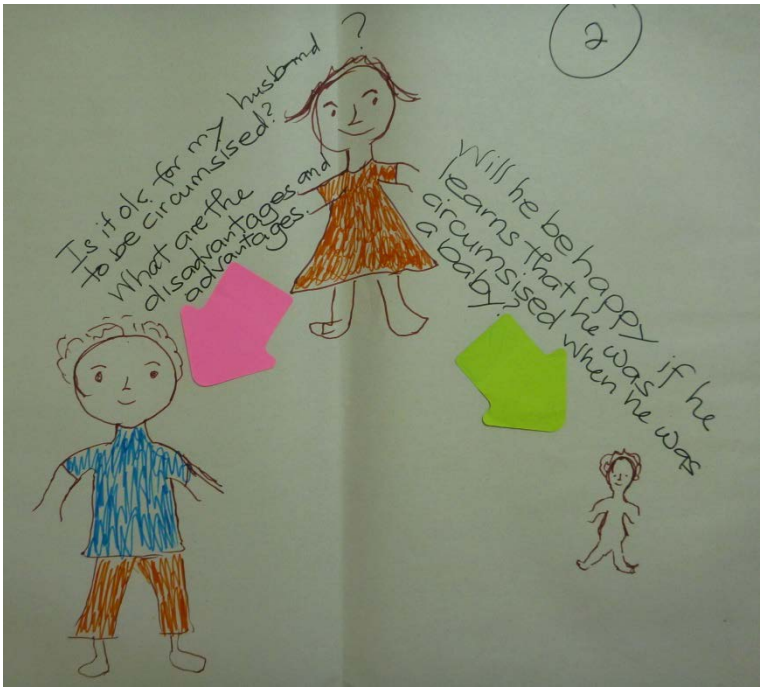


Figure 26 Storyboard Picture (NBPOL IFG 5): Women Unsure About How Sons Will React

There were examples of educated (and salaried) women stepping beyond the usual bounds of gender, culture and religion to act in what they are convinced is in the best interest of their sons. One co-researcher explained, *'Mrs blo mi em intiatim dispela. She made the arrangement, she arranged for the nurse and she paid for the nurse to do it. So, so em leadim. Mi just tok, OK, yumi followim pasin'.* [My wife initiated this (male circumcision). She arranged the nurse and paid for the nurse to do it. So she led it. I just followed. I said, okay, we will follow this type of behaviour] (PAU SSI 6). Her mother was so upset she stopped the nurse the first time she came and said *'No ken allowim nurse long kat. Yu katim skin blo mi, mi grandmother. Yu no nup katim'.* [You cannot allow the nurse to cut. You are cutting my skin, me as grandmother. You cannot cut the boy] (PAU SSI 6). After two further attempts at having the baby circumcised, the grandmother was finally convinced by her daughter and the circumcision was completed. *'Na taim bebe krai, na mama tu krai'* [when the baby cried, mama (grandmother) also cried] (PAU SSI 6).

One educated woman explained how she had arranged for her teenage son's circumcision, *'(H)e has gone through circumcision because I asked his father to do it*' (PAU SSI 1). This co-researcher discussed the benefits of male circumcision with her husband and their son and for the circumcision to be conducted at a health facility. This

strong, educated woman described her motivation for supporting male circumcision as her knowledge of health benefits. The practice was also consistent with her personal religious beliefs.

> *'The God told Abraham to circumcise all Israelites, because* [if not] *it would lead to moral standards which God had created would disintegrate. People would just use their body for something else. So he must have put this, so it will help the couple.' (PAI SSI 1)*

In addition, there was the element of satisfaction when having sex with a circumcised man, as in her experience a man took longer to climax if he was circumcised.

> *'Then I think about what the Lord says in the Bible and he says you drink from your own cistern … God really came hard on adultery and all that. Maybe this is the reason he told the Israelites to circumcise and all that. They would satisfy their wives and their wives would not nag and they are happy about it.' (PAI SSI 1)*

This co-researcher discussed male circumcision with her teenage daughters and advised them to choose circumcised men as future partners for the good of their health, their sexual relationships and their relationship with God.

Some women will take action about male circumcision and/or other sexual health matters in partnership with her husband, once her husband agrees. This is a more culturally sanctioned decision-making process, where the *Tok Pisin* names women use to refer to their husbands include *master, boss, boss man, papa long haus* (father of the house), *papa blong pikinini* (father of my children) and less commonly, *man blong mi* (my man). One woman explained:

> *'Mama mas tokim pikinini man blong em or tokim papa long tokim pikinini man sapos pikinini man em i bikpela. Sapos em i liklik, em mama yet inap long disaplinim em or tokim em stret olsem em blong mekim olsem olsem. Bihainim stret pela wei.'* [A mother must talk to her teenage boy or ask his father to talk to him if the boy is big. If he is small, the mother can

discipline a boy or talk directly to him about this (circumcision). This way works out for the best.] *(PJV SSI 15)*

There was not an agreed approach for women to discuss male circumcision with men or boys. There were differences depending on cultural group and education of parents. '*Sumpela meri save opin na man em no open, sumpela man opin na meri em no opin'*. [Some women are open but the man is not open, some men are open but women are not open] (NBPOL SSI 5). Some women act in this domain of 'men's business', but they are a small minority. Most women in PNG do not feel safe to act on choices available about male circumcision.

6.7 Condition of Safety (Intervening Condition)

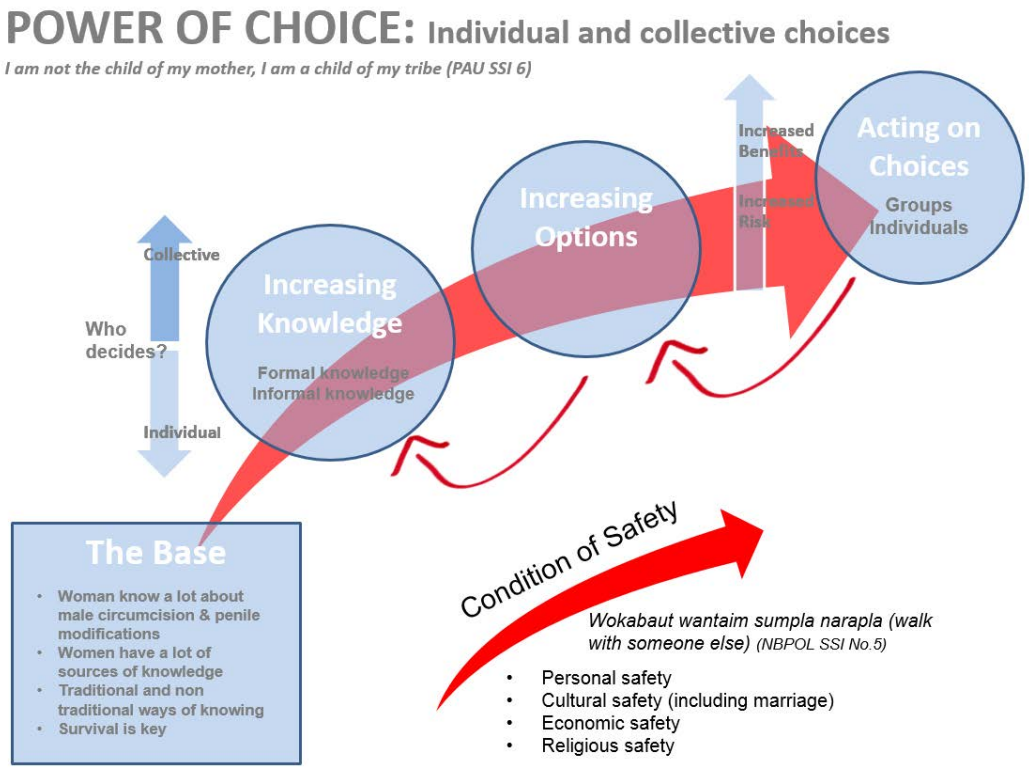


Figure 37 Intervening Condition: Condition of Safety

'Walkabout wantaem sumpla narapla, tasol walkabout wanwan em i no sef' [walk with someone else, walking alone is not safe] *(SSI NBPOL 5).*

The intervening condition of this TGT is the condition of safety (Figure 27).[18] Women can have formal knowledge, identify increased number of choices but if their action means an increased risk to their personal safety, they may not act. Women consider their safety in relation to a range of situations, including sexual experiences and male circumcision. Daily, women face restrictions, threats and incursions into their personal safety. One co-researcher at the oil palm plantation explained how walking from the junction of the road back to her house was not safe for women. '*Kain distance blo mipla junction ia emi no safe, wan mangi ken- ol smoke na longlong sumpla mangi nao ol rape tasol.*' [This sort of distance between the junction and where we live is not safe, a younger man can—they smoke (marijuana) then some go crazy and rape] (NBPOL SSI 5). A woman may extend her physical safety by walking with others. Additionally, a woman can extend her safety to include social, cultural and/or religious safety by behaving in a manner sanctioned by others in those groups. In PNG, cultural safety relies heavily upon one's relationship to *graun* (the land) and the people from that land.

Increasingly, it is also defined in terms of one's participation in the cash economy. If you do not have power in relation to *graun*, but you have cash, you have increased power. This is changing the way the Melanesian people, particularly in PNG, understand *gutpela sidaun*—living a good life. Women can be physically or socially harmed if they are isolated from their spiritual community or social context—a likely outcome if a woman makes a decision, such as to support male circumcision, inconsistent with the collective position.

This TGT is contextualised by the social, cultural, economic, religious systems which women live in. Marital status in communities where bride price is common means that the clans, and thus social, cultural and economic units, afford a woman more status and on some occasions, more power of choice. In PNG, there is a greater opportunity to act if a woman is married, and the sphere of influence is likely to be over children rather than adult men, including their husbands. Young women in this study had no expectation that they could influence their sexual partner's decisions or behaviours. Indeed, some young women seemed amused to think that boys would

[18] The use of the term 'safety' as an intervening condition is in the context of the English use of the word, which is 'free from risk of harm'. When discussing sexual health in PNG using Tok Pisin, safety or *sefti* often means protection from sexually transmitted infections, including HIV.

discuss their male circumcision status with them—*ol i yet save wokim* [it is just them (the boys) that do it] (NBPOL IFG 6).

Women's position can move between the categories described: Increasing Knowledge, Increasing Choices and Acting on Choices. Women may have extensive experience of acting on choices, but the number of choices is reduced if women feel unsafe—if they are punished or threatened to be punished for their actions. What stops women making a choice? There appears to be a condition for women on the Acting on Choices—that of personal safety. Women can be knowledgeable, have increased number of choices but if their action means an increased risk to their personal safety, they may not act. Women make these decisions about a range of issues, including sexual experiences.

Some women will make decisions knowing that there are consequences for their personal safety, but decide these consequences do not outweigh the benefits of acting upon their preferred choice. The need to survive also extends beyond personal safety. Women who act upon choices, and in doing so jeopardise their economic, social, cultural and spiritual/religious safety or their place in their family, community or cultural context, are also taking risks. Individual agency for women in PNG is limited, more so than for men. Collective society brings many benefits, but also limits women's options to act upon their choices.

Actions that are counter-cultural are risky, but may also bring benefits. Some women choose to make these types of decisions, despite family or cultural barriers, as they feel the benefits are worth it. For example, women acting upon their decision to have their sons circumcised, even if it is not part of their cultural practice. Educated women may use other, more culturally and/or religiously sanctioned knowledge to support their decision. For example, the may say it is 'in the Bible' to support their claims that circumcision is good or not good. '*Em stap long Biblical—Baibel em tokim em stap*' [it is in the Bible, Bible tells us it (circumcision) is there] (NBPOL IFG 4), is countered with statements such as, '*even though their culture says they have to be circumcised because they're Christians or because they go church, it's a big No, No*' (PAU SSI 1).

After a woman has increased her knowledge, it is possible she can then have increased options but is unable to act. If there is a bad outcome for the woman as a result of discussing her options, for example experiencing violence or being ostracised by her husband, her church or her family, it is possible she will have increased knowledge but never really be able to act upon her options. If a woman has a belief in and knowledge about her increased options and chooses to act, the risks associated with the action could result in harm and she may need to move back to a position of being aware of her increased options but not being able to act. It could be that she feels unable to act, and feels the need for more knowledge to consider future options.

6.8 Summary

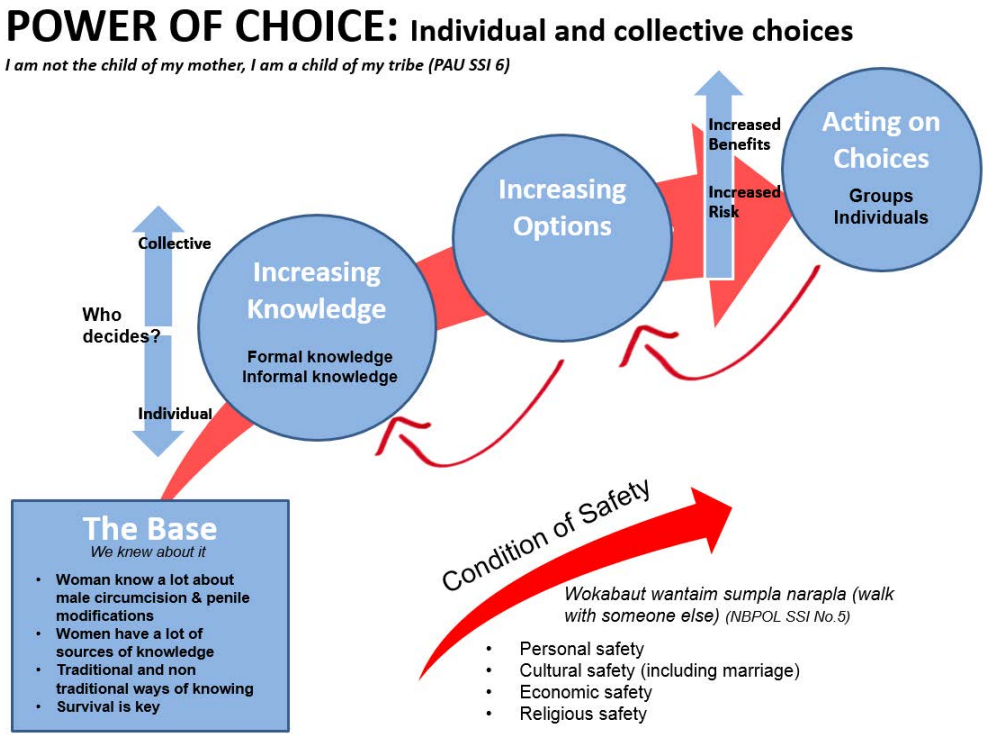


Figure 28 The TGT Model

As shown in Figure 28, the first category of **the Base** represents the plethora of knowledge women have about male circumcision and penile modification. Despite these activities being seen as ‘men’s business’, many women know when, where, how, by whom, costs, medications required and many other details about male circumcision and penile modification. Women know because they are wives, girlfriends, sisters, mothers, health workers and/or teachers. Although women know a lot, they are careful with this

knowledge because speaking outside accepted social or gendered fora about male circumcision and penile modification could threaten their safety.

The second category is **Increasing Knowledge**. Women report that, if they have more knowledge such as a formal education (high school, tertiary) or informal training (health worker training, community level training), they have greater status in their community. Community members seek their assistance when they have problems. Women's opportunities for increasing their knowledge are dimensionalised by individual commitment to education or training in relation to the support of others in their family and broader community.

The third category is **Increasing Options**. If a woman has increased status in the family or community due to education or some form of training, she will have more options. These options will be about whom she can have relationships with, the nature of those relationships, and her power in those relationships. She will also be able to influence others' decisions. A woman with an education will have more choice about her intimate relationships, whether a man's circumcision status will influence her choices and whether to make a decision about male circumcision for her sons.

The fourth category is **Acting on Choices**. Women who have increased knowledge and increased status can act on their preferred options. They can act to keep themselves and their families safe, choose healthy sexual relationships, choose the best option for the health of their male children and discuss and agree upon options with their male partner. There is both an individual and collective dimension to this category that influences a woman's likelihood of Acting on Choices.

Power of Choice is the core category of this TGT that explains the phenomena of women understanding, experiencing and managing male circumcision and penile modification in PNG. Power of Choice includes dimensions of both individual and collective power. She, who has the ability or freedom to direct or influence outcomes for themselves and others, in the context of family or clan, has power. The individual relationship to the collective is reflected in the key dimension expressed in the quote *'I am not the child of my mother, I am a child of my tribe'* (PAU SSI No.6).

The **Condition of Safety** is the intervening condition across this model. Women in PNG experience very high rates of violence and this influences every decision a

women makes—where she walks, how she speaks to her partner or family members, to whom she says yes and no. If a woman does not act according to societal norms, her personal, cultural and/or economic safety can be at risk. It can also affect her connection to her religious community if she acts in a way that is not 'acceptable'. Thus, her decision to act on choices may be threatened or even stopped if there are negative consequences or outcomes because of action taken. The seeming trajectory, as represented by the large red arrow, does not always go in one direction. If a woman's safety is compromised, she may return to the place where she knows she has increased options but is unable to act, as represented by the red arrow between Acting on Choices and Increasing Options. A woman with knowledge may also know she has increased options but feel she needs more education or training to increase her legitimacy to act, as represented by the red arrow moving between the categories Increasing Options and Increasing Knowledge.

An expanded audio explanation of the model (Figure 28) is provided—presented in English and recorded during a feedback group with single women at PAU, PNG (6 March 2014). Please visit: http://youtu.be/cqAp40-YXjI (audio length: 16.18 minutes).

In this findings chapter, I have reported research findings by:

- describing women's understanding and experience of male circumcision and penile modification, described as the Base (meeting Aim One)
- introducing the TGT model (meeting Aim Two)
- building upon the Base with three connecting categories: Increasing Knowledge; Increasing Options; and Acting on Choices
- explaining the core category—Power of Choice
- discussing the condition of Safety.

In the chapter that follows, I will:

- explore the theoretical code of social determinants of health, with a focus on enhancing the explanatory power of the grounded theory
- discuss the core category of Power of Choice in the gendered context of PNG
- discuss the application of the TGT and its applicability to other health-related matters for women in PNG

- discuss involvement of men in responding to identified issues emerging in the research
- identify possible applications of this research for a broader international context.

7 Discussion

Sides

Sides
They are everywhere
At first glance
There is front and back
Or left and right
But as I exhale
Slowly I see
Inside, alongside, beside
Not oppo*sites*
But connects*ites*
Because of each other, in spite of each other
With each other.

Sides
A kaleidoscope of possibilities
Together.

7.1 Chapter Outline

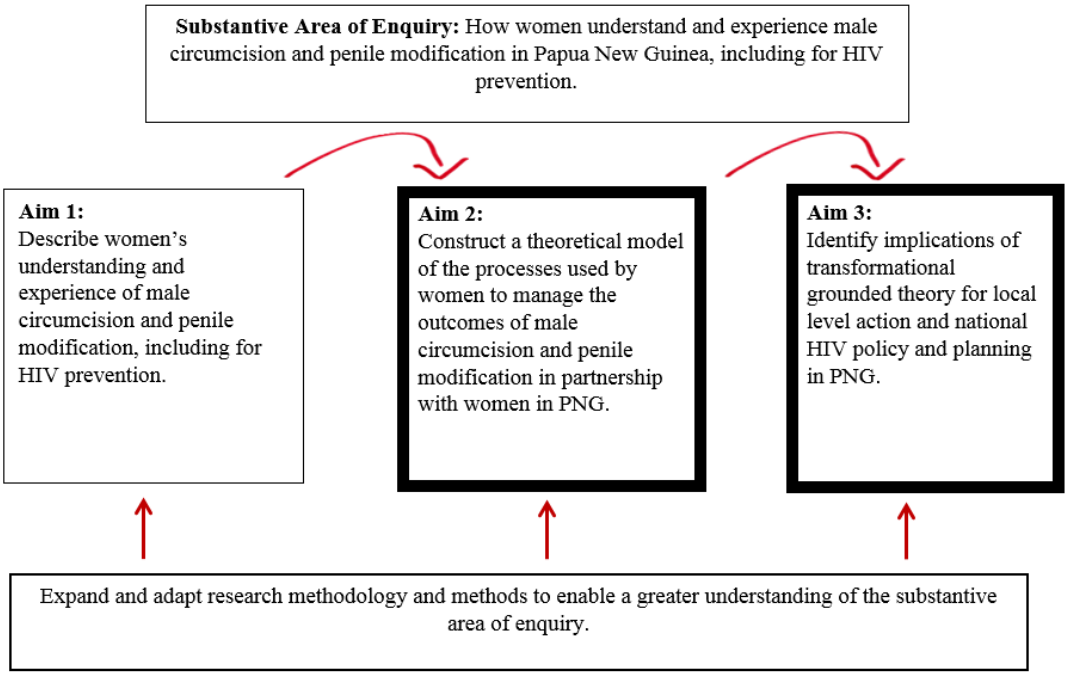


Figure 29 Focus of Chapter Seven

In this chapter, I summarise the research and introduce the theoretical code 'social determinants of health'. As a public health theory, social determinants of health add to the theoretical model by increasing the explanatory power of the TGT (Aim Two). I specifically examine gender as a determinant of health, including masculinity in PNG in relation to women's experience and understanding of male circumcision. Links are made to international literature about male circumcision for HIV prevention and limitations of the study are discussed (Aim Three).

7.2 Research Reviewed

The substantive area of enquiry for this research was how women understand, experience and manage the outcomes of male circumcision and penile modification practices in PNG, including for HIV prevention. An expanded grounded theory methodology of TGT was developed and enacted (Redman-MacLaren & Mills In Press). Using this methodology, I undertook a secondary analysis of existing qualitative data from a large male circumcision study to identify codes and develop tentative categories (Redman-MacLaren, Tommbe et al. 2014). Transcripts from nine interviews

and 11 focus group discussions were analysed during this part of the study (2012). Primary data was then co-generated at two field sites in PNG with 67 women and one man during interpretive focus groups and semi-structured interviews (2013) (Redman-MacLaren, Tommbe et al. 2014). These primary data were combined with the secondary data analysis, along with an article by Kelly and colleagues, who report why PNG women object to male circumcision (Kelly, Kupul et al. 2013). Constant comparison methods were used to code and categorise data throughout the research process, with memoing and critical reflexivity, including auto-ethnographic poetry informing throughout (Redman-MacLaren In Press). The analysis resulted in a developing TGT model.

In this study, women had to undertake complex negotiations to talk about male circumcision. Key findings included women know a lot about male circumcision and penile modification, they know from a variety of sources and there are traditional and non-traditional ways of knowing. These findings and the TGT model were discussed in a further field trip to the two sites (2014). The categories of Increasing Knowledge, Increasing Options and Acting on Choices, along with the core category of Power of Choice, were discussed with groups of co-researchers who had previously co-generated primary data. Presentations and discussions about the findings were also facilitated with NBPOL plantation managers, Oro Provincial Health leaders, Oro Provincial AIDS Committee staff, non-government organisation workers, community health workers and PAU students and academics. During these feedback presentations and subsequent discussions, small changes were made to the TGT model and recommendations for action recorded. In Oro Province, sexual health training for NBPOL staff commenced soon after these discussions (Redman-MacLaren & Browne 2014).

Safety of women is an intervening condition that affects all categories and reflects the importance of gender as a key organising characteristic across PNG societies (Strathern 1987). Using the public health theory of social determinants of health as a theoretical code increases the potency and reach of the research findings. In the following section, I explain the use of theoretical codes in grounded theory, introduce social determinants of health as the theoretical code for this research and discuss the theoretical code in relation to the findings with the aim of increasing the explanatory power of this TGT.

7.3 Theoretical Code and use of Literature in Grounded Theory

This TGT highlights a gendered lack of opportunity for education, along with women's limited personal and collective decision making. Women in PNG consider their safety in almost every decision they make. The explanatory power of a grounded theory is increased when considered in relation to a theoretical code (Birks & Mills 2011). Traditional grounded theory methods use theoretical codes to, 'conceptualise how the substantive codes may relate to each other as hypotheses to be integrated into a theory... they weave the fractured story back together again' (Glaser 1978, p. 72). For this study, I used the adapted interpretation of theoretical codes described by Birks and Mills (2011). For these authors, a theoretical code is applied as a broad body of knowledge explored after the development of the codes and categories to increase the explanatory power of the grounded theory.

Engaging with a broader body of knowledge *after* the grounded theory model is developed is a method espoused by early grounded theorists (Charmaz 2014). A key point of difference in grounded theory from positivist, quantitative theory is that the research is not conducted to test a hypothesis but to discover a theory from the data (Glaser & Strauss 1967). Early understandings of grounded theory reflect this point of difference by recommending extant literature is reviewed after data is analysed and after the theory had been developed so as not to influence the researchers thinking about the topic (Charmaz 2014). More recently, and somewhat divisively, seminal grounded theorists Glaser and Strauss parted ways on this position with Strauss and Corbin recommending researchers first conduct a literature review and then set this aside while the theory was developed (Strauss & Corbin 1990). In effect, the delay of a literature review can be seen as both ideological and pragmatic—with researchers who delay the literature review adhering to a more traditional approach to grounded theory while not being side-tracked by literature that may be of little relevance to the grounded theory that is developed (Dunne 2010).

For this PhD study, I adopted a pragmatic position by reviewing literature about women, HIV and PNG early in the study for the purpose of institutional requirements and to establish myself in the field (Redman-MacLaren, Mills et al. 2013). Due to my previous HIV research, I was familiar with literature about women and male circumcision in PNG and knew there was only one peer-reviewed article published

about the topic (Kelly, Kupul et al. 2013). Indeed, this knowledge had been one motivation to conduct this research. Following the secondary analysis of existing MC Study data, the co-generation and analysis of new data and the revision of the developing TGT with co-researchers and stakeholders, I then returned to the international literature about women and male circumcision for HIV prevention. This was added to the chapter describing the research context (Chapter Three). Below I provide an overview of social determinants of health as a theoretical code that positions and expand the TGT developed in this study. I explore gender as a more recently identified social determinant of health to understand the impact gender inequality and constructions of masculinity have on the health of women in PNG.

7.4 Social Determinants of Health

Social determinants of health as a public health theory have had much iteration. In the late 1800s, Dr Rudolf Virchow (a contemporary of Engels) promoted the study of conditions under which various social groups lived to determine how these conditions affected the health of people (Rosen 1993; De Maio 2010). Links were reported between income and health and between health and social status (Dahlgren & Whitehead 1992). Prerequisites for health were identified in the Ottawa Charter, which built upon progress made through the Declaration on Primary Health Care at Alma-Ata and the WHO's Targets for Health for All (WHO 2009). The prerequisites for health include peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity (WHO 1986). Seminal work by Marmot and Wilkinson, which reported evidence from the Whitehall studies, shows health inequalities among British civil servants who experienced different health outcomes depending upon their social class (Marmot, Stansfeld et al. 1991). This epidemiological research was expanded and updated in *Social Determinants of Health: The Solid Facts* (published by the WHO) in which 10 key determinants and their interaction with health outcomes were identified (Wilkinson & Marmot 2003). More recent literature by Marmot and colleagues has increased the scope and evidence supporting social determinants of health (Marmot 2004; Marmot & Friel 2008; Marmot, Friel et al. 2008; Marmot & Allen 2014), with the best-selling book, *The Spirit Level,* synthesising and popularising the theory (Wilkinson & Rickett 2010). In 2011, the Rio Political Declaration on Social Determinants of Health recorded a commitment by Member

States to improved public health and reduced health inequities through action on the social determinants of health (WHO 2011).

Social determinants of health have expanded to accommodate different discourses, like so many other bodies of knowledge (Foucault 2000). As a theory of public health, social determinants of health are a structural explanation as to why people experience different health status when living in the same communities. Raphael et al. (2004) use a critical framework to understand health inequity, while McGibbon (2012) focuses on the specific characteristic of oppression resulting from oppressive social and cultural structures. These frameworks can be linked to critical contributions by Franz Fanon and Paulo Frèire, who identify drivers of oppression to include colonisation, racism, economic privilege and lack of inclusive educational systems (Fanon 1963; Fanon 1967; Frèire 1974; Frèire 1994; Frèire & Frèire 1994). Consistent throughout these iterations of social determinants is agreement that non-medical and non-behavioural individual risk factors play out in people's lives (McGibbon 2012). The ten social determinants of health identified by Wilkinson and Marmot are: the social gradient; stress; early life; social exclusion; work; unemployment; social support; addiction; and food. (Wilkinson & Marmot 2003; WHO 2008). These social determinants of health have been critical to understanding population health and the structures that promote it globally. In the socially and culturally diverse communities of PNG, many of these determinants of health are important but are overlaid with the key social organising characteristic of gender. Women and men in PNG experience all social determinants of health in a gendered way. I now explore the more recently acknowledged social determinant of gender as it relates to PNG and to this doctoral research.

7.5 Gender as a Social Determinant of Health

Although not originally included, gender equity is now recognised as an important social determinant of health (Kaufert 1996; Savoie, Morettin et al. 2004; Phillips 2005; Davidson, Trudeau et al. 2006; WHO 2008; Benoit, Shumka et al. 2009; Lutfiyya, Cannon et al. 2014). According to Kaufert (1996) discussing social determinants of health without discussing gender is akin to discussing lung cancer without discussing smoking. In PNG, being a woman (or homosexual, transsexual or bisexual) usually prevents full participation in society. Most women in PNG experience lower status than

men, high levels of violence and regularly experience exclusion from education and other opportunities (Lepani 2008; Jolly 2010; Luker & Dinnen 2010; Reid 2011).

Violence is endemic in PNG, with physical and sexual violence affecting an estimated two out of three women in PNG (Médecins Sans Frontières 2011; ChildFund Australia 2013). Women experience violence at greater rates than most women in war zones where rape is used as a weapon of war (Agence France-Presse 2012; Chandler 2014). Violence against women in PNG was not historically understood as a crime (and in many cases still is not). 'Adultery' is usually perceived as a more serious offence than sexual violence against a woman. This may reflect the collective consequences of adultery, including disharmony between clans and potential requests for compensation (Borrey 2000). *Sanguma* or sorcery-related violence can affect single and older women in PNG—usually those with the least status in their community (Hayley 2010; Gibbs 2012). The torture and burning of 20-year-old Kepari Leneita witnessed by hundreds of people on 6 February 2013 in Mount Hagen, Western Highlands Province, brought sorcery-related violence against women back into the media spotlight. Despite a commitment by Police Chief Superintendent Kaiglo Ambane, perpetrators have not yet been brought to justice (as of February 2015). There is a lack of a functioning law and order system, with police feared as potential perpetrators, not protectors (Chandler 2014).

The judicial system (usually enacted through village courts), along with cultural ways of responding to violence, does little to serve the needs of women in PNG (Luker 2010). A heartbreaking example is the cry for justice following the recent rape of a young woman from Wewak, Sepik Province, allegedly by multiple police officers. At time of writing, the young woman is still in hiding awaiting justice (Chandler 2014). Warrants of arrest, issued when a person fails to appear in court or escapes custody, are rarely executed (Radio New Zealand 2014).Women cannot move around freely without fear of being harmed. Lack of security and peace for women is a major social determinant negatively affecting women's ability to make and manage choices affecting their health, as demonstrated by the findings of this study.

The intersection of gender inequality for women, less opportunities for education and employment, and a dysfunctional system of law and order contribute to increased vulnerability for women. Increased urbanisation and development of

extractive and other industries in PNG have resulted in some women relocating geographically. This can mean increased earning capacity. However, for some women, urbanisation and development of extractive industries has increased vulnerability, reduced social supports and increased social dislocation (Berry & McCallum 2013a, 2013b). These changes have reduced woman's access to culturally protective relationships. In addition to the changing industrial context, colonisation, missionisation and increasing globalisation culminate in a modernising of PNG societies that has ironically, reduced protection for women (Kidu 2014). The 'gender agenda' is problematised by those who follow the model of early Christian missionaries, who expected a good wife and mother to occupy quietly a domestic space (Anderson 2012; Anderson 2014). For some educated women in PNG, they now choose not to have a husband at all (Spark 2011). In this study, single women with an education spoke about their sexual choices, their decision to delay marriage and characteristics they would seek in a future husband. The underpinning to this was explained by one co-researcher in the following way. '*Nowadays human rights are coming up and … now women are trying to, like they are realising they also have a choice, to speak for themselves*' (PAU SSI 4). Social determinants of health and in particular gender as a determinant of health have increased the explanatory power of TGT by linking study findings to a broader theoretical knowledge. It also points to the potential role for men for improving women's health and wellbeing.

7.6 *Rait Man*: Men and Masculinity

> *'If we accept that inequalities in health are caused by inequalities in society, it is perverse to continue to focus interventions and research at the very groups that have the least power: the poor, the marginal and the vulnerable.' (Green 2014, p. 251)*

Men and men's sexual health is central to this research about male circumcision and penile modification. The way men react to women is pivotal to decisions women make. In this study, men gave permission before women in this study would participate in this research, consistent with the predominantly patriarchal cultural groups in PNG (Fulu, Warner et al. 2013). How are these study findings important for men of PNG? How

might men be part of the solution to the issues raised by women during this study? How could men contribute to improved health for women?

In this study, there are positive examples of men enabling women's power of choice over decisions made for their children. Men can be enabling, positive and supportive partners of women. There are examples of men and women who discussed male circumcision for their children and made the decision to act. Men play roles additional to parents and partners. Men are often health workers who are in positions of influence and authority in their communities. If these men are educated and trained to respect women, take into account women circumstances, and promote discussions with other men in their community about the implications for women of male circumcision and penile modifications, they can be highly influential for their health and that of the women and children in their community.

7.6.1 Masculinity, Sexuality and Violence

Masculinity refers to ways of being and becoming a man in a given culture and is linked to wider social and cultural transformations (Haywood & Mac an Ghaill 2003, p. 154). There are ways of being a man that are dominant and more culturally sanctioned (Eves 2007). Masculinity in PNG has characteristics of assertiveness and strength, with 'anger and violent redress … considered natural and appropriate responses to insult or challenge' (Eves 2007, p. 44). Typically, anger is tempered in the community context by notions of respect that do not always extend to women in a household. This tempering is also reduced by the increased disenfranchisement of youth not able to find meaningful ways of contributing to society and exacerbated by the use of alcohol and drugs such as marijuana (Eves 2007). Plummer explains masculinity is policed by other men, often through expressions of homophobia, '*homophobia shares many similarities with misogyny, but with a key distinction that misogyny demarcates the inter-gender divide between men and women, whereas homophobia demarcates an intra-gender divide between real men and suspect men*' (2014 p. 130). Typically, this dynamic involves violence.

The anger and aggression of men as experienced by women in PNG results in extreme rates of violence, including sexual violence (Amnesty International 2006; ChildFund Australia 2013; Parker, Pettifor et al. 2014). Sex positive messages are

urgently required with sex commonly described as *wokim pasin no gud* (literally, doing something wrong), even between married couples. There are powerful reasons why men need to be involved in addressing violence against women. First, efforts to prevent violence against women must include men because it is largely men who perpetrate this violence (Flood 2011). Second, constructions of masculinity play a crucial role in the way violence is perpetrated against women. Sexist or hostile attitudes towards women along with economic and decision-making dominance are strong predictors of violence against women (Pease & Flood 2008). Women represent the power differences in the language they use about men. During the research, I recorded terms women use to refer to their husbands. I share these as an example of the current gender relations between men and women in PNG: *Master; Boss; Boss man; papa long haus* [father of the house]; *papa blong pikinini* [father of my child]; *man blong mi* [my man; less common]. These semantic representations in *Tok Pisin* reflect the power men hold (and power women accede, often to survive).

In the majority patriarchal societies of PNG, men are the leaders. There is a positive role for men to play in ending violence against women (Flood 2011). As leaders, there is opportunity for men to influence societal change and thus they should be targeted to lead change around negative attitudes and beliefs about women. This change may start out small, but is critical. Kelwyn Browne, a PNG-based colleague and member of my PhD Expert Reference Panel, uses the following PNG-embedded metaphor that men understand. Showing a photo of large taro leaves covered in droplets of water, Browne explains why he persists in the face of what seems to be futile attempts to change men's attitudes about violence against women.

> *'Rain falling on the taro leaf: A PNG metaphor that is the equivalent "water off a ducks back"... (this is) the response to my most recent attempt at violence reduction between intimate partners. So I am going to own the criticism and use it... I've now included this expression in my presentation and with the challenge that it is "now up to you" - is this talk just wasting time and hopeless, or can some of the water "stick" to the leaf... not all run off;-).'' (Browne 2014)*

There have been attempts in other Pacific countries to train men as mentors in order to change the way men think about and treat women. The 'Men as Partners'

programme was implemented in workplaces in the Pacific Island countries of Fiji and Solomon Islands. Early evaluations of this programme were mixed, but the programme changed the way participants thought about women (Roberts 2007). Stepping Stones is another Pacific-adapted international training programme that originated from Uganda. This program focuses on gender, HIV communication and relationship skills based upon the principle that gender inequalities affect all in society. This sexual and reproductive health programme was designed to work with men and boys as well as women and girls and has now been incorporated into Fijian and Solomon Islands national strategic plans. For this programme and others like it, a long-term approach is crucial (Osnes 2014). A recent longitudinal study with young men who had participated in Stepping Stones programmes in South Africa showed some improvements for men in terms of relationships and livelihoods. However, high rates of unemployment, peer networks and dominant youth masculinity limited change (Gibbs, Jewkes et al. 2014). This is instructive for PNG where 85 per cent of the population live a village-based subsistence lifestyle and there are very few opportunities for formal employment, meaning there is a prevalence of peer networks such as groups of *raskols*[19] exerting dominant and often destructive expressions of masculinity (Luker & Monsell-Davis 2011).

In this study, women shared experiences of masculinity that were both positive and negative, especially in relation to male circumcision and penile modifications. Characteristics of a *rait man,* what made a real and good man, includes being able to build a house, provide for the family, be faithful and be non-violent. Many women's experience of men was different to this ideal and included physical and/or sexual violence and multiple sexual partners, with concern represented this type of behaviour would increase after male circumcision or penile modification. This was also reported by Kelly and colleagues (2013). Men in PNG usually decide whether to use of a condom or not, although some women in this study reported refusing to use a condom to shame their husbands into being faithful. This is consistent with reports from HIV research conducted in South Africa (Parker, Pettifor et al. 2014). There is concern that by promoting men's programmes, resources may be directed away from women-

[19] *'Raskol'* is a term that was first used in the mid-1960s to describe young men who were responsible for petty theft and vandalism around Port Moresby, usually in groups. Recently *raskols* have become associated with more serious property crime, violence and rape (Luker & Monsell-Davis 2011).

specific services (Flood 2011). It is also assumed that women will be safe to participate in discussions about men—which is not always the case. The scale of this problem is enormous. In a recent survey in one province of PNG, more than six out of 10 men admitting to having raped a woman at least once, with many reporting they did so for reasons of 'sexual entitlement' (Fulu, Warner et al. 2013). We need to do something differently. I, along with many others, am not willing to sit by with knowledge of the experiences of women in PNG and do nothing. When seeking to support the improvement of health for women in PNG, including HIV prevention, then sexual abuse, rape, limited safety and freedom of movement must also be addressed. I wrote the following poem in 2013 while facilitating field work in Popondetta. A co-researcher had told me about her friend who was raped by two men. I found it hard to sit with this story (sadly, so familiar) without wishing to fly from it, perhaps as a famous Oro butterfly.

Butterfly

If I sit still and begrudgingly let it stay,
Your story pulls me out
Piece by piece. First my gut,
Then my soul, next my mind
Rummaging, seeking solace.

Too strong men, driven on top,
Feeling tough, satisfied,
While you weep, you bleed.

Delicate, balanced, sensitive
Unexplored and unknown.
A butterfly torn in half
Indifferently left to flap,
Wings dislodged, beauty tender
Now irreparably scarred.

Piece by piece I try to fit
The delicate back together.
Imagining a new scene
That won't house fear.
It eludes me.
For now it is my eyes that bleed,
Tears for my sister.

There is a time to weep. But there is also a time to act. Woman with an education or some form of training are more likely to have a wider social influence, more options and have more chance of acting on their preferred choice. We need to promote gender equity in all aspects of HIV and health promotion as a determinant of health to challenge unhealthy expressions of masculinity and amplify the role of male allies and positive action. Some men *are* willing to act as partners in change, as reported by co-researchers in this study. It is this type of partnered response that must be enabled and encouraged.

7.7 'Power of Choice' as the Core Category

There is a risk that 'Power of Choice', as the core category of this TGT, will be seen as reflecting the worldview of a white, Western researcher working to promote a liberal idea of individual agency in a predominantly collective, patriarchal Pacific country. Some may argue I have 'hand-picked' evidence that makes co-researchers look more like me. This is a risk I have continually reflected upon throughout the research through critically reflective conversations with PNG research partners and co-researchers during feedback trips, memoing and poetry writing. This core category was named using an *in vivo* code provided by a young woman studying at PAU as she reflected her lived experience. This woman told me the opportunity to have an education gave her an advantage when compared with the majority of women in PNG. Is it OK to be culture-breaking or at least, culture-changing to enable equality? Martha MacIntyre, an anthropologist who has worked in PNG on issues including gender, human rights and violence against women, argues we need to confront inequalities between men and women on a structural level in PNG (MacIntyre 2012). Imagine if the 'privilege' of having power to choose were available to all women in PNG? What would happen to the lifestyles of women and men in PNG? In this study, women mostly thought male circumcision and penile modification was *sumting blong olgeta man* (something that belongs to men). Only a very few women talked about actively engaging with decisions about male circumcision and penile modification despite the reported implications of these practices for them. For women to actively manage outcomes of male circumcision and penile modification, culture-shifting approaches are required to enable women to make more choices in their lives (Nussbaum 2000).

Pacific people, including people in PNG, manage multiple discourses daily. There is a cultural discourse associated with *pleis*, the land from which one come and by which one is nurtured. There are clan and tribe *tabus*—rules that need to be followed to keep order in the community. Christianity is another discourse that almost all people in PNG are knowledgeable about, with 95 per cent of the population identifying as Christians. There are seven mainline Christian churches and many other independent Christian traditions in PNG with a very small number of Muslims, Jews, Hindus and Ancestral religion. There is a church in almost every village and many villages are single *lotu* villages—Christianity has become a social organising unit (Robins 2014). In this highly Christianised environment, religious explanations are given for both positive and negative positions about male circumcision. Modernity and globalisation have also brought both challenges and opportunities to PNG.

Increasing urbanisation, inadequate infrastructure and inadequate social and legal systems to protect the interests of the poor mean there is much corruption. These newer systems also embody sites of power from older cultural and religious systems. Thus men dominate. There are only three women in the national parliament of a total of 111 Members of Parliament, few women leading at Provincial government level and very few women run formal businesses or hold significant government leadership positions. Women participate in the emerging economic markets in informal ways by selling and exchanging agricultural products, home-made, small scale products and informal domestic and child care services. Some women in urban areas with limited or no opportunity to engage in the formal cash economy do so by selling sex, a high-risk high-reward way of obtaining cash. Low status, limited options and limited power to negotiate means women who participate in this type of economic activity are also at risk for acquisition of HIV, other STIs and physical violence (Kelly, Kupul et al. 2011). So when one goes into a community and asks about male circumcision, what is happening and what should happen, responses should be examined in light of these co-existing and often competing world views.

During this research, women reported ‘breaking’ culture on a number of occasions when they asked men (including fathers, brothers, cousins, boyfriends, husbands) about cultural practices of male circumcision, how men’s bodies were affected by male circumcision and/or penile modification and how HIV transmission is reduced by male circumcision. One co-researcher explained:

'When I went back to the village I talked to my brothers, they have a fair idea about this thing [male circumcision]. *When I went and spoke to them, they were very, they didn't want to talk about it, but after a week I try to convince them (laughter) so they finally gave in and said this is what we know about circumcision.' (PAU IV No.3)*

Other women reported talking with their husbands and boyfriends about male circumcision because of this research, despite it not being a usual, culturally sanctioned action. By participating in this research, women also had opportunity to ask questions of health researchers about male circumcision and sexual health that would not usually be possible. This TGT research changed women's conversations.

7.7.1 Increasing Safety—Violence and Power of Choice

The condition of safety permeated every aspect of this TGT. It is only when women feel safe to make a decision that they act. The condition of safety (or lack of) helps explain the seeming ambivalence of women about male circumcision in a society where many women do not have much choice about what happens to them, including sexually. The positive aspects of male circumcision such as increased health, cleanliness, and positive aspects of masculinity such as being able to provide for your family and build a house, had as counterpoints the negative aspects such as increased amount of sexual activity expected and increased number of sexual partners outside of an established relationship. In addition, women reported a potential reduction in their ability to negotiate condom use, marital or partner disharmony, intimate partner violence and even sickness and death. If women were able to consider male circumcision in a context where there was no threat of violence, would its acceptability be increased? Women who held equal status with men, did not fear harm and felt respected in their relationship reported being able to make decision especially for their male children. The condition of safety may be the key difference between findings in this study and findings reported by Kelly and colleagues, which was a predominantly negative view of male circumcision by the women who participated in that study (Kelly, Kupul et al. 2013).

7.7.2 What About Power?

Power is not a finite resource. Power can be co-experienced but requires a shift from 'power over' to 'power with' (Starhawk [pseud. M Simons] 1987). This could be seen at odds with MacIntyre's assertion that men in PNG are going to need to lose power in order for women to gain more power (MacIntyre 2012). How can an increase in power of women to make healthy choices be enabled in a way that does not 'threaten' the power of men? In this study, the men that shared decision making with their wives were educated and respectful. Safety is key to women taking up the power they need to make joint, health promoting decisions and relies upon men respecting women. Who has power to make a decision is key—the answer helps to explain the ambivalence and variety of options women hold about male circumcision, even in the same family or same community. There is a cultural element to the decision about male circumcision for infants and young boys (acceptable/not acceptable), a personal element (depending on the man and the nature of the relationship between a woman and her husband) and also connection to other opportunities, including protective factors such as employment and education. For many women, male circumcision is a personal conundrum that results in a nonresponse. It is something that is left to men and boys to decide.

In the following section, I review characteristics of the condition of safety as reported in the TGT model. I explore safety for women as evidenced in the literature and show how the condition of safety enables women to exercise their power of choice, including how women manage the implications of male circumcision and penile modification. This is a key finding of this study.

7.8 Women's Understanding and Experience of Male Circumcision

Women who participated in this study have an incredibly diverse understanding and experience of male circumcision and penile modification. Some women know very little about male circumcision and/or penile modifications; some have heard about it but have no personal experience; others have an understanding about the cultural significance, and have supported male circumcision in a cultural context. Others have or have had an intimate partner who is circumcised. Other women have a child or young man who is circumcised, either because of traditional practices, a deliberate decision for health benefits or due to peer-cutting. This wide range of experiences and understanding of

male circumcision and penile modification in this diverse country goes some way towards explaining why there is such uncertainty about male circumcision for women in PNG. However, diversity of educations is not the only explanation. Education alone is not going to be the only way to mitigate risks associated with male circumcision and penile modification for women in PNG. Education may in fact, exacerbate women's risk, and may increase women's understanding of increased options but decrease their ability to act upon her choice (Spark 2011).

7.9 Role of Education and Training

The category 'Increasing Knowledge', and its associated dimensions of individual and collective decision making, provides evidence about who gets an education and how this is decided. Investing in a formal education for girls or women is typically a collective decision in PNG. The individual student must work hard and succeed in her education, but she also requires collective support. Education costs a lot of money relative to available resources, especially in the majority of rural areas. There are also opportunity costs for the community. While girls and women are gaining an education, they are not undertaking agricultural, caring and other traditional responsibilities of women that are important to survival in a subsistence lifestyle. There is an additional challenge for women as they attempt to maintain cultural and social respect while getting an education or training. Most women have to leave their village and almost always do not return to work, as there are negligible paid positions in village settings. Women then have to forge new social status in different (usually urban) environments, where social and cultural norms and mores are different. Overall, however, increased knowledge increases the number of options available to women, including options to make decisions about and manage the outcomes of male circumcision and penile modifications.

A formal education or at least some informal training increases the status of women in PNG. However, education does not protect a woman from violence in PNG—it may even engender violence. Ceridwen Sparke (2011) explains how a woman who begins to assume non-traditional roles or enter the workforce, usually enabled by education, triggers a transition in her status that can threaten male dominance and privilege. This may bring negative consequences for her in her family, in her workplace and in some cases from her intimate partner. Richard Eves (2007), in his work with men

in PNG, also identified some negative outcomes for women who gain greater financial independence and are more assertive of their rights. These included outcomes of increased violence against women. Women know there are inherent risks of education and development. Nussbaum (2000, p. 43) explains, 'Women's development groups typically encounter resistance initially, because women are afraid that change will make things worse'. Co-researchers in this study explained that if a woman acted upon her increased knowledge about male circumcision and asked to discuss her husband being circumcised, asked for her husband to wear a condom or arranged to have her son circumcised, there could be consequences such as conflict or violence. In addition, some women fear they may experience negative consequences such as not being well cared for by their sons as they age. For women to have a power of choice, they require safety to move beyond learning, and into meaningful positions of labour and leadership.

7.10 The Condition of Safety

> *'It is time to create a world where all women can meet their potential without impediment or prejudice and the world will reap the benefits.' (Lagarde 2014)*

The most significant finding relating to women's understanding, experience and management of male circumcision and penile modification is their lack of safety to make healthy choices. Social and cultural realities in PNG impede women's power of choice. This research has provided evidence to help us understand why there is such a diverse range of opinions held by woman about male circumcision. It was clear that the condition of safety precludes all options being considered. Women reported so many 'ifs': if I could feel safe; if I wasn't worried about the consequences; if people didn't think of me as a bad person; if I would still be respected in my culture. Any attempts to increase the opportunity for women to make decisions that are in her interests and those of her children must involve women and men—complementary roles of men and women must be explored.

These findings reflect the need to look beyond women-centred thinking and action that has characterised recent HIV and gender-based programmes in PNG (Lusby 2013; Browne 2014). There needs to be 'two legs' used, as my friends in Solomon Islands would say. Resources that promote the empowerment of women and women's

health MUST continue to be available. The 'second leg' is the need to partner with men and encourage them to reconsider women's role in society. The problem of unequal power between men and women, often expressed through gender-based violence, needs to be named as the problem—we need to stop naming *men* as the problem (Denborough, Koolmatrie et al. 2006). The few women in this study who acted on their preferred choice about male circumcision had an ally in their male partner. Their partners were respectful and supportive. Highlighting strengths provides an opportunity to promote males as allies for women; thus, finding mutually beneficial outcomes of male circumcision in particular. Evidence from southern African countries shows when women and men are partners in the decisions about male circumcision, there is much greater acceptance and less disharmony in the relationship (Auvert et al. 2014; Layer, Beckham et al. 2014; Riess, Achieng et al. 2014). The request by women from Oro Province to have men educated about the implications for them of male circumcision and penile modifications demonstrates that women want men to be part of the solution, not isolated and framed as the problem.

Inequality affects health outcomes and health status for people living in the same society. This study has shown the links between social determinants of health and women's risk of HIV: through the evidence about knowledge but lack of credibility to use it; lack of opportunities for education—both socially and state sanctioned; and lack of safety to make decisions consistent with beliefs and knowledge held. As Hardee explains:

> *'Restrictive gender norms, violence, legal inequalities, stigma and discrimination, and unequal access to economic opportunities and education lie at the heart of women's greater HIV risk. All of these structural factors can be addressed through proven and promising interventions, scaled up within each country's social and programmatic context.' (Hardee, Gay et al. 2014, pp. 8–9)*

7.11 Linking Findings to International Context

VMMC services provide opportunities for education about safer sex, access to condoms and HIV testing and counselling services (WHO 2014a). Male circumcision affords women a number of indirect benefits to reduce the risk of HIV and other STIs (WHO

2007). In this section, I review international literature about male circumcision and women relevant to the findings of this study. Despite disparate cultural and geographical differences, the issues women in PNG identified about male circumcision (both adult and infant) are remarkably similar.

There have been a number of research studies exploring the implications of male circumcision for women in countries where this a high prevalence of HIV (WHO 2007; Berer 2008; Berer 2009; Baeten, Donnell et al. 2010; Feuer 2010; Riess, Achieng et al. 2014; Westercamp, Agot et al. 2014). There is a common perception that male circumcision could lead to risk compensation; that is, increase in the number of sexual partners men have, increase gender-based violence and heighten stigma against women living with HIV (Women's HIV Prevention Tracking Project 2010, MacPhail, Sayles et al. 2012, Plotkin, Castor et al. 2013). This position was also reflected in storyboard pictures and discussions during interpretive focus groups and interviews during this study. Risk compensation or disinhibition refers to the behaviour that occurs when individuals who feel protected against one health risk engage in other risky behaviour (Hogben & Liddon 2008). In literature about VMMC, concerns are expressed that men's sexual behaviour could negate the protective effect of male circumcision (Westercamp, Agot et al. 2014). As reported in the Findings chapter, women in this study reported concern that if men were circumcised they might want to have sex with other women to 'try it out' and then bring sickness home to their wife or regular partner. There were a number of anecdotes shared by women that reported this type of behaviour. However, in the MC Study, there was no evidence that men had a greater number of sexual partners after male circumcision than before (MacLaren, Tommbe et al. 2013).

HIV prevention and gender-based violence are inextricably linked. 'HIV prevention and prevention of violence against women are distinct from each other as issues and as campaigns, but both the problems and the attempted solutions intersect and act in symbiosis' (Lusby 2013, Section 9). It is crucial gender inequity is addressed to prevent vertical transmission of HIV in PNG and internationally (Ghanotakis, Peacock et al. 2012). Some women report facing major challenges or even domestic violence if they suggest male circumcision to their male partners because it is not culturally appropriate for women to suggest sexual options (Obure, Nyambedha et al. 2011). Women in this study were concerned men might think that that once they are

circumcised they cannot transmit HIV and that safer sex will be less negotiable than before circumcision. Women also linked negotiations about safer sex with increased risk of gender-based violence. This was also discussed in interpretive focus groups and interviews by women in this study and drawn in the storyboard pictures.

International literature reports the influence women have on a man's decision to be circumcised. Although men always do not see women as influencers in their decision, they do report women will benefit sexually and health-wise. This is consistent with the MC Study findings that show men are motivated to be circumcised as a way of satisfying women sexually (Curran 2014; Layer, Beckham et al. 2014). Findings from this study show some PNG women do influence a man's decision to support the circumcision of his son, but there was no evidence of women influencing a male partner's decision to be circumcised (MacLaren et al. 2013). There needs to be more focused research in PNG about women's role as influencers for VMMC, consistent with the call internationally (Curran 2014).

The impact of male circumcision on women's sexual satisfaction has been reported in international literature with a range of responses. Some women report sexual experience improved and others reported no change (Lukobo & Bailey 2007; Kigozi, Watya et al. 2008). Only a small minority report a decrease in sexual satisfaction. This is consistent with findings from the MC Study (MacLaren, Tommbe et al. 2013) and this PhD research, where some women report there is no change in the sexual experience while others reported that men who were circumcised were more sexually satisfying and last longer before ejaculation. A man's circumcision status may have little impact upon women's sexual satisfaction and may be more about socially and culturally constructed notions of what is sexually attractive (Hankins 2007).

Infant medical male circumcision for HIV prevention is generally accepted by women internationally (Andersson & Cockcroft 2011; Mugwanya, Whalen et al. 2011). Concerns about safety, pain, autonomy and cultural factors reduce the acceptability of infant circumcision (Jarrett, Kliner et al. 2014). Acceptance of male circumcision by women largely depends upon the perceived benefits and is likely to be higher after women acquire knowledge of the protective effects of male circumcision for their sons (Curran 2014). Women in this study who were educated or from traditionally circumcising areas reported high levels of support for infant circumcision. There was a

distinct difference however, between acceptability and taking action. There were a few women who approved of and acted upon infant and pre-adolescent circumcision in this study, but they were the exception. Women in PNG are reliant upon their sons for their future care and protection. Overwhelmingly, women in this study were hesitant to make a decision to circumcise their sons without the approval of the sons themselves and/or their male partners. The risk of disapproval by the men in their lives was reportedly too great, reflective of the highly patriarchal and often violent context in which women live.

7.12 Limitations of this Study

There are a number of limitations to this study. These include limited time in the field, which affected research relationships, being a White Australian researcher in PNG, grounded theory methods of theoretical sampling and my necessary reliance upon research partners to engage people to participate in the study. Consent to participate needed to be adapted so that it was relevant to the research context—this meant an expanded approach to the usual Western view of research consent process. This study was limited to implications of male circumcision and penile modification for women in heterosexual relationships and did not include homosexual, bisexual or transsexual people. Safety for researchers is a constant challenge when working in PNG and was a limitation to this study. Resource limitations also occurred. Despite the limitations, which I expand upon below, I am confident this research has been conducted in a rigorous and culturally sanctioned manner.

While conducting the large MC Study (2010–2012), I and my family lived in PNG for much of the time the fieldwork was being conducted. As project manager for the MC Study, living in PNG enabled deep relationships, immediate responses to emerging research issues and efficient conduct of the study. Due to family commitments (primarily a decision to educate our high school-aged sons in Australia), my PhD fieldwork in PNG was conducted during short stays of approximately two weeks at a time. These shorter periods were not ideal for implementing the TGT methodology, so were contingent upon power-sharing and trust-filled relationships. Ways I sought to mitigate this limitation included continued nurturing of ongoing relationships with key co-researchers at both sites, including Rachael Tommbe, Charles Yadup and Stanley Ijimpa, via email and continued connections with key leaders at both sites. These leaders include Professor Tracie Mafile'o, Deputy Vice Chancellor and Dr Lalen

Simeon, Director of Research and Postgraduate Studies, PAU and Mrs Elizabeth Cazalet, Nursing Manager at NBPOL. In addition, I had ongoing support from PNG-based colleague Kelwyn Brown, who also communicated with both sites on my behalf and conducted training requested as a result of the research at NBPOL. The critical role of research champions who belong to the place, maintain ongoing relationships and who can make things happen has been described previously (MacLaren 2006). I learnt lessons as my partner, David MacLaren, conducted his PhD research and as we have continued to conduct public health research in both Solomon Islands and PNG. Research champions can never be proxy for the researcher responsible for conducting the study, but they are key enablers in a relationally-focused research. Although these relationships are research enabling, they are precious, genuine relationships that I seek never to take for granted—thank you colleagues.

As a White Australian researcher committed to decolonising research methodologies, I was conscious of my White privilege and the way my cultural identity may impact participation of PNG women. However, this study was part of a broader research agenda, I was familiar to people at both of the research sites and the study had been requested by people in PNG, for people in PNG. I was supported by Mrs Rachael Tommbe, Senior Lecturer and researcher from PAU, who had been research leader in the multi-site male circumcision study. Rachael provided cultural and linguistic advice, connected me to appropriate people at each of the sites, assisted to negotiate the involvement of women in the study and explained and contextualised the study. Rachael was present during the co-generation of data, assisted with data analysis to ensure it reflected the worldview of co-researchers and assisted with discussions about the emerging transformational grounded theory. Rachael's involvement was pivotal to addressing this limitation.

Theoretical sampling in grounded theory requires a purposeful selection of research participants who have specific knowledge about an aspect of the phenomena under study. The application of theoretical sampling in an ideal environment would see the researcher invite specific participants, conduct the interview, transcribe and code the interview. Using constant comparison, the researcher would then identify gaps in knowledge and go on to purposefully select another participant that could assist to understand the phenomenon more fully. Researching in PNG requires pragmatic approaches and rarely allows for ideal research conditions. I had limited time for

reflections between interviews and focus groups during time in the field – somewhat mitigated by memoing, reviewing and refining questions in the evenings, working in partnership with PNG co-researchers, and on one field trip, being observed by an Australian-based supervisor. As described by Birks and Mills (2011), geographical constraints, availability of participants and other access issues can limit the ability of the researcher to analyse the data in between data collection experiences. For me this was particularly the case when working in Oro Province, as I had to pay for research assistants to accompany Rachael and me for safety and cultural purposes. I paid Rachel for her time away from PAU and we had a fieldwork budget funded by a small research grant. Thus, I prepared research questions in advance of the fieldwork, conducted interviews and focus groups during the day. At night, I would download the audio-recorded interviews, make notes about key learnings from the day and develop new questions for the next day. These processes were not ideal, but were the best I could do within the time, safety and financial constraints of the study. The feedback trips and discussions with stakeholders did provide opportunity to confirm the veracity of the findings.

Theoretical sampling in grounded theory relies upon ongoing comparative analysis and for the researcher to invite the co-researcher with the most knowledge about the phenomena under discussion. I did not choose whom I spoke to—I did nominate profiles of people, such as a single woman or married women's group, but was not part of selecting the actual co-researcher. This was a result of practicality—I do not have an intimate knowledge of the community, cultural acceptability and safety situation for individual women. I relied upon colleagues to identify and arrange the interviews and interpretive focus groups. In Oro Province, I relied upon male health worker colleagues to discuss with women leaders in villages who should participate in interpretive focus groups and semi-structured interviews and then in some cases, got the permission of their husbands or fathers for them to participate. One woman told me that her discussing this taboo subject with an outsider had prompted a request for a small compensation by her uncle. This request was satisfied by the small tokens of appreciation and refreshments I provided each co-researcher (according to our co-researcher, at least). This approach potentially had its own challenges, some of which we mitigated by the depth of relationships these community members had between each

other and the fact that we had all worked together previously on the MC Study (indeed, I had provided research training for a number of these research partners in 2010/2011).

As evident from the sample described in the methods chapter, I only had one male participate in the research as a co-researcher, although a number of men participated in the feedback discussions. Lack of involvement by men was primarily due to the substantive area of enquiry but also due to cultural understandings of appropriate behaviour between men and women. I could not speak to a man I did not know extremely well about sensitive sexual health issues and I did not have a budget to pay a male researcher to conduct this extra body of work. Countering this limitation, there were vast amounts of qualitative and qualitative data provided by men from the large MC Study that I could access as required (861 male participants).

Expressions of consent in PNG, as in many places in the Pacific, are often more meaningfully expressed in ways other than written consent—especially for women who have low levels of literacy. A lot of time was devoted to contextualising and explaining the research project and explaining the way findings from the study would be used to contribute to the national agenda. These explanations were done in *Tok Pisin* and time allowed for further discussions between women in *Tok Pleis* languages. In addition to signed consent forms, consent to participate was provided by women by their continued attendance (or not) or contributing (or not). This is consistent with the experience of other researchers in the Pacific (Czymoniewicz-Klippel, Brijnath et al. 2010). Some non-Indigenous and Indigenous perceptions of potential risks of research were not usually perceived as risks by co-researchers in this study (NHMRC 2003; NHMRC 2006). For example, there was no stigma associated with participating in the research. Indeed, some co-researchers reported their participation had enabled an increase in their social status, with community members asking why they were chosen to participate in the study and they felt they had a platform to discuss sensitive topics such as male circumcision and sexual health with their husbands, sons and uncles in a way that non-participation in the study would not have allowed. This was consistent with our previous experience of research in Solomon Islands and PNG where people line up to talk with researchers, rather than having to be encouraged to participate. This proximity to 'knowledge holders' could be explained by the value people in PNG place on education and may also reflect different experiences of colonisation to those of other

first nations peoples (Smith 2012). The limitation of time taken to explain the purpose of the study was countered with the cultural acceptance of participating in research.

This study focused on heterosexual relationships only and did not specifically include homosexual, bisexual or transsexual people. This is a limitation of the study with a focus on heterosexual women only. There is specific and increased HIV risk for heterosexual women who exchange goods for sex, with a recent study reporting HIV prevalence for that group in an urban centre of PNG at 19 per cent (Kelly, Kupul et al. 2011). Homosexual, bisexual and transsexual people are at even higher risk of HIV with prevalence of transgender people reported in the same study at 23.7 per cent. Clearly, this is a specific population within PNG for which a recent Cochrane Review suggests male circumcision will most likely not reduce HIV risk (Wiysonge, Kongnyuy et al. 2011). This important group at high risk of HIV requires additional support and targeted research to understand and reduce the risk of HIV.

Safety is a paramount consideration for researchers working in PNG. As reported in this study, women experience threats to their personal safety on a regular basis. Women are safest when they move in groups, with random attacks, theft and rape common. Expatriate women in particular need to be careful due to their visibility and perceived wealth (Nihill 1994). This has implications for moving to and between field sites, travelling back to accommodation before dark and who is required to accompany researchers and research assistants in the field. Working on PAU campus posed little to no safety issues as it is a gated community with a strong security presence. My attempt to access a previous field site in Enga Province was thwarted however, due to a lack of safety on the Highlands Highway. In Oro Province, I had fantastic support from the NBPOL health and security employees. One night, Rachael and I presented research findings at a managers meeting, we were then accompanied back to our accommodation by four male employees and an additional security guard. This type of environment obviously hampers meetings with co-researchers at night and requires a deal of resources to undertake work at all.

7.13 Summary

In this discussion chapter, I have:

- reviewed the substantive area of enquiry, the purpose of this research and the main findings
- introduced the theoretical code of social determinants of health, explored masculinity and used this literature to increase the explanatory power of the grounded theory model
- linked findings to the international literature, including identifying how this research may inform future HIV prevention policy for VMMC in PNG
- identified and discussed limitations.

In the final chapter, I will:

- summarise the research study
- outline recommendations for action, provided by co-researchers and me
- discuss action that is underway as a result of this TGT
- outline proposed direction for future research
- share critical reflections documented throughout the research process, including a published article documenting an auto-ethnographic account of a doctoral researcher re-presented in poetry.

8 Recommendations and Conclusions

Critical reflection
You hunt me
down and up
change my path
challenge my base
invite a new way
block an old
It is time to acknowledge
I had it wrong
I am new
Because of you.
Critical—
Reflection.

8.1 Chapter Outline

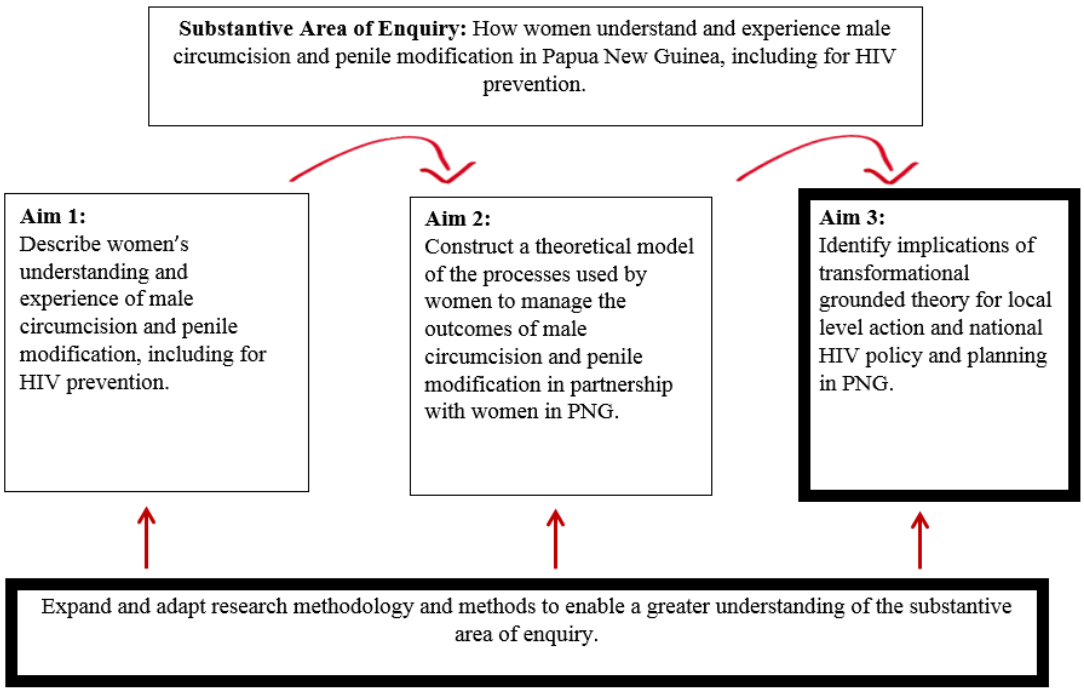


Figure 30 Focus of Chapter Eight

In this chapter, I conclude the thesis by reviewing what I set out to do in the doctoral research, what I achieved and the main research findings. I explain how I ensured the quality of the TGT. Recommendations from co-researchers and me, informed by the research findings, are outlined along with actions that have already commenced, consistent with the TGT methodology. In conclusion, I evidence my commitment to critical reflexivity through a publication (in press) that outlines the use of poetry as an auto-ethnographic approach to critical reflexivity and lays bare my experience of my becoming a researcher.

This chapter contains the publication:

Redman-MacLaren, M. Becoming a researcher: An auto-ethnographic account of a doctoral researcher re-presented in poetry. *Journal of Poetry Therapy* (In Press; accepted 9 July 2014).

8.2 What I Set Out to Do

My motivation for conducting this research was crystallised as I participated in the national policy forum to discuss male circumcision for HIV prevention in PNG in November 2011 (Law 2011; Vallely, MacLaren et al. 2011). Results from a number of research projects were reported and it was evident there were mixed views held by women about male circumcision and penile modifications. Women had varied responses of these diverse practices and I was keen to understand why. Was it the way the questions had been asked of women, the methodologies that had been enacted in the different research projects or was it something deeper? Thus, this NHMRC-funded PhD research was born. I set out to review data already generated in the *Acceptability of male circumcision for HIV prevention in PNG* study using grounded theory methods. However, I wanted to expand the research methodology to be culturally situated, take into account that I represented the ex-coloniser and be as participatory and power sharing as possible in the process. Thus, the development of the methodology, TGT (Redman-MacLaren & Mills In Press).

8.3 What I Did

This expanded grounded theory methodology spawned some new research methods that have been published (Redman-MacLaren, Tommbe et al. 2014). Women in interpretive focus groups were invited to analyse and interpret data chunks from the exiting dataset. To expand upon this analysis, an adapted storyboarding method was used to encourage women to share their understanding, experiences and management of male circumcision and penile modification. Data co-generated during these groups along with data co-generated in semi-structured interviews were analysed using grounded theory methods of identifying codes and categories, enhanced by constant memo writing and auto-ethnographic poetry. A grounded theory model that identified Power of Choice as the core category was developed. Consistent with theoretical underpinnings of TGT, I then returned to the women and one man who had participated in the research with co-researcher, Rachael Tommbe. At each of the sites, we discussed the developing model, what worked and what needs to be changed and then identified action steps that needed to be taken. These proposed actions were also discussed with managers, other stakeholders and health professionals. Actions such as sexual health training for men in

the oil palm plantation have since been conducted by an expert in sexual health and subsequently by health staff from NBPOPL (2014–15). Proposals for subsequent research have been written and funding is now being sought.

8.4 What I Found Out

At the beginning of this research, I had thought the differences in women's knowledge, experience and management of male circumcision and penile modification, reported at the national policy forum, may have been due to research methodologies used or the researchers involved. Findings from this study suggest that women's ambivalence and variety of opinion may result from deeper reasons than those I had originally thought. Women's ambivalence, uncertainty, the diverse views presented about their knowledge, experience and management of male circumcision and penile modification appears to be more about women's power of choice, determined by the condition of safety in the PNG content.

These research findings have been confirmed by the women and other research partners involved in co-generating these understanding of women's experiences. However, it is important to recognise that despite this pervasive issue of safety there is no such thing as *the* PNG woman. In the hyper-diverse nation of PNG, there are matrilineal and patrilineal distinctions along with varying levels of education, modernisation, Christianisation and urbanisation. Along with these '*-ations*' have come increased levels of globalisation. The methodology of TGT ensures that the participatory and decolonising approaches to research ground the findings in the lived experience of women, and this may be represented in different ways for women with different cultural backgrounds and lived experiences. I borrow from Indira Karamcheti (cited in Nassbaum 2000, p. 47) when I say, *'neither I nor anyone else can deliver a representation, authentic Third-world woman to academia or elsewhere'*.

8.5 Ensuring Quality of the Research

Qualitative researchers are frequently called upon to defend their findings by demonstrating quality in the research process. Findings of positivist, quantitative research are considered valid and reliable if research methods and processes are tightly controlled and replicable. Research methods such as randomised control trials are

considered ‘gold standard’ when objective and repeatable. By the very nature of the type of questions qualitative research is attempting to answer, qualitative research does not have such clear, quantifiable methods and processes. Indeed, it was concern about the *quality* of qualitative research that provided impetus for the development of grounded theory methods (Birks & Mills 2011). Glaser and Strauss (1967) first discussed the evaluation of grounded theory in terms of whether it had *fit* with its intended use, was *understandable* by those who work in the area, and was *general* enough to be flexible on application while allowing the researchers to maintain *control* over its use. Since this formative contribution, further methods to assess grounded theory have been described (Glaser 1978, 1992; Strauss & Corbin 1990, 1998, 2008; Charmaz 2014).

This doctoral research has been overseen by senior researchers and evaluated *in situ* by co-researchers in PNG. This was a central tenant of this TGT study, with the development of the theory and the proposed and action addressing issues identified during the research. Specific methods explaining the participatory analysis of the existing data and the co-development of the grounded theory are described in Chapter Four (Redman-MacLaren, Tommbe et al. 2014). This leaves me to evaluate the quality of the TGT, which I do using the original criteria described by Glaser and Strauss (1967); see Table 4.

Table 4 Evaluation of TGT

Criteria for evaluation	**Application to TGT**	**Limitations**	**Notes**
Fit of the grounded theory	TGT reflected important ideas relevant to women’s lives in PNG. This is particularly so for the core category Power of Choice. Women confirmed this, along with the other categories, dimensions and the condition of safety were key realities for their everyday lives.	*Fit* is a subjective element and although there was evidence that women and girls identified their life experience through the prism of the TGT, there may be much more to be explored and uncovered.	In addition to discussions with women who participated in the research, there was also consistent feedback from other PNG leaders, health service providers and academics that the TGT had fit with its intended use.
Understandable by those	The TGT model was discussed at length by co-researchers in the	The challenge of communicating PhD research findings across	The limitations identified were somewhat

working in the area	feedback meetings, community health workers, managers and academics who understood and saw the relevance of this TGT to women's lives in PNG.	cultural, linguistic and educational divides means the depth of discussion may have been compromised.	ameliorated by working alongside Rachael Tommbe and other research partners.
General enough to be flexible in application	Not only did women in the feedback groups agree that the TDT model reflected their lived experience of male circumcision and penile modifications, they also discussed other aspects of their lives and how these same processes reflected their lived reality.	There is a risk that the small research study is overplayed. However, the methodology of feedback and seeking recommendations for action from co-researchers ameliorates some of these risks.	There were a number of suggestions that the TGT applied to women's lives in other ways such as reproductive health decisions, family planning and other. The core category of Power of Choice and the Condition of Safety apply to all aspects of women's lives in PNG.
Control over its use	Women immediately saw the applicability of this TGT and identified recommendations for future action. It was not only co-researchers, but also health workers and other leaders at the two field sites who could see potential action emerging from this grounded theory.	There are a number of limitations to the control over the use of this TGT for women in PNG. These include cultural and social, and economic constraints which mean women will most likely require support to enact recommendations.	Women co-researchers were given copies of the model developed from the TGT. It was explained they can share these findings, but there may be gender, cultural and educational barriers that prevent this from happening. There are also resource constraints for shifting the TGT from theory to action for co-researchers and me.

This TGT is a product that has *fit*, is *understandable* by those working in the area, is *general* enough to be flexible on application and provides possibilities for those who have the resources to have *control* over its use. Due to adherence to grounded theory methods, congruent with an explicit philosophical and methodological position, I have demonstrated the quality of this TGT process and the product.

8.6 Recommendations for Action

TGT aims to inform and facilitate critical social change. Consistent with this methodology, co-researchers and I identified the recommendations for action presented below. I also present additional recommendations informed by my synthesis of findings and international literature about strengthening enabling environments (Hardee, Gay et al. 2014).

During the initial interpretive focus groups, co-researchers were invited to record on the storyboards what should 'happen next'. There were consistent responses from single and married women (Figure 31), with education, awareness and training for women and men requested. One group wrote the following words on their storyboard '*General public awareness on male circumcision for health reasons (reduce STI) is good... if all skin removal is good for men's health that it will be for women'* (PAU IFG 3). There was one storyboard representation of what needs to happen next, which was different to the education/awareness theme. As seen on the bottom right hand corner of Figure 31, the next steps recommended were that all men should go for circumcision and that women should agree to it!



Figure 31 Storyboard Pictures (Multiple IFGs): What Needs to Happen Next?

Recommendations from co-researchers and health workers at NBPOL were collated and presented during a meeting with Mr Mike Jackson, NBPOL General Manager, Mrs Elizabeth Cazalet, Nursing Manager and other NBPOL managers and senior staff on Wednesday, 5 March 2014. There was support for expanding the research and enacting recommendations. In particular, arrangements were made with Ms Cazalet to invite the experienced sexual health trainer Mr Kelwyn Browne to Oro. Mr Browne was an investigator on the MC Study and is a member of the Expert Reference Group for this doctoral research. NBPOL took responsibility for the arrangements and costs of this additional training as partners of the research. Sexual health training for NBPOL and Provincial Health clinic staff took place in June 2014. Brief interventions were facilitated with 371 NBPOL employees (Figure 32). In addition, clinicians were provided with a two-day sexual health training course, with a total of 22 health workers, nurses and health extension officers attending (women n=11; men n=11). Company supervisors (n=22) also participated in sexual health training. This work has continued, with HIV nurse Mr Charles Yadup and colleagues facilitating training with all departments and estates (Cazalet 2015).



Figure 32 Brief Intervention Workshop, NBPOL June 2014

(Photo credit: Charles Yadup)

Recommendations from PAU co-researchers were presented at the PAU Research Colloquia on 28 August 2014 and to the PAU HIV Committee on the same day. In addition to the two field sites, recommendations have been presented to and discussed with National Department of Health employees, PNG National AIDS Council

Research Advisory Committee members, health workers and policymakers at various conferences and fora in Australia and PNG.

8.6.1 Workplace Training at New Britain Palm Oil Limited

> *'While some men are part of the problem, all men are part of the solution' (Flood 2011, p. 372).*

During feedback meetings at NBPOL, women talked about how difficult it was to discuss their experience of male circumcision and other penile modifications with their husbands/partners due to social and cultural taboos. Men rarely have opportunities to learn about or discuss reproduction and sexual health with a health worker. In contrast, women attend clinic appointments during child bearing years and are exposed to health knowledge in a different way. Co-researchers recommend sexual health training is made available for men at NBPOL. It was expressed that men who understood the anatomy of women and how certain penile modifications hurt women may be more considerate of their partners.

Recommendations

(i) sexual health training for men working at NBPOL as part of their workplace training activities
(ii) more sexual health training for health workers at NBPOL and in the broader Oro Province to support men and women to prevent HIV and other STIs
(iii) provide information for employees regarding male circumcision, what type of cut is protective and where men can safely access this type of cut.

Action to Date

(i) discussions with Mrs Elizabeth Cazalet, Nursing Manager NBPOL, regarding next steps for research, March 2014 and ongoing email communication, 2014–15
(ii) June 2014: Brief intervention workshops with 327 workers, a two-day workshop with 22 clinicians and a four-hour workshop with 22 supervisors

(iii) ongoing training facilitated by Mr Charles Yadup, HIV Nurse and colleagues in all departments and estates

(iv) drafted summary report to NBPOL with findings and recommendations to inform policy development and implementation: emailed Managing Director, Nursing Manager and HIV Nurse on 17 April 2015 (Appendix 10.6).

Next Steps

(i) Conduct a process and outcome evaluation of brief interventions, to prevent HIV and other STIs. Collect both quantitative data (HIV and other STI incidence) and qualitative data, adapt the methods of interventions and related workplace policy, monitor, evaluate and report findings.

(ii) Use the workplace intervention study findings to inform employers, business groups and policymakers in PNG and other PICTs of value of workplace interventions to reduce HIV and other STIs.

(iii) Publish research findings including: Workplace interventions for community health: Sexual health policy and practice (*BMC Health Research Policy and Systems*).

8.6.2 NBPOL Employees Must Stop Informal Penile Cutting of Other Employees

Women were concerned that penile cutting and other modifications, including injections and inserts, were being conducted by NBPOL employees and/or on NBPOPL property. One man had been dismissed from the employ of NBPOL, but the practices were continuing in various forms.

Recommendations

(i) Review workplace policies that support safe penile cutting.

(ii) Enact workplace policies to ensure employees are not conducting unsafe penile modifications outside of the health centres, including injections in estates *aninits palm* (underneath palms).

(iii) Conduct activities to enhance a supportive workplace culture to support this policy, for example the safe disclose of sensitive information.

(iv) Conduct more research about the injections using the *skin blo diwai* (bark of a tree) and their impact, including cancer or other physiological changes for men and damage to women's bodies (such as tearing and infection).

Action to Date

(i) Information provided to NBPOL Managers at a feedback meeting on concerns that policy is not being noted.
(ii) Sample of fluid used for injections has been provided to laboratory partners for content analysis.
(iii) Brief intervention workshops conducted (June 2014) to contribute to a workplace where sexual health is discussed in a more open and informed manner; ongoing training being provided by NBPOL Health Centre staff.

Next Steps

(i) Send summary report to NBPOL with findings and recommendations, including for policy development and implementation.
(ii) Discuss workplace policy with Nursing Manager and health workers during next visit to NBPOL.
(iii) Conduct intervention study at NBPOL, including process and outcome evaluation to develop further an understanding of what will support a healthier workforce.
(iv) Report research findings for NBPOL workplace interventions in: *PNG Medical Journal.*

8.6.3 Establish Men's Clinics: NBPOL and PAU

Co-researchers from both NBPOL and PAU identified the need for a men's health clinic that was accessible and not stigmatising. It was expressed that women often go to the clinic particularly when preparing to give birth or take their children, but men rarely go except for emergencies.

Recommendations

(i) NBPOL: Establish a minimum of one clinic per week at the Siroga Clinic that is specifically for men staffed by male health workers (employees and community members).
(ii) PAU: Establish a minimum of one clinic per week at the PAU Clinic that is specifically for men staffed by male health workers (employees and community members).

Action to Date

(i) presented this recommendation to the NBPOL Managers on 5 March 2014 for consideration
(ii) presented this recommendation to the HIV Committee at PAU on 28 August 2014 for consideration by the PAU Administration Committee (Minutes sent to Committee Chair on 12 October, 2104).

Next Steps

(i) Discuss next steps with champions for this recommendation at both field sites: Mr Charles Yadup, NBPOL and Ms Rachael Tommbe, PAU.
(ii) Visit both field sites to discuss this recommendation, resource requirements, policy implications and develop a monitoring and evaluation component with partners to the introduction to inform future action.
(iii) Support the development of a business case for this expansion of service, including resource implications and possible sources of funding.
(iv) Publish analysis of translating research findings for workplace interventions in: *BMC Health Services Research.*

8.6.4 Health Worker Training in Men's Health: NBPOL and PAU

Health workers at both NBPOL and PAU identified a need for additional training about men's health issues. Many of the health workers felt unclear about men's health, how to discuss prevention of HIV and other STIs. This was especially the case for women health workers who also wanted further training on discussing sexual health issues with men working across social and cultural barriers.

Recommendations

(i) training for health workers to address male physiology, common sexual health needs of men and sexual treatment regimens
(ii) training for both male and female health workers on how to discuss sexual health with male patients
(iii) make male health workers available as much as possible to reduce stigma and increase health-seeking behaviour of men.

Action to Date

(i) a two-day workshop conducted at NBPOL facilitated by Mr Kelwyn Browne, Sexual Health Nurse for 22 clinicians, June 2014.

Next Steps

(i) Determine outstanding men's health training needs in partnership with NBPOL and PAU in light of these findings.
(ii) Identify possible trainers and resource implications, including possible resources within and between research partner organisations (PAU teaches a degree in nursing!).
(iii) Identify possibilities for an increased component about men's health in the nursing curriculum being taught at PAU.
(iv) Publish analysis of translating research findings for workplace interventions in: *BMC International Journal of Equity in Health.*

8.6.5 Intervention Study to Reduce Harm from Informal Penile Cutting in NCD

On many occasions throughout the study, women reported harm young boys and men had experienced due to inexperienced cutters conducting male circumcision or because it was conducted outside of a health setting. It was recommended that parents and community members be made more aware of the dangers of these types of practices. There was a media release issued by the PNG Sexual Health Society in December 2011 to fulfil a recommendation from the PNG Joint Policy Forum on Male Circumcision and HIV Prevention in PNG (Vallely, MacLaren et al. 2011).

Recommendations

(i) Design, implement and evaluate an action research project to mitigate harm being done due to male circumcisions being conducted by inexperienced cutters of outside of the health system in a rural area of National Capital District (NCD) on the land that PAU occupies.

Action to Date

(i) discussed possible partnership with PAU faculty researchers and community members in the Koiari District, NCD to design, implement and evaluate a harm mitigation project for families to reduce harm from male circumcision being conducted outside of the health system
(ii) identified research funding: Internal PAU research grant funds
(iii) applied for research visa so I can continue to lead this PNG research (March 2015).

Next Steps

(i) in partnership with community members in the Koiari District, NCD and health researchers from PAU, design, implement and evaluate a harm mitigation project for families to reduce harm from male circumcision being conducted outside of the health system
(ii) workshop findings with health workers and policymakers in NCD, PNG
(iii) publish research findings including: Working with families for safe male circumcision in PNG: a community-based approach (*Culture, Health and Sexuality*).

8.6.6 Develop a Site-specific Training Package for PAU

Women who are educated or married to an educated man have greater status in PNG societies, especially rural areas. Those being educated or married to an educated person are often called upon to provide advice about reproductive and sexual health issues, and support when women are experiencing family violence or relationship breakdowns. Women requested support to respond.

Recommendations

(i) Identify the current educational and training opportunities on the PAU campus about sexual and reproductive health and negotiating relationships for women.

(ii) Review the current literature about evidence-based education and training for sexual and reproductive health relevant to PNG.

(iii) Identify with women the specific knowledge and skills they require to conduct their duties as advisers in their respective communities, taking into account relevant social, cultural and spiritual contexts.

(iv) In partnership with women, develop an experiential and participatory training package that incorporates the identified needs of the women. Ensure evidence-based approaches to education and training of sexual and reproductive health are also considered.

(v) Design and implement a monitoring and evaluation framework to document the inputs, outputs and outcomes of the training to assist in the evaluation and future delivery of such a programme.

(vi) Utilising the expertise in the PAU School of Health Sciences, confirm the accuracy of the sexual and reproductive health content before implementation.

(vii) Implement the training and other relevant action with women that will support a growth in their understanding of sexual and reproductive health and how this information could be used to support others.

Action to Date

(i) developed a research project outline (that include the above action steps)

(ii) discussed possible involvement of Master of Philosophy student and project costs with Director of Research and Postgraduate Studies, Dean and Senior Lecturer in the Faculty of Health Sciences, including me co-supervising.

Next Steps

(i) pursue and apply for funding (National AIDS Council Small Grants; PAU internal research grants; SDA Church)

(ii) identify suitable M.Phil candidate

(iii) start!

8.6.7 Church-based Training for Women Re HIV and Other STIs

> *'In the church … they have those little groups for ladies they have the women's ministries and they do sharings or they go to learn something so, you know family life stuff is taught at those meetings so it would be good places to get those messages across to the mothers. The mothers get back to their families and then transmit what they heard down to the family members.' (PAU SSI 5)*

Churches are key social units in modern PNG. They include structures that reflect the Christian and cultural understandings of gender in PNG. It was recommended that the church be used as a vehicle to educate women about male circumcision and broader sexual health, with these women then able to share the information within their families.

Recommendations

(i) Identify structure of mainline churches in PNG and identify the person holding the most relevant position. Share a summary of this research and this specific recommendation.
(ii) Using current PNG-generated knowledge and local networks, resource people in these positions to develop programmes as they see fit.

Action to Date

(i) reported this church-based recommendation to PAU Colloquia and HIV Committee
(ii) drafted a plain language document reporting the main findings and recommendations from this study, which can be distributed to leaders in these positions.

Next Steps

(i) identify champions who could take on this activity as part of their current roles
(ii) contact the Families Ministries Director at the national level for the SDA Church and share relevant information

(iii) identify inter-church fora such as the DFAT-funded Church Partnership Programs to share this recommendation and explore possible ways forward.

8.6.8 Safety for Women at NBPOL

As evidenced in the TGT reported in this thesis, women need safety to act upon their choices. Currently, safety is a rare commodity at NBPOL. Women fear walking alone or in small groups, walking from the bus stop to their home in the company estates. It is critical that researchers and health staff work with company managers and decision makers to reduce risk of sexual assault in oil palms/roads/public spaces.

Recommendations

(i) women be provided safe transport through the palms by the Company
(ii) training with men in all departments and estates to include attitudes about the company implications of men assaulting women
(iii) training with men in all departments and estates to include discussions about options for safety, including identifying what works best (for example, as reported by one co-researcher, *'Walkabout wantaem sumpla narapla, tasol walkabout wanwan em i no sef'* [walk with someone else, walking alone is not safe] (SSI NBPOL 5)
(iv) discuss legal options with management, including the role of the police in Oro Province.

Action to Date

(i) included recommendations in summary report to NBPOL with findings and recommendations to inform policy development and implementation
(ii) emailed managing director, nursing manager and HIV nurse on 17 April 2015.

Next Steps

(i) meet with managing director, health team, and health and safety officer when next in Oro to discuss possible ways forward
(ii) provide research evidence and support for future action.

The TGT methodology employed during this research means there is not only an explication of findings but also a movement into the next cycle of action, required to address the issues that have emerged. The lack of safety women reported in this study must be addressed. Flood (2011, p. 372) says that in order to 'stop the physical and sexual assault of women and girls, we must erode the cultural and collective supports for violence found among many men and boys and replace them with norms of consent, sexual respect, and gender equality'. Flood goes on to say, 'we must foster just and respectful gender relations in relationships, families, and communities' (2011, p. 372). The recommendations and actions, planned and underway, respond to this call.

8.7 The *Transformational* in this Transformational Grounded Theory

The use of the word transformational in this study is aspirational, directive and ambitious. As explained in Chapter Three, TGT is inductive and participatory, seeks to identify and redistribute power between researcher and co-researchers and contribute to positive change. Facilitating research for transformation is a risk—the future state is not predictable. The future state is determined by co-researchers, researcher and the context in which the research is facilitated. Yet it is the possibility of change to challenge inequity and redistribute power for social good that drives this approach. So what has changed because of this research?

Co-researchers reported a number of changes in their personal lives including a mandate and increased confidence to discuss with men taboo topics they would never have broached prior to the research. As reported in the findings chapter, one co-researcher explained that because of her intended participation in the research, she approached her brothers who shared information about male circumcision, which was unusual in her culture. Other researchers also had conversations that they would not have had if not for the research, including discussions with their partners about plans to circumcise their children. Women reported that the information about the protective effects of medical male circumcision discussed during interpretive focus groups gave them more confidence to share HIV prevention information with others. For some, this increased confidence gave them greater status in their community.

For the organisations hosting the research, there have also been changes. For NBPOL it was determined that health promotion activities, including sexual health

This is an Accepted Manuscript of an article published by Taylor & Francis in the Journal of Poetry Therapy on 28 September 2015, available online: http://dx.doi.org/10.1080/08893675.2015.1051293.

training for over 350 employees, should be conducted. There is a further research agenda now being planned to evaluate the impact of these interventions and design the next phase of health promotion activities in this company.[20]

As a researcher, I also have changed. I have expanded my understanding of the research field and led and/or contributed to a range of publications (Appendices 10.7, 10.8, 10.9, 10.10). Critical reflection and poetry written during the PhD evidence the shift in the way I understand the topic and how I, as an actor in the research process, have had a transformational experience.

8.8 Critical Reflexivity: *Becoming* a Researcher

The article below has been accepted to appear in a similar form in the Journal of Poetry Therapy, Taylor and Francis, and is formatted for this journal.

Redman-MacLaren, M. (2015). Becoming a researcher: An auto-ethnographic account of a doctoral researcher re-presented in poetry. *Journal of Poetry Therapy* (in press).

8.8.1 Abstract

Poetry creates new ways of knowing and is increasingly being used in qualitative research. Although few researcher-poets integrate poetry as the primary method for their inquiry, many researchers use poetry to synthesise and re-present data. In this paper, I establish the importance of reflexivity and use poetry to re-present my experience of becoming a researcher. Drawing upon my experience as a doctoral researcher, I explore my fear of 'non-production', my relationship with the PhD, transitions and relationships following fieldwork in PNG and my fear of being an academic imposter. As a researcher using the art of poetry, I have expanded my understanding of research and the researcher role.

Keywords

poetry, doctoral, PhD, research, reflexivity, researcher-poet

[20] An Early Career Fellowship application was submitted to the Australian National Health and Medical Research Council, 1 April 2015.

8.8.2 Introduction

Poetry provides a short distance between word and heart, which may be of little consequence to an academic ensconced in the scientific tradition, but of enormous comfort to those of us who think with our heads *and* our hearts. Poetry creates spaces that enable new ways of knowing and becoming in the world (Leggo, 2008). In this search for knowing, qualitative researchers more openly inhabit spaces between the arts and social science, including the use of poetry, as an avenue for expressing research methods and findings (Denzin, 1997; Furman, 2006; Richardson, 2011). Poetry, as a form of artistic expression of qualitative research, can be used to re-narrate data (Clark, 2014), re-present and concentrate data (Carr, 2003; Prendergast, 2006) and better address research questions (Leavy, 2009). Although few researcher-poets integrate poetry as the method for their inquiry, many researchers use poetry to synthesise, concentrate and re-present data generated during research (Lahman & Richard, 2014; Richardson, 2011) and to 'seek to enter lived experiences with a creative openness to people and experiences and understandings' (Leggo, 2008:7). Auto-ethnographic poetry is a different type of poetry that reveals some experience of the researcher that would not be ordinarily called data (Lahman et al., 2010). This paper presents auto-ethnographic poetry reflecting my experience as a doctoral researcher working alongside with women in neighbouring PNG. Through these poems, I share my experience of becoming a researcher through the research process.

Am I a Poet? Establishing Voice Through Research Poetry

But am I a poet? While writing research poetry, I have examined characteristics of good quality poetry (Faulkner, 2007; Lafrenière & Cox, 2013), while understanding that *good enough* poetry allows me freedom to express my experience of becoming a researcher (Lahman & Richard, 2014). In creating my poetry, I sought advice from people with experience in writing and critiquing poetry, I undertook courses in poetry and I performed and published poetry (Redman-MacLaren, 2014a; Redman-MacLaren, 2014b). By taking these explicit steps, I seek to be transparent in my art, as I am in my science. Arts-based approaches need to make explicit the artistic choice-making process used to form the art (Chenail, 2008). Transparency about choice of method and quality of research poetry are essential for research-poets (Faulkner, 2007). The gift of research

poetry is the potential to establish and maintain research quality while introducing 'cracks and alternative perspectives' (Fitzpatrick, 2012:10).

The Role of Reflexivity in Auto-ethnographic Research Poetry

Reflexivity includes an individual's response to the immediate context, an individual's self-critical approach that questions how knowledge is generated and the role of emotion (D'Cruz et al., 2007). Reflexivity enables critical and constant expansion of understanding about research processes and the role of the researcher. Poetry as a link between head to heart is an ideal tool for synthesised, reflexive research practice. In the poems that follow, I share my reflexive experience of becoming a researcher during doctoral studies. Specifically, I explore and re-present the shift required in my doing-ego, my fear of 'non-production', my relationship with the PhD as an entity, transitions between university life and messy joy of fieldwork, including the way I connect with research colleagues in PNG. Finally, I explore my sense of being an imposter, familiar to many researchers and academics (Kearns & Gardiner, 2009).

Role Shift to Researcher

So much for me helping

For whom do I write,
is this just for me?
Who will benefit—
will one more be
free from their concerns?
Will the world be improved
as George Eliot (she) did say?
Why else do we live
if not to make
the world a bit better, for each other?

I have lost my heart
under some pile of paper.
It is still beating (I believe),
a life force remains
but is smothered,
choking under bleached pulp,
its voice has changed,
sounds different, or maybe
does not sound at all?
Anyone?……

So much for me helping.

Breathing my PhD

This pursuit is an entangled affair,
this big picture girl and her plans,
is struggling to wallow in the
swampy lowlands
of text,
deep text,
dark text
engulfing, suffocating text.
Intricate, beautiful, terrifyingly
detailed text.

I wish to envelop
myself in a shroud,
and fall deep
into the intrigue of the spaces.
The in-betweens
the hidden text,
that will never
occupy the page.

Back in the real world
I squeeze in the next breath
around letters,
words, grammar, text.
Just read,
one breath at a time
finish (breathe)
the (breathe)
text.

Publish or perish

Publish or perish
it's the latter I fear
as my stomach warbles a dirge.
I must write or I'll fail,
'Manuscript for sale'
as is, of course.

Clever if you have many,
woe if you have none,
it is heavy, hard work.
Pushing, shoving,
sweating, panting,
tapping, typing and yet…
nothing, *nada*, *rien!*

Deadline looms
His insistence booms
large and harsh
he makes it feel dark,
it's cold, there's a wind
Its whistle is grim,
I slowly lose grip.

Publish or perish?

Post field trip blues*

I'm back home
to my loved ones
my cat, my barista.
Clean nails, quiet streets
water runs, phone rings
but the night is empty.
Little family, couple or person
alone.
Each in their big house
TV on, internet flashing
one, by one, by one,
all in a row.

I breathe you in chaos
as the field returns,
swirling, swinging, memory to memory
busyness to busyness
images whoosh, rush,
scream on in
red teeth spitting, bus brakes screeching,
women gardening, men gossiping,
bright colours mismatched
against the backdrop of blue.
Pikininis play, a Milo can
clanging on the rocky, potholed street.
Women walk hand-in-hand,
The drains are redug, the path eclipsed by
mud, now between my toes.

As evening falls, harmonic singing begins.
Food is consumed, laughter is shared
a fight is heard down the street.
The night settles, guitar softly strummed
Fragrant frangipani fog.

How will I write this?
How is this new?
Defensible—academic it must be.
I want to return for more,
my soul and blank page
unsettled.
*(Redman-MacLaren, 2012)

I and we.

To the front please
I and *We*
challenging *I* has
focused *We*.

I is secure
being *I*
but *I* am *I*
in *We*.

Together *W*e struggled
created, resisted
changed, learnt and
moved.
The *I* cannot be *I* alone
but *I* is *I*
in *We*.

I contributes, has skills and strengths
which she brings to the clever *We.*
The strong *I* parts
are stronger when
alongside the *We*.

So what is the push,
the hurry, the stretching,
the bloody separation?
Commodification, individualisation
product of othering *We?*
I resists,
her muscles flex
her tears form, as power is wrenched
from one *We* to another,
less power to more
heartache, *I* will not play.
I remains *I* in *We*
there is room for us all,
and for this, *I* give thanks.
Imposter

The reference list

(for Dr Katherine Lepani)

I hold in my hand a list of text,
cradling years of intellectual sweat.
Heart and soul, sacrifice untold,
From others, a precious gift.
The list enfolds giants
contributors who, in their generous inquiring
seek to change, to shape, to find ways
to build upon old, to start anew,
or at least shift understanding.
They create space and fills gaps,
their lines denote hope,
their content illuminates.

Am I to insert myself here?
On the spiral to nowhere I spin.
Claims and challenges resound,
peals from doubt bells ring.
The list held in hands with
years sketched on tale-telling skin.
Not old but not young,
these hands have held sons,
held mothers, held suffering,
my mind retraces…
then stops. Still. Holding the list,
I pull myself up, I stand up straight.
Well…
I bring myself, I bring love,
a keen mind and some fun.
Justice, compassion, perspective, some hope,
this is where I must step in.
I offer, commit, and prepare myself,
to join the List.

Here I am, *be-coming* a researcher.

8.8.3 References (formatted for journal)

Carr, J. M. (2003). Poetic expressions of vigilance. *Qualitative Health Research, 13*(9), 1324–1331. doi:10.1177/1049732303254018

Chenail, R. J. (2008). 'But is it research?': A review of Patricia Leavy's method meets art: Arts-based research practice. *The Weekly Qualitative Report, 1*(1), 7–12.

Clark, J. L. (2014). Poetic renarration of disenfranchised grief in relation to client suicide. *Qualitative Inquiry, 20*(3), 253–254. doi:10.1177/1077800413489535

D'Cruz, H., Gillingham, P., & Melendez, S. (2007). Reflexivity, its meanings and relevance for social work: A critical review of the literature. *British Journal of Social Work, 37*(1), 73–90. doi:10.1093/bjsw/bcl001

Denzin, N. K. (1997). *Interpretive ethnography : ethnographic practices for the 21st century*. Thousand Oaks: Sage Publications, Inc.

Faulkner, S. L. (2007). Concern with craft: Using Ars Poetica as criteria for reading research poetry. *Qualitative Inquiry, 13*(2), 218–234. doi:10.1177/1077800406295636

Fitzpatrick, K. (2012). 'That's how the light gets in': Poetry, self, and representation in ethnographic research. *Cultural Studies ↔ Critical Methodologies, 12*(1), 8–14. doi:10.1177/1532708611430479

Furman, R. (2006). Poetic forms and structures in qualitative health research. *Qualitative Health Research, 16*(4), 560–566. doi:10.1177/1049732306286819

Kearns, H., & Gardiner, M. (2009). Defeating self-sabotage: getting your thesis finished. Thinkwell Publications.

Lafrenière, D., & Cox, S. M. (2013). 'If you can call it a poem': toward a framework for the assessment of arts-based works. *Qualitative Research, 13*(3), 318–336. doi:10.1177/1468794112446104

Lahman, M. K. E., Geist, M. R., Rodriguez, K. L., Graglia, P. E., Richard, V. M., & Schendel, R. K. (2010). Poking around poetically: Research, poetry, and

trustworthiness. *Qualitative Inquiry, 16*(1), 39–48. doi:10.1177/1077800409350061

Lahman, M. K. E., & Richard, V. M. (2014). Appropriated poetry: Archival poetry in research. *Qualitative Inquiry, 20*(3), 344–355. doi:10.1177/1077800413489272

Leavy, P. (2009). *Method Meets Art: Arts-based Research Practice*. New York: Guilford Press.

Leggo, C. (2008). Astonishing silence: Knowing in poetry. In J. G. Knowles & A. L. Cole (Eds.), *Handbook of the ARTS in qualitative research* (pp. 165–174). Thousand Oaks: Sage Publications, Inc.

Prendergast, M. (2006). Found poetry as literature review: Research poems on audience and performance. *Qualitative Inquiry, 12*(2), 369–388. doi:10.1177/1077800405284601

Redman-MacLaren, M. L. (2014a). Honouring all of you. In J. Boulet (Ed.), *New community 12*(1), 22. Melbourne: Borderlands Cooperative.

Redman-MacLaren, M. L. (2014b). Tension. In J. Mills & M. Birks (Eds.), *Qualitative methodology: A practical guide* (p. 4). London: Sage Publications, Inc.

Redman-MacLaren, M. L. (2012, 21 November, 2012). The Post Fieldwork Blues. Retrieved from http://thesiswhisperer.com/2012/11/21/the-post-fieldwork-blues/

Richardson, L. (2011). Poetic representations. In J. Flood, D. Lapp & S. Brice Heath (Eds.), *Handbook of research on teaching literacy through the communicative and visual arts* (pp. 232–238), Taylor & Francis e-Library.

8.9 Conclusion

I invite you to consider these words by Jo Chandler, journalist and oft-time visitor to PNG.

> *'Narratives fall short when they depict PNG women as merely helpless and scared. They are also tough, funny, resourceful, cunning, resilient.' (Chandler 2014)*

Women in this study have shown they can still find ways to exercise their power of choice even when men are not enabling, considerate or supportive. It is these tough, funny, resourceful, cunning and resilient women to whom I dedicate this thesis and our ongoing attempts to act for change. It is these women I thank for enabling an ongoing transformation, including my own.

9 References

Agence France-Presse 2012, 'MSF presses PNG on rampant sexual violence', retrieved 16 October 2014, from http://reliefweb.int/report/papua-new-guinea/msf-presses-png-rampant-sexual-violence.

AIDS Vaccine Advocay Coalition 2008, *Meeting report: Civil society report back on dialogue on male circumcision: Implications for women,* AVAC: Global Advocacy for HIV Prevention, Mombassa.

Amnesty International 2006, *Papua New Guinea: Violence against women: never inevitable, never acceptable!*

Anderson, J 2012, 'Life in all its fullness': Translating gender in the Papua New Guinea Church Partnership Program, *SSGM Discussion Paper*, Australian National University.

Anderson, J 2014, "Struggling with 'this gender relations thing' in the Papua New Guinea Church Partnership Program", *Gender, Place & Culture*, pp. 1–17.

Andersson, KM, Owens, DK & Paltiel, AD 2010, 'Scaling up circumcision programs in Southern Africa: The potential impact of gender disparities and changes in condom use gehaviors on heterosexual HIV transmission', *AIDS Behav*, vol. 15, no. 5, pp. 938–948.

Andersson, N & Cockcroft, A 2011, 'Male circumcision, attitudes to HIV prevention and HIV status: A cross-sectional study in Botswana, Namibia and Swaziland', *AIDS Care* vol. 24. no. 3, pp. 301–309.

Api, UK 2009, 'The role of the teacher in addressing student occult sub-cultures in a Papua New Guinea secondary school: A case study', Master of Arts thesis, Pacific Adventist University.

Argyris, C & Schön, D 1974, *Theory in practice. Increasing professional effectiveness*. Jossey-Bass, San Francisco.

AusAID 2011, *About Papua New Guinea*, retrieved 29 May 2011, from http://www.ausaid.gov.au/country/png/png_intro.cfm.

Australiasian Society for HIV Medicine 2014, *ASHM Antiretroviral Guidelines*, retrieved 28 September 2014, from http://arv.ashm.org.au/.

Auvert B. (2014). Male circumcision: association with HIV prevalence, knowledge and attitudes among women: findings from the ANRS 12126 study. 21st Conference on Retroviruses and Opportunistic Infections (CROI). Boston, USA.

Auvert, B, Taljaard, D, Lagarde, E, Sobngwi-Tambekou, J, Sitta, R & Puren, A 2005, 'Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: The ANRS 1265 Trial', *PLoS Med*, vol. 2, no. 11, e298.

AVERT 2014, *Global Epidemic*, retrieved 20 September 2014, from http://www.avert.org/worldwide-hiv-aids-statistics.htm.

Baeten, JM, Celum, C & Coates, TJ 2009, 'Male circumcision and HIV risks and benefits for women', *Lancet,* vol. 374(9685), pp. 182–184.

Baeten, JM, Celum, C & Coates, TJ 2009, 'Male circumcision and risk of HIV in women—Authors' reply', *The Lancet*, vol. 374(9700), pp. 1498–1498.

Baeten, JM, Donnell, D, Kapiga, SH, Ronald, A, John-Stewart, G, Inambao, M, Manongi, R, Vwalika, B & Celum, C 2010, 'Male circumcision and risk of male-to-female HIV-1 transmission: A multinational prospective study in African HIV-1-serodiscordant couples', *AIDS*, vol. 24, no. 5, pp. 737–744.

Baeten, JM, Donnell, D, Ndase, P, Mugo, NR, Campbell, JD, Wangisi, J, Tappero, JW, Bukusi, EA, Cohen, CR, Katabira, E, Ronald, A, Tumwesigye, E, Were, E, Fife, KH, Kiarie, J, Farquhar, C, John-Stewart, G, Kakia, A, Odoyo, J, Mucunguzi, A, Nakku-Joloba, E, Twesigye, R, Ngure, K, Apaka, C, Tamooh, H, Gabona, F, Mujugira, A, Panteleeff, D, Thomas, KK, Kidoguchi, L, Krows, M, Revall, J, Morrison, S, Haugen, H, Emmanuel-Ogier, M, Ondrejcek, L, Coombs, RW, Frenkel, L, Hendrix, C, Bumpus, NN, Bangsberg, D, Haberer, JE, Stevens, WS, Lingappa, JR & Celum, C 2012, 'Antiretroviral Prophylaxis for HIV Prevention

in Heterosexual Men and Women', *New England Journal of Medicine*, vol. 367, no. 5, pp. 399–410.

Bailey, RC, Moses, S, Parker, CB, Agot, K, Maclean, I, Krieger, JN, Williams, CF, Campbell, RT & Ndinya-Achola, JO 2007, 'Male circumcision for HIV prevention in young men in Kisumu, Kenya: A randomised controlled trial', *Lancet,* vol. 369(9562), pp. 643–656.

Benoit, C, Shumka, L, Vallance, K, Hallgrimsdottir, H, Phillips, R, Kobayashi, K, Hankivsky, O, Reid, C & Brief, E 2009, 'Explaining the health gap experienced by girls and women in Canada: A social determinants of health perspective', *Sociological Research Online,* vol. 14, no. 5, p. 9.

Berer, M 2008, 'Male circumcision for HIV prevention: What about protecting men's partners?', *Reprod Health Matters*, vol. 16, no. 32, pp. 171–175.

Berer, M 2009, 'Male circumcision and risk of HIV in women', *Lancet*, vol. 374(9700), pp. 1497–1498; author reply, 1498.

Berry, S & McCallum, L 2013a, *Tingim Laip Social Mapping Report: Highlands Highway*. Port Moresby, Tingim Laip, Papua New Guinea**:** 64.

Berry, S. and L. McCallum (2013b). Tingim Laip Social Mapping Report: seasonal workers and communities around oil palm plantations. Port Moresby, Tingim Laip, Papua New Guinea.

Birks, M, Chapman, Y & Francis, K 2008, 'Memoing in qualitative research: Probing data and processes', *Journal of Research in Nursing*, vol. 13, no. 1, pp. 68–75.

Birks, M & Mills, J 2011, *Grounded theory: A practical guide*. Sage Publications, Inc, London.

Borrey, A2000, 'Sexual violence in perspective: The case of Papua New Guinea', in S Dinnen & A Ley (eds), *Reflections of violence in Melanesia*. Hawkins Press/Asia Pacific Press, Annandale, pp. 105–118.

Bourke B 2014, 'Positionality: Reflecting on the research process', *The Qualitative Report*, vol. 19, no. 18, pp. 1–9.

Bowen, GA 2009, 'Supporting a grounded theory with an audit trail: An illustration', *International Journal of Social Research Methodology*, vol. 12, no. 4, pp. 305–316.

Brown, LH 2012, 'The energy and environmental burden of Australian ambulance services', Doctor of Philosophy, James Cook University.

Browne, K 2014, *Rain falling on the taro leaf*. M. Redman-MacLaren, Cairns.

Buchanan-Aruwafu, H 2007, *An integrated picture: HIV risk and vulnerability in the Pacific*, Noumea, Secretariat of the Pacific Community.

Buchanan, H, Frank, R, Couch, M & Amos, A 2012, 'The re/making of men and penile modification', in L Manderson (ed), *Technologies of Sexuality, Identity and Sexual Health*, Hoboken, Taylor and Francis, pp. 73–94.

Cahill, C, Sultana, F & Pain, R 2007, 'Participatory ethics: Politics, practices, institutions', *ACME: An International E-Journal for Critical Geographies*, pp. 304–318.

Caldwell, J & Isaac-Toua, G 2002, 'AIDS in Papua New Guinea: Situation in the Pacific', *Journal of Health, Population and Nutrition*, vol. 20, no. 2, pp. 104–111.

Cazalet, E 2015, *HIV training at NBPOL*. M. Redman-MacLaren, James Cook University.

Central Intelligence Agency 2011, *The world factbook: Papua New Guinea*, retrieved 29 May 2011, from https://www.cia.gov/library/publications/the-world-factbook/geos/pp.html.

Chandler, J 2014, *Violence against women in PNG: How men are getting away with murder*, Canberra, Lowy Institute, retrieved 22 October 2014, from http://www.lowyinterpreter.org/post/2014/08/29/Violence-against-women-in-PNG.aspx?COLLCC=3326960001&

Charlton, J 1998, *Nothing about us without us: Disability oppression and empowerment*, University of California Press, Berkeley and Los Angeles.

Charmaz, K 2000, 'Grounded theory: Objectivist and constructivist methods', in NK Denzin & YS Lincoln, *Handbook of Qualitative Research*, Sage Publications, Thousand Oaks, pp. 509–535.

Charmaz, K 2012, 'The power and potential of grounded theory', *Medical Sociology Online,* vol. 6, no. 3.

Charmaz, K 2014, *Constructing grounded theory*, Sage Publications Ltd, London.

ChildFund Australia 2013, *Stop violence against women and children in Papua New Guinea*. Surry Hills, ChildFund Australia.

Chilisa, B 2012, *Indigenous research methods*, Sage Publications Inc, Thousand Oaks.

Clarke, AE 2005, *Situational analysis: Grounded theory after the postmodern turn*. Sage Publications Inc, Thousand Oaks.

Corbin, J & Strauss, A 2008, *Basics of qualitative research*. Sage Publications Inc, Thousand Oaks.

Corneli, AL, McKenna, K, Headley, J, Ahmed, K, Odhiambo, J, Skhosana, J, Wang, M, Agot, K & FE-PS Group 2014, 'A descriptive analysis of perceptions of HIV risk and worry about acquiring HIV among FEM-PrEP participants who seroconverted in Bondo, Kenya, and Pretoria, South Africa', *Journal of International AIDS Society*, vol. 17, no. 3, Supp. 2, 19152.

Crotty, M 2003, *The foundations of social research: Meaning and perspective in the research*. Sage Publications Ltd, London.

Curran, K 2014, *Women's perceptions of voluntary medical male circumcision*, PEPFAR Webinar: Women and Voluntary Medical Male Circumcision, retrieved 14 November 2013 from https://usaidassist.org/content/pepfar-webinar-women-and-voluntary-medical-male-circumcision, USAID.

Czymoniewicz-Klippel, MT, Brijnath, B & Crockett, B 2010, 'Ethics and the promotion of inclusiveness within qualitative research: Case examples from Asia and the Pacific', *Qualitative Inquiry*, vol. 16, no. 5, pp. 332–341.

D'Cruz, H, Gillingham, P & Melendez, S 2007, 'Reflexivity, its meanings and relevance for social work: A critical review of the literature', *British Journal of Social Work*, vol. 37, no. 1, pp. 73–90.

Dahlgren, G & Whitehead, M 1992, *Policies and strategies to promote equity in health*, World Health Organization, Copenhagen.

Davidson, KW, Trudeau, KJ, van Roosmalen, E, Stewart, M & Kirkland, S 2006, 'Gender as a health determinant and implications for health education', *Health Education and Behavior*, vol. 33, no. 6, pp. 731–743: discussion pp. 744–736.

De Maio, F 2010, 'From Engels and Virchow to Wolkinson: An analysis of research on health inequities', Radical Statistics, vol. 101, pp. 3–9.

Denborough, D, Koolmatrie, C, Mununggirritj, D, Marika D, Dhurrkay W & Yunupingu, M 2006, 'Linking stories and initiatives: A narrative approach to working with the skills and knowledge of communities', *International Journal of Narrative Therapy & Community Work,* vol. 2, pp. 19–51.

Dick, B, Stringer, E & Huxham, C 2009, 'Theory in action research', *Action Research*, vol. 7, no. 1, pp. 5–12.

Dunkle, KL & Decker, MR 2013, 'Gender-based violence and HIV: Reviewing the evidence for links and causal pathways in the general population and high-risk groups', *American Journal of Reproductive Immunology*, vol. 69, pp. 20–26.

Dunne, C 2010, 'The place of the literature review in grounded theory research', *International Journal of Social Research Methodology,* vol. 14, no. 2, pp. 111–124.

England, KVL 1994, 'Getting personal: Reflexivity, positionality, and feminist research∗', *The Professional Geographer,* vol. 46, no. 1, pp. 80–89.

Eves, R 2007, *Exploring the Role of Men and Masculinities in Papua New Guinea in the 21st century: How to address violence in ways that generate empowerment for both men and women*, Caritas Australia.

Fanon, F 1963, *The wretched of the Earth*, Grove Press, New York City.

Fanon, F 1967, *Black skin, white masks: The experiences of a black man in a white world*. New York City, Grove Press.

Feuer, C 2010, 'A cautious nod to the cut...Women weigh in on medical male circumcision', *ALQ*, July 2010, pp. 63–38.

Finlay, L 2008, 'The reflexive journey: Mapping multiple routes' in L Finlay & B Gough (eds), *Reflexivity: A practical guide for researchers in health and social sciences*. Blackwell Publishing Ltd, Oxford, pp. 3–20.

Flood, M 2011, 'Involving men in efforts to end violence against women', *Men and Masculinities,* vol. 14, no. 3, pp. 358–377.

Fook, J 1999, 'Reflexivity as method', *Health Sociology Review*, vol. 9, no. 1, pp. 11–20.

Fook, J 2002, *Social work: Critical theory and practice*, Sage, London.

Foucault, M 2000, *Power: Essential works of Foucault, 1954–1984*. The New Press, New York.

Freire, P 1974, *Education for critical consciousness*, Continuum, London.

Frèire, P 1994, *Pedagogy of the oppressed*, Continuum, New York.

Freire, P & Frèire, AMA 1994, *Pedagogy of hope: Reliving pedagogy of the oppressed*. Continuum, London.

Fulu, E, Warner, X, Miedema, S, Jewkes, R, Roselli, T & Lang, J 2013, *Why do some men use violence against women and how can we prevent it? Quantitative findings from the UN multi-country study on men and violence in Asia and the Pacific Bangkok*, UN Development Programme; UN Population Fund; UN Women; United Nations Volunteers.

Gay, J, Croce-Galis M & Hardee, K 2012, *What works for women and girls: Evidence for HIV/AIDS interventions*, 2nd edition, retrieved 29 September 2014, from www.whatworksforwomen.org.

Ghanotakis, E, Peacock, D & Wilcher, R 2012, 'The importance of addressing gender inequality in efforts to end vertical transmission of HIV', *Journal of the International AIDS Society*, vol. 15, no. 4, pp. 1–10.

Gibbs, A, Jewkes, R, Sikweyiya, Y & Willan, S 2014, 'Reconstructing masculinity? A qualitative evaluation of the Stepping Stones and Creating Futures interventions in urban informal settlements in South Africa', *Culture Health and Sexuality,* vol. 17, no. 2, pp. 208–222.

Gibbs, P 2012, 'Engendered violence and witch-killing in Simbu', in M Jolly, C Stewart & C Brewer (eds), *Engendering violence in Papua New Guinea*, Australian National University, Canberra, pp. 107–135.

Glaser, BG 1978, *Theoretical sensitivity: Advances in the methodology of grounded theory*. Sociology Press, Mill Valley, California.

Glaser, BG 1992, *Basics of grounded theory analysis*, The Sociology Press, Mill Valley.

Glaser, BG 2007, 'All is data', *Grounded Theory Review*, vol. 6, no. 2.

Glaser, BG & Strauss, A 1967, *The discovery of grounded theory: Strategies for qualitative research*, Aldine Transaction, New Brunswick.

Gray, RH 2009, 'Infectious disease: male circumcision for preventing HPV infection', *Nat Rev Urol*, vol. 6, no. 6, pp. 298–299.

Gray, RH, Kigozi, G, Serwadda, D, Makumbi, F, Watya, S, Nalugoda, F, Kiwanuka, N, Moulton, LH, Chaudhary, MA, Chen, MZ, Sewankambo, NK, Wabwire-Mangen, F, Bacon, MC, Williams, CF, Opendi, P, Reynolds, SJ, Laeyendecker, O, Quinn, TC & Wawer, MJ 2007, 'Male circumcision for HIV prevention in men in Rakai, Uganda: A randomised trial', *Lancet*, vol. 369(9562), pp. 657–666.

Gray, RT, Vallely, A, Wilson, DP, Kaldor, J, MacLaren, D, Kelly-Hanku, A, Siba, P, Murray, JM 2014, 'Impact of male circumcision on the HIV epidemic in Papua New Guinea: A country with extensive foreskin cutting practices', *PLoS One*, vol. 9, no. 8, e104531.

Green, J 2014, 'What kind of research does public health need?', *Critical Public Health*, vol. 24, no. 3, pp. 249–252.

Hallett, TB, Alsallaq, RA, Baeten, JM, Weiss, H, Celum, C, Gray, R & Abu-Raddad, L 2011, 'Will circumcision provide even more protection from HIV to women and men? New estimates of the population impact of circumcision interventions', *Sexually Transmitted Infections*, vol. 87, pp. 88–93.

Hallett, TB, Singh, K, Smith, JA, White, RG, Abu-Raddad, LJ & Garnett, GP 2008, 'Understanding the impact of male circumcision interventions on the spread of HIV in Southern Africa', *PLoS ONE*, vol. 3, no. 5, e2212.

Hammar, LJ 2010, *Sin, sex and stigma: A Pacific response to HIV and AIDS*, Sean Kingston Publishing, Wantage.

Hammar, LJ 2010, 'The women in traffic: Tu kina bus in town and country', in *Sin, sex and stigma: A Pacific response to HIV and AIDS*, Sean Kingston Publishing, Wantage, pp. 60–98.

Hankins, C 2007, 'Male circumcision: Implications for women as sexual partners and parents', *Reproductive Health Matters,* vol. 15, no. 29, pp. 62–67.

Hardee, K, Gay, J, Croce-Galis, M & Peltz, A 2014, 'Strengthening the enabling environment for women and girls: What is the evidence in social and structural approaches in the HIV response?', *Journal of the International AIDS Society*, vol. 17(18619).

Harding, S 2002, 'Rethinking standpoint epistemology: What is "Strong Objectivity"?', in KB Wray (ed), *Knowledge and inquiry: Readings in epistemology*, Broadview Press, Toronto, pp. 352–284.

Hayley, N 2010, 'Witchcraft, torture and HIV', in V Luker & S Dinnen (eds), *Civic Insecurity: Law, Order and HIV in Papua New Guinea*, ePress ANU, Canberra, pp. 219–236.

Haywood, C & Mac an Ghaill, M 2003, *Men And masculinities: Theory, research and social practice*, Open Univerisity Press, McGraw-Hill Education, Buckingham.

Herman-Roloff, A, Bailey, RC & Agot, K 2012, 'Factors associated with the early resumption of sexual activity following medical male circumcision in Nyanza Province, Kenya', *AIDS and Behavior*, vol. 16, no. 5, pp. 11–731181.

Hill, PS, Tynan, A, Law, G, Millan, J, Browne, K, Sauk, J, Kupul, M, Kelly, A, Siba, P, Kaldor, J & Vallely, A 2012, 'A typology of penile cutting in Papua New Guinea: Results of a modified delphi study among sexual health clinicians', *AIDS Care*, vol. 24, no. 1, pp. 1–10.

Hoare, K, Mill, J & Francis, K 2012, 'Sifting, sorting and saturating data in a grounded theory study of information use by practice nurses: A worked example', *International Journal of Nursing Practice,* no. 18, pp. 82–588.

Hogben, M & Liddon, N 2008, 'Disinhibition and risk compensation: Scope, definitions, and perspective', *Sexually Transmitted Diseases*, vol. 35, no. 12, pp. 1009–1010.

Jarrett, P, Kliner, M & Walley, J 2014, 'Early infant male circumcision for human immunodeficiency virus prevention: knowledge and attitudes of women attending a rural hospital in Swaziland, Southern Africa', *SAHARA-J: Journal of Social Aspects of HIV/AIDS,* vol. 11, no. 1, pp. 61–66.

Jayathunge, PH, McBride, WJ, MacLaren, D, Kaldor, J, Vallely, A & Turville, S 2014, 'Male circumcision and HIV transmission: What do we know?', *The Open AIDS Journal*, vol. 8, pp. 31–44.

Jenkins, C & Alpers, M 1996, 'Urbanization, youth and sexuality: Insights for an AIDS campaign for youth in Papua New Guinea', *Papua New Guinea Medical Journal*, vol. 39, pp. 248–251.

Jenkins, C & Buchanan-Aruwafu, H 2007, *Cultures and contexts matter: Understanding and preventing HIV*, Asian Development Bank, Manila.

Jenkins, C & Buchanan-Aruwafu, H 2007, *HIV/AIDS, culture and sexuality in PNG,* Asian Development Bank, Manila.

Jolly, S 2010, *Poverty and sexuality: What are the connections? Overview and literature review, sexuality and development programme*, Institute of Development Studies, Swedish international Development Cooperation Agency (SIDA).

Kacanek, D, Bostrom, A, Montgomery, ET, Ramjee, G, de Bruyn, G, Blanchard, K, Rock, A, Mtetwa, S, van der Straten, A & Team, M 2013, 'Intimate partner violence and condom and diaphragm nonadherence among women in an HIV prevention trial in Southern Africa', *Journal of Acquired Immune Deficiency Syndromes*, vol. 64, no. 4, pp. 400–408.

Kagee, A, Remien, RH, Berkman, A, Hoffman, S, Campos, L & Swartz, L 2010, 'Structural barriers to ART adherence in Southern Africa: Challenges and potential ways forward', *Global Public Health*, vol. 6, no. 1, pp. 83–97.

Kaldor, JM & Wilson, DP 2010, 'How low can you go: the impact of a modestly effective HIV vaccine compared with male circumcision', *AIDS*, vol. 24, no. 16, pp. 2573–2578.

Kaufert, PA 1996, *Gender as a determinant of health*, Canada-USA Forum on Women's Health,, Health Canada, Women's Health Bureau, Ottowa.

Kearns, H 2011, *Presenting your research with confidence: The step-by-step to powerful presentations,* ThinkWell, Australia.

Kelly, A, Kupul, M, Aeno, H, Neo, J, Naketrumb, R, Fitzgerald, L, Hill, PS, Kaldor, JM, Siba, P & Vallely, A 2012, 'More than just a cut: A qualitative study of penile practices and their relationship to masculinity, sexuality and contagion and their implications for HIV prevention in Papua New Guinea', *BMC International Health and Human Rights*, vol. 12, no. 1, p. 10.

Kelly, A, Kupul, M, Aeno, H, Shih, P, Naketrumb, R, Neo, J, Fitzgerald, L, Kaldor, JM, Siba, PM & Vallely, A 2013, 'Why women object to male circumcision to prevent HIV in a moderate-prevalence setting', *Qualitative Health Research*, vol. 23, no. 2, pp. 180–193.

Kelly, A, Kupul, M, Fitzgerald, L, Aeno, H, Neo, J, Naketrumb, R, Siba, P, Kaldor J & Vallely, A 2012, '"Now we are in a different time: Various bad diseases have come", Understanding men's acceptability of male circumcision for HIV prevention in a moderate prevalence setting,' *BMC Public Health*, vol. 12, no. 1, 67.

Kelly, A, Kupul, M, Man, WYN, Nosi, S, Lote, N, Rawstorne, P, Halim, G, Ryan, C & Worth, H. 2011, *Askim na save (Ask and understand): People who sell and/or exchange sex in Port Moresby. Key Quantitative Findings*. Goroka, Papua New Guinea Institute of Medical Research and the University of New South Wales.

Kenny, M & Fourie, R 2014, 'Tracing the history of grounded theory methodology: From formation to fragmentation', *The Qualitative Report*, vol. 19, no. 103, pp. 1–9.

Kidu, C 2014, *Dame Carol Kidu on why things are getting tougher for PNG's women*, Betteridge, A, devpolicy.org, Development Policy Centre, ANU.

Kigozi, G, Watya, S, Polis, CB, Buwembo, D, Kiggundu, V, Wawer, MJ, Serwadda, D, Nalugoda, F, Kiwanuka, N, Bacon, MC, Ssempijja, V, Makumbi, F & Gray, RH 2008, 'The effect of male circumcision on sexual satisfaction and function, results from a randomized trial of male circumcision for human immunodeficiency virus prevention, Rakai, Uganda', *British Journal of Urology International*, vol. 1, no. 1, pp. 65–70.

Kokinai, C 2014, 'Seventh-day Adventist education system response to HIV and AIDS in Papua New Guinea: A case study', Master of Philosophy, Pacific Adventist University.

Kovach, M 2009, 'Indigenous methodologies: Characteristics, conversations, and contexts', Toronto, University of Toronto Press.

Kurth, AE, Celum, C, Baeten, JM, Vermund, SH & Wasserheit, JN 2010, 'Combination HIV prevention: Significance, challenges, and opportunities', *Current HIV/AIDS Reports* vol. 8, no. 1, pp. 62–72.

Lagarde, C 2014, 'The three L's of women's empowerment', Life Matters, Australian Broadcasting Corporation.

Law, G 2011, Press Release from PNG Sexual Health Society.

Layer, EH, Beckham, SW, Mgeni, L, Shembilu, C, Momburi, RB & Kennedy, CE 2013, '"After my husband's circumcision, I know that I am safe from diseases": Women's attitudes and risk perceptions towards male circumcision in Iringa, Tanzania', *PLoS ONE,* vol. 8, no. 8, e74391.

Layer, EH, Beckham, SW, Momburi, RB, Peter, M, Laizer, E & Kennedy, CE 2014, '"He is proud of my courage to ask him to be circumcised": Experiences of female partners of male circumcision clients in Iringa region, Tanzania', *Culture, Health and Sexuality*, pp. 1–15.

Lempert, LB 2007, 'Asking questions of the data: Memo writing in the grounded theory tradition', in A Bryant & K Charmaz, *The Sage Handbook of Grounded Theory,* Sage Publications Ltd, London, England, pp. 245–264.

Lepani, K 2008, 'Mobility, violence and the gendering of HIV in Papua New Guinea', *The Australian Journal of Anthropology*, vol. 19, no. 2, pp. 150–164.

Lewis, I, Maruia, B & Walker, S 2008, 'Violence against women in Papua New Guinea', *Journal of Family Studies,* vol. 14, no. 2–3, pp. 183–197.

Lewis, IR 2012, 'At risk: The relationship between experiences of child sexual abuse and women's HIV status in Papua New Guinea', *Journal of Child Sexual Abuse*, vol. 21, no. 3, pp. 273–294.

Lewis, PM 2009, *Ethnologue: Languages of the World*, SIL International, Dallas.

Li, Y, Marshall, CM, Rees, HC, Nunez, A, Ezeanolue, EE & Je, E 2014, 'Intimate partner violence and HIV infection among women: a systematic review and meta-analysis', *Journal of the International AIDS Society*, vol. 13, p. 17.

Lipp, A 2007, 'Developing the reflexive dimension of reflection: A framework for debate', *International Journal of Multiple Research Approaches,* vol. 1, no. 1, pp. 18–26.

Luker, V 2010, 'Introduction', in V Luker & S Dinen (eds), *Civic insecurity: Law, order and HIV in Papua New Guinea*, Australian National University E Press, Canberra.

Luker, V & Dinnen, S 2010, 'Entwined endemics: HIV and "Law and Order"', in V Luker & S Dinnen (eds), *Civic insecurity: Law, order and HIV in Papua New Guinea,* ANU E Press, Canberra.

Luker, V & Monsell-Davis, M 2011, 'Teasing out the tangle: Raskols, young men, crime and HIV', in V Luker & S Dinnen (eds), *Civic insecurity: Law, order and HIV in Papua New Guinea*, ANU Press, Canberra.

Lukere, V 2002, *Gender, women and mothers: HIV/AIDS in the Pacific*, Gender Relations Centre, RSPAS, Working Paper No. 7, Australian National University, Canberra.

Lukobo, MD & Bailey, RC 2007, 'Acceptability of male circumcision for prevention of HIV infection in Zambia', *AIDS Care,* vol. 19, no. 4, pp. 471–477.

Lusby, S 2013, 'Refracted "awareness": Gendered interpretations of HIV and violence against women prevention in Papua New Guinea', *Intersections: Gender and Sexuality in Asia and the Pacific,* vol. 33 (December).

Lutfiyya, MN, Cannon, M & Lipsky, MS 2014, 'An argument for male gender as a root cause or fundamental social determinant of health', *Disease-a-Month*, vol. 60, no. 4, pp. 145–149.

MacIntyre, M 2012, 'Gender violence in Melanesia and the problem of millennium development goal no.3', in M Jolly, C Stewart & C Brewer, *Engendering Violence in Papua New Guinea*, ANU E Press, Canberra, pp. 239–266.

MacLaren, D 2006, 'Culturally appropriate health care in Kwaio, Solomon Islands. An action research response', Doctor of Philosophy, Griffith University.

MacLaren, D, Tommbe, R, Mafile'o, T, Redman-MacLaren, M, Browne, K & McBride, WJ 2011, '"I was circumcised in my uncle's coconut plantation": Location and techniques of penile cutting in Papua New Guinea', *Journal of Sexual Medicine*, vol. 8, pp. 229–230.

MacLaren, D, Tommbe, R, Redman-MacLaren, M, Mafile'o, T, Manineng, C, Browne, K & McBride, W 2011, 'I was cut under the plantation palms: Techniques and locations of penile cutting in Papua New Guinea', ASHM Conference, Canberra, Australia.

MacLaren, D, Tommbe, R, M. T., Manineng, C, Fregonese, F, Redman-MacLaren, M, Wood, M, Browne, K, Muller, R, Kaldor, J & McBride, WJ 2013, 'Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea', *BMC Public Health*, vol. 13, no. 1, p. 818.

MacLaren, M 2004, 'Mrs on Malaita: Reflective practice in action in Solomon Islands', Global Social Work, Adelaide, Australia.

MacPhail, CL, Sayles, JN, Cunningham, W & Newman, PA 2012, 'Perceptions of sexual risk compensation following posttrial HIV vaccine uptake among young South Africans', *Qualitative Health Research,* vol. 22, no. 5, pp. 668–678.

Manzo, LC & Brightbill, N 2007, 'Toward a participatory ethics', in S Kindon, R Pain & M Kesby (eds), *Participatory action research approaches and methods: Connecting people, participation and place* Routledge, London.

Marmot, M 2004, *The status syndrome: How social standing affects our heath and longevity*, Holt Paperbacks, New York.

Marmot, M, Adelstein, AM, Robinson, N & Rose, G 1978, 'The changing social class distribution of heart disease', *British Medical Journal*, vol. 2, pp. 1109–1112.

Marmot, M & Allen, JJ 2014, 'Social determinants of health equity', *American Journal of Public Health*, vol. 104, Supp. 4, pp. S517–519.

Marmot, M & Friel, S 2008, 'Global health equity: Evidence for action on the social determinants of health', *Journal of Epidemiology and Community Health*, vol. 62, no. 12, pp. 1095–1097.

Marmot, M, Friel, S, Bell, R, Houweling, TA, Taylor, S & Taylor, H, 2008, '"Commission on Social Determinants of (2008)", Closing the gap in a generation: Health equity through action on the social determinants of health', *Lancet*, vol. 372(9650), pp. 1661–1669.

Marmot, M & Wilkinson, RG (eds) 2005, *Social determinants of health*, Oxford University Press, New York.

Marmot, MG, Stansfeld, S, Patel, C, North, F, Head, J, White, I, Brunner, E, Feeney, A, Marmot, MG & Smith, GD 1991, 'Health inequalities among British civil servants: The Whitehall II study', *Lancet*, vol. 337(8754), pp. 1387–1393.

Matahr, T 2008, 'Review essay: Making a mess with situational analysis?', *FQS Forum: Qualitative Social Research*, vol. 9, no. 2.

McGibbon, EA (ed) 2012, *Oppression: A social determinant of health*. Fernwood Publishing Co Ltd, Black Point.

McGrow, L 2014, 'How not to run off the end of the PhD cliff', The Thesis Whisperer, retrieved 19 November 2014, from http://thesiswhisperer.com/2014/11/19/how-not-to-run-off-the-end-of-the-phd-cliff/

Médecins Sans Frontières 2011, *Hidden and neglected: The medical and emotional needs of survivors of family and sexual violence in Papua New Guinea*. Médecins Sans Frontières, Port Moresby, PNG.

Mertens, D. M. (2009). *Transformative research and evaluation*. The Guilford Press. New York.

Michel, N 2006, *Addressing gender-based violence in humanitarian emergencies: Gender-based violence and the role of the UN and its Member States,* ECOSOC Humanitarian Affairs Segment 2006, UN Economic and Social Council, Geneva.

Millett, GA, Flores, SA, Marks, G, Reed, J & Herbst, JH 2008, 'Circumcision status and risk of HIV and sexually transmitted infections among men who have sex with men: A meta-analysis', *JAMA*, vol. 300, no. 14, pp. 1674–1684.

Mills, J & Birks, M 2014, *Qualitative methodology: A practical guide*. Sage Publications, Inc, London.

Mills, J, Bonner, A & Francis, K 2006, 'Adopting a constructivist approach to grounded theory: Implications for research design', *International Journal of Nursing Practice*, vol. 12, no. 1, pp. 8–13.

Mills, J, Bonner, A & Francis, K 2006, 'The development of constructivist grounded theory', *International Journal of Qualitative Methods*, vol. 5, no. 1.

Moreton-Robinson, AM & Walter, M 2009, 'Indigenous methodologies in social research', in M Walter (ed), *Social Research Methods* Oxford University Press, Australia, **pp.** 1–18.

Morse, JM 2008, 'Sampling in grounded theory', in A Bryant & K Charmaz, *The Sage Handbook of Grounded Theory,* Sage, Los Angeles, pp. 229–244.

Mruck, K & Mey, G 2007, 'Grounded theory and reflexivity', in A Bryant & K Charmaz (eds), *The Sage handbook of grounded theory*, Sage Publications, London, pp. 515–538.

Mugwanya, KK, Whalen, C, Celum, C, Nakku-Joloba, E, Katabira, E & Baeten, JM 2011, 'Circumcision of male children for reduction of future risk for HIV: Acceptability among HIV serodiscordant couples in Kampala, Uganda', *PLoS ONE*, vol. 6, no. 7, e22254.

Narokobi, B 1983, *The Melanesian Way*, Port Moresby Institute of Papua New Guinea Studies.

National AIDS Council Secretariat 2013, Papua New Guinea 2013 HIV&AIDS Estimations & Projections. Port Moresby, National Department of Health, PNG; National AIDS Council Secretariat, PNG; UNAIDS PNG, p. 120.

National Department of Health and National AIDS Council Secretariat, PNG 2013, *The Development of the Papua New Guinea National Health and HIV Research Agenda 2013–2018*, National Department of Health and National AIDS Council Secretariat, Port Moresby, Papua New Guinea.

National Statistical Office of Papua New Guinea 2000, *Census 2000 National Report*, National Statistical Office of Papua New Guinea, Port Moresby.

Nelson, PN, Webb, MJ, Orrell, I, van Rees, H, Banabas, M, Berthelsen, S, Sheaves, M, Bakani, F, Pukam, O, Hoare, M, Griffiths, W, King, G, Carberry, P, Pipai, R, McNeill, A, Meekers, P, Lord, S, Butler, J, Pattison, T, Armour, J & Dewhurst, C 2010, *Environmental sustainability of oil palm cultivation in Papua New Guinea*, Australian Centre for International Agricultural Research, Canberra.

NHMRC 2003, *Values and ethics: Guidelines for ethical conduct in Aboriginal and Torres Strait Islander health research*, NHMRC, Canberra.

NHMRC 2006, *Keeping research on track: A guide for Aboriginal and Torres Strait Islander peoples about health research ethics*, NHMRC, Canberra.

Nihill, M 1994, 'New women and wild men', *Canberra Anthropology*, vol. 17, no. 2, pp. 48–72.

Njeuhmeli, E, Forsythe, S, Reed, J, Opuni, M, Bollinger, L, Heard, N, Castor, D, Stover, J, Farley, T, Menon, V & Hankins, C 2011, 'Voluntary medical male circumcision: Modeling the impact and cost of expanding male circumcision for HIV prevention in eastern and Southern Africa', *PLoS Medicine,* vol. 8, no. 11, e1001132.

Nussbaum, M 2000, *Women and human development*, Cambridge University Press, Cambridge.

O'Shaughnessy, S & Krogman, NT 2012, 'A revolution reconsidered? Examining the practice of qualitative research in feminist scholarship', *Signs*, vol. 37, no. 2, pp. 493–520.

Obure, A, Nyambedha, E & Oindo, B 2011, "'Interpersonal influences in the scale-up of male circumcision services in a traditionally non-circumcising community in rural Western Kenya', *Global Journal of Community Psychology Practice*, vol. 1, no. 3, pp. 1–11.

Orrell, I 2014, *Palm Oil Industry Statistics-2013*, Papua New Guinea Palm Oil Council, Port Moresby.

Osnes, B 2014, *Theatre for women's participation in sustainable development,* Oxon Routledge, Abingdon.

Parker, L, Pettifor, A, Maman, S, Sibeko, J & MacPhail, C 2014, 'Concerns about partner infidelity are a barrier to adoption of HIV-prevention strategies among young South African couples', *Culture, Health and Sexuality*, vol. 16, no. 7, pp. 792–805.

Pease, B & Flood, M 2008, 'Rethinking the significance of attitudes in preventing men's violence against women', *Australian Journal of Social Issues*, vol. 43, no. 4, pp. 547–561.

Phillips, SP 2005, 'Defining and measuring gender: A social determinant of health whose time has come', *Int J Equity Health*, vol. 4, no. 11.

Pintye, J, Baeten, JM, Manhart, LE, Celum, C, Ronald, A, Mugo, N, Mujugira, A, Cohen, C, Were, E, Bukusi, E, Kiarie, J & Heffron, R 2014, 'Association between male circumcision and incidence of syphilis in men and women: A prospective study in HIV-1 serodiscordant heterosexual African couples', *Lancet Global Health*, vol. 2, no. 11, pp. e664–e671.

Plotkin, M, Castor, D, Mziray, H, Küver, J, Mpuya, E, Luvanda, PJ, Hellar, A, Curran, K, Lukobo-Durell, M, Ashengo, TA & Mahler, H 2013, '"Man, what took you so long?" Social and individual factors affecting adult attendance at voluntary medical male circumcision services in Tanzania', *Global Health: Science and Practice*, vol. 1, no. 1, pp. 108–116.

Plummer, D 2014, 'The ebb and flow of homophobia: A gender taboo theory', *Sex Roles*, vol. 71, no. 3–4, pp. 126–136.

Prior, D 2006, 'Decolonising research: A shift toward reconciliation', *Nursing Inquiry,* vol. 14, no. 2, pp. 162–168.

Radio New Zealand 2014, 'About 4000 outstanding warrants of arrest in PNG', retrieved 16 October 2014, from http://www.radionz.co.nz/news/pacific/256941/about-4000-outstanding-warrants-of-arrest-in-png

Ralph, N, Birks, M & Chapman, Y 2014, *Contextual Positioning*.

Rambaut, A, Posada, D, Crandall, KA & Holmes, EC 2004, 'The causes and consequences of HIV evolution', *Nature Reviews Genetics*, vol. 5, no. 1, pp. 52–61.

Ranford, J 2000, *'Pakeha', it's origin and meaning*, Auckland College of Education, Paper 8, Auckland.

Raphael, D, Bryant, T & Curry-Stevens, A 2004, 'Toronto charter outlines future health policy directions for Canada and elsewhere', *Health Promotion International*, vol. 19, no. 2, pp. 269–273.

Redman-MacLaren, M 2010, 'Other news', *Acceptability Of Male Circumcision For HIV Prevention In PNG Study Newsletter*, vol. 1, no. 2, James Cook University, Cairns, Australia.

Redman-MacLaren, M In Press, 'Becoming a researcher: An auto-ethnographic account of a doctoral researcher re-presented in poetry', *Journal of Poetry Therapy.*

Redman-MacLaren, M & Browne, K 2014, *Gendered responses to male circumcision for HIV prevention*, Cairns HIV Hub Conference 2014, HIV Foundation Queensland, Cairns.

Redman-MacLaren, M, MacLaren, D, Harrington, H, Asugeni, R, Timothy-Harrington, R, Kekeubata, E & Speare, R 2012, 'Mutual research capacity strengthening: A qualitative study of two-way partnerships in public health research', International Journal for Equity in Health, vol. 11, no. 1, p. 79.

Redman-MacLaren, M & Mills, J In Press, 'Transformational grounded theory: Theory, voice and action', *International Journal of Qualitative Methods*.

Redman-MacLaren, M, Tommbe, R & Mills, J 2014, 'Interpretive focus groups: A participatory method for interpreting and extending secondary analysis of qualitative data', *Global Health Action,* vol. 7(25214), 6.

Redman-MacLaren, M, Tommbe, R, Mills, J, MacLaren, D & McBride, W 2014, *Women's experience of male circumcision in Papua New Guinea: a grounded theory study,* AIDS 2014: 20th International AIDS Conference, International AIDS Society, Melbourne.

Redman-MacLaren, ML 2010, *Developing data collection skills, research training workshop*, Divine Word University, Madang 9–11 August 2010, p, 19, James Cook University, Cairns, Australia.

Redman-MacLaren, ML 2011, *Workshop report: Data analysis workshop*, JCU Cairns 3–13 May 2011, James Cook University, Cairns, Australia.

Redman-MacLaren, ML, Mafil'o, TA, Tommbe, R & Mills, J Under review, 'Meeting in the middle: Cross-language qualitative health research using a non-Indigenous language in a Pacific country', *Health Services Research*.

Redman-MacLaren, ML & Mills, J 2013, *Promoting participation and action through transformational grounded theory*, Action Learning & Action Research Association National Conference, Brisbane, Australia.

Redman-MacLaren, ML, Mills, J, Tommbe, R, MacLaren, DJ, Speare, R & McBride, WJ 2013, 'Women and HIV in a moderate prevalence setting: An integrative review', *BMC Public Health*, vol. 13, no. 1, p. 552.

Redman-MacLaren, ML, Tommbe, R, Mills, J, McBride, J & Speare, R 2014, *Increasing knowledge increases choices: Evidence from a HIV study with women in Papua New Guinea*, Talanoa Pasifika 2014, Cairns, Australia.

Reid, E 2011, 'Reading generalised HIV epidemics as a woman', State Society and Governance in Melanesia Discussion Paper 2011/4.

Richardson, L 2000, 'Writing: A method of inquiry', in NK Denzin & YS Lincoln (eds), *Handbook of qualitative research*, Sage, Thousand Oaks.

Riess, TH, Achieng, MM & Bailey, RC 2014, 'Women's beliefs about male circumcision, HIV prevention, and sexual behaviors in Kisumu, Kenya', *PLoS ONE*, vol. 9, no. 5, p. e97748.

Roberts, G 2007, *Evaluation of men as partners in reproductive health through organized workforce*, United Nations Population Fund, Suva, Fiji.

Robins, J 2014, *Becoming sinners: Christianity and moral torment in a Papua New Guinea society*, University of California Press, Oakland, California.

Rolin, K 2006, 'The bias paradox in feminist standpoint epistemology', *Episteme*, vol. 3, no. 1–2, pp. 125–136.

Rosen, G 1993, *A history of public health*, John Hopkins University Press, Baltimore.

Saldana J 2009, *The coding manual for qualitative researchers*, Sage Publications Ltd, Los Angeles.

Savoie, I, Morettin, D, Green, CJ & Kazanjian, A 2004, 'Systematic review of the role of gender as a health determinant of hospitalization for depression', *Int J Technol Assess Health Care*, vol. 20, no. 2, pp. 115–127.

Schön, D 1983, *The reflective practitioner: How professionals think in action.* Temple Smith, London.

Schön, D 1997, *Educating the reflective practitioner*, Jossey-Bass Publishers, San Francisco.

Secretariat of the Pacific Community 2011, *SPC SDP 2011 Populations data sheet*, Secretariat of the Pacific Community, Noumea.

Seeley, J & Butcher, K 2006, 'Mainstreaming HIV in Papua New Guinea: Putting gender equity first', *Gender and Development*, vol. 14, no. 1, pp. 105–114.

Seeley, J, Watts, CH, Kippax, S, Russell, S, Heise, L & Whiteside, A 2012, 'Addressing the structural drivers of HIV/AIDS: A luxury or necessity for programmes?', *Journal of International AIDS Society*, vol. 15, supp. 1, pp. 1–4.

Sheridan, V 2013, 'A risky mingling: academic identity in relation to stories of the personal and professional self', *Reflective Practice*, vol. 14, no. 4, pp. 568–579.

Silverman, JG, Decker, MR, Saggurti, N, Balaiah, D & Raj, A 2008, 'Intimate partner violence and HIV infection among married indian women', *Journal of the American Medical Association*, vol. 300, no. 6, pp. 703–710.

Smith, LT 2005, 'On tricky ground: Researching the native in the age of uncertainty, in N Denzin & Y Lincoln (eds), *The Sage handbook of qualitative research,* Sage Publications, Thousand Oaks.

Smith, LT 2012, *Decolonizing methodologies: Research and Indigenous peoples,* Zed Books, London.

Spark, C 2011, 'Gender trouble in town: Educated women eluding male domination, gender violence and marriage in PNG', Asia Pacific Journal of Anthropology, vol. 12, no. 2, pp. 164–179.

Starhawk (pseud. M Simons) 1987, *Truth or dare: Encounters with power, authority, and mystery*, Harper and Row, San Francisco.

Stewart, C 2014, *Name, shame and blame: Criminalising consensual sex in Papua New Guinea*. ANU Press, Canberra.

Strathern, M (ed) 1987, *Dealing with inequality: Analysing gender relations in Melanesia and beyond: Essays by members of the 1983/1984 anthropological research group at the research school of Pacific studies, the Australian National University*. Press Syndicate of the Unversity of Cambridge, Cambridge.

Strauss, A & Corbin, J 1990, *Basics of qualitative research: Grounded theory procedures and techniques*, Sage Publications, Newbury Park.

Strauss, AL & Corbin, JM 1998, *Basics of qualitative research: Techniques and procedures for developing grounded theory*, Sage, Los Angeles.

Stringer, E 2014, *Action Research*, Sage Publications, Inc, Thousand Oakes.

Tobian, AA, Gray, RH & Quinn, TC 2010, 'Male circumcision for the prevention of acquisition and transmission of sexually transmitted infections: The case for neonatal circumcision', *Archives of Pediatrics and Adolescent Medicine Journal,* vol. 164, no. 1, p. 78–84.

Tobian, AA, Serwadda, D, Quinn, TC, Kigozi, G, Gravitt, PE, Laeyendecker, O, Charvat, B, Ssempijja, V, Riedesel, M, Oliver, AE, Nowak, RG, Moulton, LH, Chen, MZ, Reynolds, SJ, Wawer MJ & Gray, RH 2009, 'Male circumcision for the prevention of HSV-2 and HPV infections and syphilis', *New England Journal of Medicine*, vol. 360, no. 13, pp. 1298–1309.

Tobian, AR, Gray, RH & Quinn, TC 2010, 'Male circumcision for the prevention of acquisition and transmission of sexually transmitted infections: The case for neonatal circumcision', *Archives of Pediatrics and Adolescent Medicine*, vol. 164, no. 1, pp. 78–84.

Tommbe, R, Asugeni, L, MacLaren, D, Redman-MacLaren, M & Mafile`o, T 2012, *What can be learned about male circumcision and HIV prevention from a cohort of students and staff at a Papua New Guinea university?*, PAU, Port Moresby, PNG.

Tommbe, R, MacLaren, DJ, Redman-MacLaren, ML, Mafile'o, TA, Asugeni, L & McBride, WJ 2013, 'Researching male circumcision for HIV prevention in Papua New Guinea: A process that incorporates science, faith and culture', *BMC Health Research Policy and Systems,* vol. 11, no. 1, pp. 1–8.

Tynan, A, Vallely, A, Kelly, A, Kupul, M, Naketrumb, R, Aeno, H, Siba, P, Kaldor, JM & Hill, PS 2013, 'Building social currency with foreskin cuts: A coping mechanism of Papua New Guinea health workers and the implications for new programmes', *Health Policy Plan*.

Turville, S. 2014, 'The circumcision conundrum', *Science*, vol. 345(6193): 161.

Tynan, A, Vallely, A, Kelly, A, Kupul, M, Neo, J, Naketrumb, R, Aeno, H, Law, G, Milan, J, Siba, P, Kaldor, J & Hill, PS 2013, 'Sociocultural and individual

determinants for motivation of sexual and reproductive health workers in Papua New Guinea and their implications for male circumcision as an HIV prevention strategy', *Human Resources for Health*, vol. 11, no. 1, p. 7.

U.S. Department of Health & Human Services 2014, *A timeline of AIDS*, retrieved 28 September 2014, from https://www.aids.gov/hiv-aids-basics/hiv-aids-101/aids-timeline/.

UNAIDS 2012, *Together we will end AIDS,* Joint United Nations Programme on HIV/AIDS, Geneva.

UNAIDS 2014, *Ambitious treatment targets: Writing the final chapter of the AIDS epidemic*, retrieved 28 September 2014, from http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2014/JC2670_UNAIDS_Treatment_Targets_en.pdf.

UNAIDS 2014, *UNAIDS report shows that 19 million of the 35 million people living with HIV today do not know that they have the virus,* UNAIDS, Geneva.

UNAIDS 2014, *Unite with women: Unite against violence and HIV*, UNAIDS, Geneva.

UNAIDS & WHO 2009, *Proportion of all HIV and AIDS cases in different Pacific Island countries and territories, 1984–2007*, 2009 AIDS epidemic update, UNAIDS, Geneva, Figure 27.

UNAIDS, WHO, UNICEF, UNFPA & World Bank 2007, *Information package on male circumcision and HIV prevention—Insert 1 to 5*, UNAIDS, Geneva.

United Nations Development Programme (UNDP) 2011, *Human development report 2011: Papua New Guinea*, Explanatory note on 2011 HDR composite indices, UNDP, Geneva.

USAID/Family Heath International 2011, *Papua New Guinea behavioral surveillance survey 2010 among MSM & women engaged in transactional sex from Port Moresby*, USAID/Family Heath International, Port Moresby.

Vallely, A, MacLaren, D, Kaleva, W, Millan, J, Tommbe, R, Marape, W, Buchanan, H, Frank, R, Kelly, A, Kupul, M, Aeno, H, Trowalle, E, John, L, Redman-

MacLaren, M, Ryan, C, Browne, K, Tynan, A, Hill, PS, Gray, R, Murray, J, Wilson, DP, Law, G, Siba, P, McBride, WJH, Farley, T & Kaldor, J 2011, 'Male circumcision for HIV prevention in PNG: A summary of research evidence and recommendations for public health', *Papua New Guinea Medical Journal*, vol. 54, no. 3–4, pp. 91–108.

Vallely, A, MacLaren, D & on behalf of MC Study teams 2011, *Men's acceptability of male circumcision for HIV prevention in PNG*, Joint policy forum on male circumcision and HIV prevention in PNG, Port Moresby, PNG.

Vallely, A, Page, A, Dias, S, Siba, P, Lupiwa, T, Law, G, Millan, J, Wilson, DP, Murray, JM, Toole, M & Kaldor, J 2010, 'The prevalence of sexually transmitted infections in Papua New Guinea: A systematic review and meta-analysis', *PLoS One*, vol. 5, no. 12.

Wardlow, H 2004, 'Anger, economy, and female agency: Problematizing "prostitution" and "sex work" among the Huli of Papua New Guinea', *Signs*, vol. 29, no. 4, pp. 1017–1040.

Wardlow, H 2007, 'Men's extramarital sexuality in rural Papua New Guinea', *American Journal of Public Health,* vol. 97, no. 6, pp. 1006–1014.

Wardlow, H 2008, '"You have to understand: Some of us are glad AIDS has arrived": Christianity and condoms among the Huli, Papua New Guinea', in L Butt & R Eves (eds), *Making sense of AIDS: Culture, sexuality, and power in Melanesia,* University of Hawai`i Press, Honolulu.

Wawer, MJ, Makumbi, F, Kigozi, G, Serwadda, D, Watya, S, Nalugoda, F, Buwembo, D, Ssempijja, V, Kiwanuka, N, Moulton, LH, Sewankambo, NK, Reynolds, SJ, Quinn, TC, Opendi, P, Iga, B, Ridzon, R, Laeyendecker, O & Gray, RH 2009, 'Circumcision in HIV-infected men and its effect on HIV transmission to female partners in Rakai, Uganda: A randomised controlled trial', *The Lancet*, vol. 374(9685), pp. 229–237.

Westercamp, N, Agot, K, Jaoko, W & Bailey, RC 2014, 'Risk compensation following male circumcision: Results from a two-year prospective cohort study of recently

circumcised and uncircumcised men in Nyanza Province, Kenya', *AIDS and Behavior,* vol.18, no. 9, pp. 1764–1775.

Wilkinson, R & Rickett, K 2010, *The spirit level: Why greater equality makes everyone stronger,* Bloomsbury Press, New York.

Wilkinson, RG & Marmot, M 2003, *Social determinants of health: The solid facts*, WHO, Geneva.

Wilson, PA, Wittlin, NM, Munoz-Laboy, M & Parker, R 2011, 'Ideologies of Black churches in New York City and the public health crisis of HIV among Black men who have sex with men', *Global Public Health*, vol. 6, pp. S227–S242.

Wiysonge, CS, Kongnyuy, EJ, Shey, M, Muula, AS, Navti, OB, Akl, EA & Lo, YR 2011, 'Male circumcision for prevention of homosexual acquisition of HIV in men', *Cochrane Database of Systematic Reviews*, vol. 6, CD007496.

Women's HIV Prevention Tracking Project 2010, *Making medical male circumcision work for women*, ATHENA.

World Health Organization 1986, *The Ottawa charter for health promotion,* The move towards a new public health: First International Conference on Health Promotion, Ottawa, Ontario, Canada.

World Health Organization 2007, *Implications for women (Insert 5)*, Information package on male circumcision and HIV prevention, Geneva.

World Health Organization/UNAIDS 2007, *New data on male circumcision and HIV prevention: Policy and programme implications*. WHO/UNAIDS, Geneva.

World Health Organization 2008, *Closing the gap in a generation: Health equity through action on the social determinants of health*, Commission on social determinants of health final report, WHO, Geneva.

World Health Organization 2008, *Social determinants backgrounder 3: Key concepts*, WHO, Geneva.

World Health Organization 2009, *Milestones in health promotion: Statements from global conferences*, WHO, Geneva.

World Health Organization 2011, *Rio political declaration on social determinants of health*, 21 October 2011, WHO, Rio de Janeiro, Brazil.

World Health Organization 2012, *Voluntary medical male circumcision for HIV prevention*, retrieved 29 September 2014, from http://www.who.int/hiv/topics/malecircumcision/fact_sheet/en/.

World Health Organization 2013, *Intimate partner and sexual violence against women*, WHO, Geneva.

World Health Organization 2014a, *WHO progress brief—voluntary medical male circumcision for HIV prevention in priority countries of East and Southern Africa*, retrieved 12 December 2014, from http://www.who.int/hiv/topics/malecircumcision/male-circumcision-info-2014/en/.

World Health Organization 2014b, *Country Cooperation Strategy at a glance: Papua New Guinea*, WHO, Geneva.

World Health Organization 2014c, *Use of antiretrovirals for treatment and prevention of HIV infection*, retrieved 28 September 2014, from http://www.who.int/hiv/topics/treatment/en/.

World Health Organization 2014d, *Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations,* WHO, Geneva, p. 184.

World Bank 2014, *GDP per capita (current US$)*, retrieved 25 March 2015, from http://data.worldbank.org/indicator/NY.GDP.PCAP.CD.

Yanow, D & Tsoukas, H 2009, 'What is reflection-in-action? A phenomenological account', *Journal of Management Studies*, vol. 46, no. 8, pp. 1339–1364.

Young, MR, Odoyo-June, E, Nordstrom, SK, Irwin, TE, Ongong'a, DO, Ochomo, B, Agot, K & Bailey, RC 2012, 'Factors associated with uptake of infant male

circumcision for HIV prevention in Western Kenya', *Pediatrics*, vol. 130, no. 1, pp. e175–e182.

10 Appendices

10.1 Foreskin Cutting Beliefs and Practices and the Acceptability of Male Circumcision for HIV Prevention in Papua New Guinea

MacLaren, D, Tommbe, R, T, M, Manineng, C, Fregonese, F, **Redman-MacLaren, M,** Wood, M, Browne, K, Muller, R, Kaldor, J, McBride, WJ 2013, 'Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea', *BMC Public Health*, vol. 13, no. 1, p. 818.

Authors' Roles: DM and WJM conceived of the study, RT, TM, CM, FF, MRM, MW, KB participated in the design and coordination of the study; collected, managed and analysed data; helped draft and revise the manuscript.

Accesses: 3998; **Citations:** 11; **Date:** 6 May 2015

MacLaren et al. BMC Public Health 2013, 13:818
http://www.biomedcentral.com/1471-2458/13/818

BMC Public Health

RESEARCH ARTICLE Open Access

Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea

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Abstract

Background: Male circumcision (MC) reduces HIV acquisition and is a key public health intervention in settings with high HIV prevalence, heterosexual transmission and low MC rates. In Papua New Guinea (PNG), where HIV prevalence is 0.8%, there is no medical MC program for HIV prevention. There are however many different foreskin cutting practices across the country's 800 language groups. The major form exposes the glans but does not remove the foreskin. This study aimed to describe and quantify foreskin cutting styles, practices and beliefs. It also aimed to assess the acceptability of MC for HIV prevention in PNG.

Methods: Cross-sectional multicentre study, at two university campuses (Madang Province and National Capital District) and at two 'rural development' sites (mining site Enga Province; palm-oil plantation in Oro Province). Structured questionnaires were completed by participants originating from all regions of PNG who were resident at each site for study or work.

Results: Questionnaires were completed by 861 men and 519 women. Of men, 47% reported a longitudinal foreskin cut (cut through the dorsal surface to expose the glans but foreskin not removed); 43% reported no foreskin cut; and 10% a circumferential foreskin cut (complete removal). Frequency and type of cut varied significantly by region of origin ($p < .001$). Most men (72-82%) were cut between the ages of 10 – 20 years. Longitudinal cuts were most often done in a village by a friend, with circumferential cuts most often done in a clinic by a health professional. Most uncut men (71%) and longitudinal cut men (84%) stated they would remove their foreskin if it reduced the risk of HIV infection. More than 95% of uncut men and 97% of longitudinal cut men would prefer the procedure in a clinic or hospital. Most men (90%) and women (74%) stated they would remove the foreskin of their son if it reduced the risk of HIV infection.

Conclusion: Although 57% of men reported some form of foreskin cut only 10% reported the complete removal of the foreskin, the procedure on which international HIV prevention strategies are based. The acceptability of MC (complete foreskin removal) is high among men (for themselves and their sons) and women (for their sons). Potential MC services need to be responsive to the diversity of beliefs and practices and consider health system constraints. A concerted research effort to investigate the potential protective effects of longitudinal cuts for HIV acquisition is essential given the scale of longitudinal cuts in PNG.

Keywords: Male circumcision, Acceptability, Foreskin cutting, Papua New Guinea, HIV, Prevention, Beliefs, Foreskin cutting practices, Longitudinal Foreskin cut, Circumferential Foreskin cut

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Background

Male circumcision (MC), or the surgical removal of the foreskin, has received intense public health attention since three large randomised trials, published between 2005 and 2007, reported that the procedure can reduce male susceptibility to heterosexual acquisition of HIV by approximately 60% [1-3]. These results confirmed earlier observational studies that documented an association between lower HIV infection rates and MC [4,5]. In 2007 it was estimated that up to 5.7 million new HIV infections could be averted over 20 years through the implementation of MC services in sub-Saharan Africa [6-8]. WHO and UNAIDS now recommend MC programs be included in comprehensive HIV prevention packages in settings of high HIV prevalence with heterosexual transmission and low MC rates [9].

MC for HIV prevention is viewed favourably across numerous high HIV prevalence settings in East and Southern Africa, both in traditionally circumcising and non-circumcising communities [10-21]. MC programs are now being implemented across this region, accompanied by ongoing acceptability studies [12,22-35]. However, a detailed understanding of local social, cultural, gender, religious and medical issues must underpin such MC programs [36-39].

MC may also play an important public health role in moderate HIV prevalence countries. However very few investigations of MC's acceptability, feasibility and epidemiological impact have been conducted in such settings [40-46]. Papua New Guinea (PNG), the largest South Pacific Island country, has the second highest HIV prevalence of the Asia-Pacific region (after Thailand). In 2012 PNG had an estimated adult HIV seroprevalence of 0.79% (15–49 years), associated with widespread behavioural risk and high rates of sexually transmitted infections [47-49]. More females than males are infected with HIV, suggesting heterosexual intercourse as the primary driver. The PNG health system does not provide routine MC services. Investigating MC for HIV prevention is a current research priority for the PNG National AIDS Council [50].

PNG has extreme social, cultural and geographical diversity. PNG's 7.1 million people speak over 800 distinct languages and live in different settings: from villages on remote coral atolls to highland valleys to regional and provincial towns and their associated peri-urban squatter settlements. Reflecting this diversity, HIV prevalence is unevenly distributed: Highlands and Southern Regions have 0.89% and 0.88% respectively and Momase and New Guinea Islands Regions 0.66% and 0.58% respectively [47]. PNG's unparalleled diversity means national HIV policy formulation is complex and requires evidence from a wide range of studies [51,52].

The context of MC in PNG is also complex. Most cultural groups do not traditionally practice MC, however there is a wide variety of foreskin cutting practices across the country [53,54]. The full removal of the foreskin, commonly referred to as a 'round cut', is produced by a circumferential cut to the foreskin and produces results equivalent to medical MC. Local variations, with many local descriptive names, are produced by a longitudinal cut along the dorsal surface of the foreskin. This exposes the glans penis and leaves the foreskin hanging loose beneath the penis. These variations are often generically referred to as 'straight cut' or 'split'. Most of these cuts take place in the community with few occurring through the formal health system [55-57]. The rich ethnographic and anthropological record in PNG has detailed descriptions of initiation and blood-letting rituals in some cultural groups that involve multiple cuts to the foreskin and penis [58-60].

In recent years there appears to have been a shift in foreskin cutting practices in PNG that have paralleled dramatic social, economic and religious change [54,60]. A National HIV/AIDS Behavioural Surveillance Study in 2006 documented 26 – 70% of men had some form of foreskin cut, however the study did not differentiate between the 'round cut' or 'straight cut' [61]. More recent studies have made the distinction [62,63] and found 25 - 50% of men had some form of foreskin cut, with considerable diversity in the extent and type of foreskin cut reported. Qualitative studies are expanding knowledge about beliefs and practices of the various styles of foreskin cutting, and their implications for HIV prevention in PNG [45,46,57]. Men in these studies were generally in favour of MC being introduced for HIV prevention, but women were cautious or not in favour because of cultural and religious concerns and fear of sexual disinhibition of husbands or partners [45,46]. Building on these studies, it was important to quantify the diversity of foreskin cutting styles, practices and beliefs in PNG and assess the proportion of men and women who may find MC acceptable for HIV prevention.

This paper reports on the collaborative 'Acceptability of Male Circumcision for HIV Prevention in PNG' study carried out from July 2010 to February 2011. Here we report quantitative results for two objectives of the study: (i) describe and categorise male genital cutting, which includes MC; to ii) examine social, cultural and religious practices and their influence on the acceptability of MC for HIV prevention.

Methods

This was an observational cross-sectional study, conducted in collaboration between researchers from Papua New Guinean and Australian universities and partnering with companies at two 'rural development' sites.

Participants

The study was undertaken at four sites in four provinces: (i) Pacific Adventist University (PAU), Port Moresby, National Capital District; (ii) Divine Word University (DWU), Madang, Madang Province; (iii) Higaturu Oil Palms, Popondetta, Oro Province; and (iv) Porgera Joint Venture, Porgera, Enga Province. The first two sites are major universities that have predominantly residential student bodies. The latter two are a major oil palm production facility on the coastal plains and a major gold mine in the highlands. Sites were chosen to provide access to a wide a variety of socio-cultural, geographic, religious and educational backgrounds. All four sites attract people from across all PNG regions and most cultural backgrounds, to study or work. Key collaborators at each site had also been involved with previous HIV research or prevention programs.

A sample of 200 men per site was necessary for a precision of at least 5% to estimate the prevalence of male circumcision in a range of 5 – 50%. Further, a sample of 100 women per site was deemed feasible to collect data on women's social, cultural and religious perspectives of foreskin cutting and the acceptability of MC for HIV prevention. Therefore, considering possible 20% attrition, at each site 250 males and 175 female were invited to enrol. At the two university campuses students were selected via a systematic sampling approach (by alphabetised student lists). Blank envelopes containing self-administered questionnaires were given to the selected students via regional student group leaders. At the two rural development sites men and women who attended the health centre for routine workplace health and safety checks or minor health issues were invited to participate sequentially, until the targeted sample size was reached and allowing for recruitment gaps if researchers were still engaged in assisting previous participants with the questionnaire. To achieve the sample size in women, recruitment also took place by inviting all women employed in selected company departments to participate.

Questionnaires

The structured questionnaire contained eight sections and covered demographics, province of origin, knowledge and attitudes, sexual history and foreskin cutting/penile modification. Both closed and open ended questions were used. Questionnaires were offered in English or *Tok Pisin* (PNG lingua franca) for use in rural sites. The questionnaire had an information sheet attached that clearly stated that participation was voluntary and to complete and return the questionnaire meant consent was given for results to be used in the study. The male questionnaire contained a seven level classification of foreskin cutting. A photograph accompanied the written description for each of the seven foreskin cutting types with the statement 'please circle the number beside the picture that looks most like your own foreskin'. See Additional file 1: Figure S1 for male questionnaire in English and Additional file 2: Figure S2 for female questionnaire in English. Questionnaires were generally self-administered but assistance was rendered at rural sites by a researcher of the same sex if literacy skills did not allow for self-administration. In addition to questionnaires, individual interviews and focus groups discussions were conducted. Findings from these qualitative methods will be published separately.

Data handling and analysis

Collected questionnaires were collated and data were entered into an Excel spreadsheet which was subsequently imported into the statistical package SPSS (Version 20) for analysis. The actual data analysis was preceded by extensive plausibility checks and data cleaning procedures. Numerical information was summarized as percentages or mean and standard deviation or median and inter-quartile range. Bivariate analyses were undertaken by employing exact versions of standard test procedures such as exact binomial test of two categorical variables. Non parametric Kruskal-Wallis tests were used for comparison of numerical values between behavioural categories since the underlying distributions proved to be skewed.

Ethics

Ethics clearance was granted by Human Research Ethics Committees of Pacific Adventist University, Divine Word University, James Cook University (Australia) and Papua New Guinea National AIDS Council. Endorsement was also provided by the Provincial AIDS Committees of the National Capital District and Oro, Enga and Madang Provinces.

Results were provided to institutions, key stakeholders and participants during interactive workshops at the four study sites between Oct 2011 and March 2012.

Results

Demographic characteristics of study population

The structured questionnaire was completed by a total of 1,380 participants (861 men and 519 women) at the four sites. DWU contributed 24% (n = 208) of men to the sample; PAU 24% (n = 204); Porgera 26% (n = 227) and Popondetta 26% (n = 222). For women, the respective proportions were DWU 20% (n = 103); PAU 30% (n = 157); Porgera 30% (n = 158) and Popondetta 20% (n = 101). Overall, age in men ranged from 18–65 years (median 25 IQR 21–32) and in women from 18–58 (median 24 IQR 21–30). The majority of participants at PAU and DWU were under 25 years of age (77% and 77% of men; 91% and 80% of women respectively). The majority of participants at Porgera and Popondetta were 25 year or older (88% and

63% of men; 82% and 75% of women respectively). Region of origin in the overall sample was distributed as follows: Highlands (men 47%; women 42%); Southern (men 27%; women 28%); Momase (men 18%; women 14%); New Guinea Islands (men 8%; women 16%) and reflects regional distribution from 2011 national population census (Highlands 43%; Momase 25%; Southern 19%; New Guinea Islands 14%) [64]. More details on socio-demographic information by Region of Origin are presented in Table 1.

Prevalence of foreskin cuts

Ninety-nine percent of men (854/861) provided data on foreskin cutting: 10% (n = 87) reported a circumferential cut; 47% (n = 398) reported some form of longitudinal cut, and 43% (n = 369) no cut at all. The cutting varied significantly with age, education and region of origin (Table 2). Longitudinal cut was most frequent in men from Momase (58% of all men from that region); circumferential cut most frequent in men from New Guinea Islands (24%) and an uncut foreskin was most frequent in men from the Southern (50%) and Highlands (47%) regions ($p < 0.001$) (Table 3). Five variations or styles of longitudinal cut were recorded and varied by region of origin (Table 3).

Circumstances of foreskin cutting

Most cut men (82% longitudinal cut men; 72% circumferential cut men) reported having their foreskin cut between the ages of 10 and 20, with mean age 17 years (SD 4.77; Range 2–38) at longitudinal and 15 years (SD 6.66; Range 1–30) at circumferential cut ($p < 0.001$). The place and person performing the cuts varied significantly between longitudinal and round cut ($p < 0.001$). Longitudinal cuts were most frequently done in the village by a friend. Round cuts were most frequently done in a clinic by a health professional. Razors and surgical blades were the most utilized tools in all cuts (>90%), with scissors or bamboo used for 6% of circumferential cuts and a needle and rubber used for 5% of longitudinal cuts. For more details on place, person and tool used for foreskin cutting see Figure 1.

Attitudes and beliefs about foreskin cutting

Attitudes and beliefs about foreskin cutting were investigated with both men and women around five thematic areas: (i) foreskin cutting and socio-cultural practice; (ii) foreskin cutting and sexual practice; (iii) foreskin cutting and sexual health; (iv) safety of foreskin cutting; (v) foreskin cutting and socio-cultural belief. Statements that participants responded to (yes, no, unsure) in each theme were deliberately mixed on the original questionnaire, however results are presented here in the five thematic areas. Responses to statements by uncut men, longitudinal cut men, circumferential cut men, all men and all women are given in Table 4.

Key findings for **(i) Foreskin cutting and socio-cultural practice**: Most men (63%) stated that foreskin cutting was not a part of their cultural practice/tradition. For women 42% stated it was not their cultural practice/tradition, although half (51%) were unsure. Around a third of men and less than one in five women agreed that having a cut foreskin proves manhood. Less than 20% of men and women stated that foreskin cutting was forbidden by their custom/tradition or by their religion.

Key findings for **(ii) foreskin cutting and sexual practice**: A third of men and around 20% of women agreed that having a cut foreskin encourages men to have more sexual partners. Less than 15% of men and 10% of women agreed that having a cut foreskin decreases sexual pleasure for men with about half of men and the majority of women responding they were unsure. Around a third of men and one in ten women agreed to the statement that sex lasts longer for men with a cut foreskin. More than 40% of men but less than 20% of women agreed to the statement that women prefer to have sex with man with cut foreskin; half of men and almost three-quarters of women responded they were unsure.

Key findings for **(iii) foreskin cutting and sexual health**: More than half of men and a little under half of women agreed that men with a cut foreskin can become infected with HIV. Around a third of men and women agreed that having a cut foreskin reduces the risk of becoming infected with HIV. The majority of both men (57%) and women (51%) disagreed with the statement that men with a cut foreskin do not need to use condoms to protect from STI and HIV.

Key findings for **(iv) safety of foreskin cutting**: Around 10% of men and 5% of women agreed that foreskin cutting in a village by a friend or relative was a safe procedure. Almost all men and three quarters of women disagreed that it is safe to use the same blade or razor to cut the foreskin of many men at one time. Most men (88%) and women (71%) agreed that having a foreskin cut by a health professional in a health facility is a safe procedure.

Key findings for **(v) foreskin cutting and socio-cultural beliefs**: A quarter of men agreed that allowing the blood to flow when the foreskin is cut is important in their culture/custom. The majority of men agreed that it was important to eat special food and to reduce the amount of water in the days following the cut. More than 80% of men agreed that men need to stay away from women after having a foreskin cut. Around 40% of men agreed that a cut foreskin makes a man's body grow strong and the penis grow bigger; less than 20% women agreed, with the majority unsure.

Table 1 Demographic characteristics by region of origin

Characteristic^	New Guinea Islands		Momase		Southern		Highlands	
	% (n)		% (n)		% (n)		% (n)	
	Male	Female	Male	Female	Male	Female	Male	Female
	n = 72	n = 80	n = 153	n = 72	n = 230	n = 146	n = 402	n = 218
Age								
Under 25	50.8 (32)	66.2 (51)	61.9 (91)	70.6 (48)	48.1 (104)	48.9 (68)	45.9 (168)	47.4 (91)
25 and over	49.2 (31)	33.8 (26)	38.1 (56)	29.4 (20)	51.9 (112)	51.1 (71)	54.1 (198)	52.6 (101)
Site								
DWU	31.9 (23)	27.5 (22)	35.9 (55)	38.9 (28)	12.2 (28)	17.8 (26)	25.1 (101)	12.4 (27)
PAU	45.8 (33)	56.3 (45)	25.5 (39)	33.3 (24)	18.7 (43)	19.9 (29)	21.6 (87)	26.6 (58)
Porgera	16.7 (12)	8.8 (7)	10.5 (16)	12.5 (9)	5.2 (12)	6.2 (9)	46.5 (187)	60.6 (132)
Popondetta	5.6 (4)	7.5 (6)	28.1 (43)	15.3 (11)	63.9 (147)	56.2 (82)	6.7 (27)	0.5 (1)
Marital status								
Single	70.8 (51)	72.5 (58)	71.9 (110)	81.9 (59)	56.5 (130)	44.8 (65)	55.7 (224)	45.9 (100)
Married	27.8 (20)	21.3 (17)	26.8 (41)	15.3 (11)	40.9 (94)	49.7 (72)	42.3 (170)	44 (96)
Separated/Divorced	1.4 (1)	6.3 (5)	1.4 (2)	2.8 (2)	2.6 (6)	5.6 (8)	1.9 (8)	10.1 (22)
Religion								
Anglican	1.4 (1)	0 (0)	6.3 (6)	1.4 (1)	36.1 (83)	27.4 (40)	0.5 (2)	0 (0)
Catholic	31.9 (23)	22.5 (18)	21.1 (32)	18.3 (13)	6.1 (14)	9.6 (14)	14.4 (58)	7.4 (16)
Lutheran	0 (0)	0 (0)	28.3 (43)	18.3 (13)	1.7 (4)	3.4 (5)	13.7 (55)	4.6 (10)
Pentecostal	8.3 (6)	10 (8)	24 (15.8)	16 (22.5)	27.4 (63)	23.3 (34)	24.1 (97)	33.2 (72)
Seventh day Adventist	45.8 (33)	55 (44)	23.6 (40)	33.8 (24)	16.5 (38)	20.5 (30)	37.3 (150)	51.2 (111)
Other	12.5 (9)	12.5 (10)	3.3 (5)	5.6 (4)	11.7 (27)	15.8 (23)	8.7 (35)	3.7 (8)
None	0 (0)	0 (0)	1.3 (2)	0 (0)	0.4 (1)	0 (0)	1.2 (5)	0 (0)
Education								
Primary School or less	2.8 (2)	0 (0)	22.5 (34)	8.7 (6)	45.9 (105)	25 (36)	21.8 (87)	6.6 (14)
High/Secondary	36.1 (26)	75 (57)	23.8 (36)	75.4 (52)	32.8 (75)	54.9 (79)	34.3 (137)	58.7 (125)
Voc/Tech college	18.1 (13)	11.8 (9)	12.6 (19)	8.7 (6)	6.1 (14)	12.5 (18)	13.0 (52)	28. (61)
University	43.1 (31)	13.2 (10)	41.1 (62)	7.2 (5)	15.3 (35)	7.6 (11)	31.0 (124)	6.1 (13)
Money earned by								
Subsistence	1.5 (1)	13 (1)	4.9 (7)	9.4 (6)	15.5 (35)	14.1 (19)	9.0 (35)	5.3 (11)
Formal employment	37.3 (25)	27.3 (21)	38.7 (55)	14.1 (9)	51.3 (116)	43.7 (59)	61.5 (205)	57.4 (120)
Dependent on family	46.3 (31)	70.1 (54)	51.4 (73)	70.3 (45)	29.2 (66)	41.5 (56)	95.4 (132)	34.4 (72)
Student scholarship	14.9 (10)	1.3 (1)	4.9 (7)	6.3 (4)	4.0 (9)	0.7 (1)	4.6 (18)	2.9 (6)
Number of wives#								
0	70.8 (51)		73.7 (112)		59.4 (136)		56.5 (227)	
1	29.2 (21)	66.6 (10)	25.7 (39)	66.6 (6)	37.1 (85)	82.5 (47)	31.3 (126)	67.7 (63)
More than 1	0 (0)	33.3 (5)	0.7 (1)	33.3 (3)	3.5 (8)	17.5 (10)	12.3 (49)	32.3 (30)
Number of Children								
0	73.6 (53)	75 (60)	76.3 (116)	80.6 (58)	62.0 (142)	82.5 (66)	576 (230)	50 (109)
1	4.2 (3)	6.3 (5)	7.2 (11)	1.4 (1)	5.7 (13)	11.0 (16)	7.3 (29)	12.4 (27)
More than 1	22.2 (16)	18.7 (15)	16.4 (25)	18 (13)	32.3 (74)	43.5 (66)	35.1 (140)	37.6 (82)

^ Totals are not the same for all characteristics. Some participants did not answer all questions.
# For females - number of wives their husband is married to.

Table 2 Demographic characteristics by foreskin cutting type

	Uncut % (n)	Longitudinal cut % (n)	Circumferential cut % (n)	All men (n)	p-value
Overall Sample	43.2 (369)	46.6 (398)	10.2 (87)	854	<.001
Age					
Under 25	34.8 (136)	55.5 (217)	9.7 (38)	391	<.001
25 and 0ver	53.0 (210)	36.6 (145)	10.4 (41)	396	
Site					
DWU	37.7 (78)	49.8 (103)	12.6 (26)	207	<.001
PAU	31.3 (62)	53.0 (105)	15.7 (31)	198	
Porgera	58.6 (133)	34.8 (79)	6.6 (15)	227	
Popondetta	43.2 (96)	50.0 (111)	6.8 (15)	222	
Region					
New Guinea Islands	26.5 (18)	50.0 (34)	23.5 (16)	68	<.001
Highlands	47.4 (190)	44.1 (177)	8.5 (34)	401	
Momase	28.8 (44)	58.2 (89)	13.1 (20)	153	
Southern	50.4 (115)	42.1 (96)	7.5 (17)	228	
Marital Status					
Single	35.1 (180)	54.0 (277)	10.9 (56)	513	<.001
Married	56.5 (183)	34.3 (111)	9.3 (30)	324	
Separated/Divorced	35.3 (6)	58.8 (10)	5.9 (1)	17	
Religion					
Anglican	47.8 (44)	45.7 (42)	6.5 (6)	92	<.05
Catholic	48.4 (62)	42.2 (54)	9.4 (12)	128	
Lutheran	40.2 (41)	47.1 (48)	12.7 (13)	102	
Pentecostal	42.9 (81)	49.2 (93)	7.9 (15)	189	
Seventh day Adventist	35.5 (92)	50.6 (131)	13.9 (36)	259	
Other	58.1 (43)	35.1 (26)	6.8 (5)	74	
None	62.5 (5)	37.5 (3)	0.0 (0)	8	
Education					
Primary School or less	52.8 (121)	42.8 (98)	4.4 (10)	229	<.001
High/Secondary	45.2 (122)	44.4 (120)	10.4 (28)	270	
Vocational/College	38.1 (37)	48.5 (47)	13.4 (13)	97	
University	34.4 (87)	51.4 (130)	14.2 (36)	253	
Money earned by					
Subsistence	37.2 (29)	47.4 (37)	15.4 (12)	78	<.001
Formal employment	51.9 (208)	38.2 (153)	10.0 (40)	401	
Dependent on family	37.1 (111)	53.2 (159)	9.7 (29)	299	
Student Scholarship	25.0 (11)	63.6 (28)	11.4 (5)	44	
Number of Wives					
0	35.1 (184)	54.0 (283)	10.9 (57)	524	<.001
1	51.9 (140)	37.4 (101)	10.7 (29)	270	
>1	74.1 (43)	24.1 (14)	1.7 (1)	58	
Number of Children					
0	35.8 (193)	53.4 (288)	10.8 (58)	539	<.001
1	44.6 (25)	44.6 (25)	10.7 (6)	56	
>1	57.5 (146)	33.5 (85)	9.1 (23)	254	

Table 3 Foreskin cutting classification by region of origin

	New Guinea Islands	Highlands	Momase	Southern	ALL^	*p* -value
	% (n)	*% (n)*	*% (n)*	*% (n)*	*% (n)*	
Overall foreskin cutting classification						
Uncut	26 (18)	47 (190)	29 (44)	50 (115)	43 (369)	< .001
Longitudinal cut	50 (34)	44 (177)	58 (89)	42 (96)	47 (398)	
Circumferential cut	24 (16)	9 (34)	13 (20)	7 (17)	10 (87)	
Longitudinal foreskin cut variations						
Longitudinal Cut: Variation (i)	19 (13)	16 (66)	20 (31)	16 (37)	17 (147)	
Foreskin has been cut but still partially covers the head of the penis						
Longitudinal Cut: Variation (ii)	25 (17)	24 (96)	32 (49)	20 (46)	25 (208)	
Foreskin has been cut and remains loose behind the head of the penis						
Longitudinal Cut: Variation (ii)	2 (1)	2 (6)	3 (5)	2 (5)	2 (17)	
Foreskin has been cut on both sides leaving two or more tags						
Longitudinal Cut: Variation (iv)	3 (2)	1 (3)	2 (3)	1 (2)	1 (10)	
Foreskin has been cut with scarring along the penis						
Longitudinal Cut: Variation (v)	2 (1)	2 (6)	1 (1)	3 (6)	2 (14)	
'Cowboy cut' where foreskin can be pulled back over the head of the penis						

^ Totals in the ALL column for uncut and longitudinal cut classifications differ from the sum of regions because some participants did not provide information on region of origin.

Foreskin cutting and sexual practice

Men with circumferential cut had significantly fewer lifetime female sexual partners (median 5) compared to the men with longitudinal cut (6) or uncut men (7) ($p < 0.05$). There was no difference in condom use at last female sex between circumferential cut, longitudinal cut and uncut men (35%, 32% and 33% respectively; $p = 0.9$).

Acceptability of male circumcision

Most uncut men and longitudinal cut men stated they would remove their foreskin or its remnant part, if it reduced the risk of HIV infection (71% and 76%) or if it had an overall health benefit (84% and 88%) (Table 5). The vast majority would prefer the procedure done in a formal health facility by a health worker. Almost two-thirds (64%) of uncut men and half (51%) of longitudinal cut men stated they were planning to have their foreskin removed at some time in the future (Table 5).

Almost all men and three-quarters of women (74%) stated they would remove the foreskin of their male child if it reduced the risk of HIV infection, and even higher proportions if it had an overall health benefit (Table 5).

Discussion

This is the first study conducted in PNG that combines the investigation of prevalence, beliefs, attitudes and practices about foreskin cutting and the acceptability of male circumcision. It thus addresses a vital area for public health and HIV prevention in the country. Results expand the evidence vital for the National AIDS Council, National Department of Health and other policy makers to more effectively plan HIV prevention strategies.

The overall prevalence of foreskin cutting in the study was 57%, however only 10% of men reported the complete removal of the foreskin, the procedure on which international HIV prevention strategies and recommendations are based upon. The prevalence of foreskin cutting in this study was higher than the 25.8% longitudinal cut and 3.4% circumferential cut documented in recent studies in plantation workers in the Highlands region, but similar to studies in the national capital [61-63,65]. The deliberate approach to include participants from diverse geographic locations and cultural backgrounds allowed a sample with a similar regional proportionality to the PNG population. Although this does not automatically imply representativeness or generalisability across the PNG population, this characteristic does enable closer analysis of the diversity of opinions and experience. The highest prevalence of both longitudinal and circumferential cuts in this study were from men from New Guinea Islands and Momase. This was not surprising given the numerous cultural groups with a tradition of foreskin cutting in these regions. However around half of men from the Highlands and Southern regions also reported having a cut foreskin (most often longitudinal cut). This was surprising given

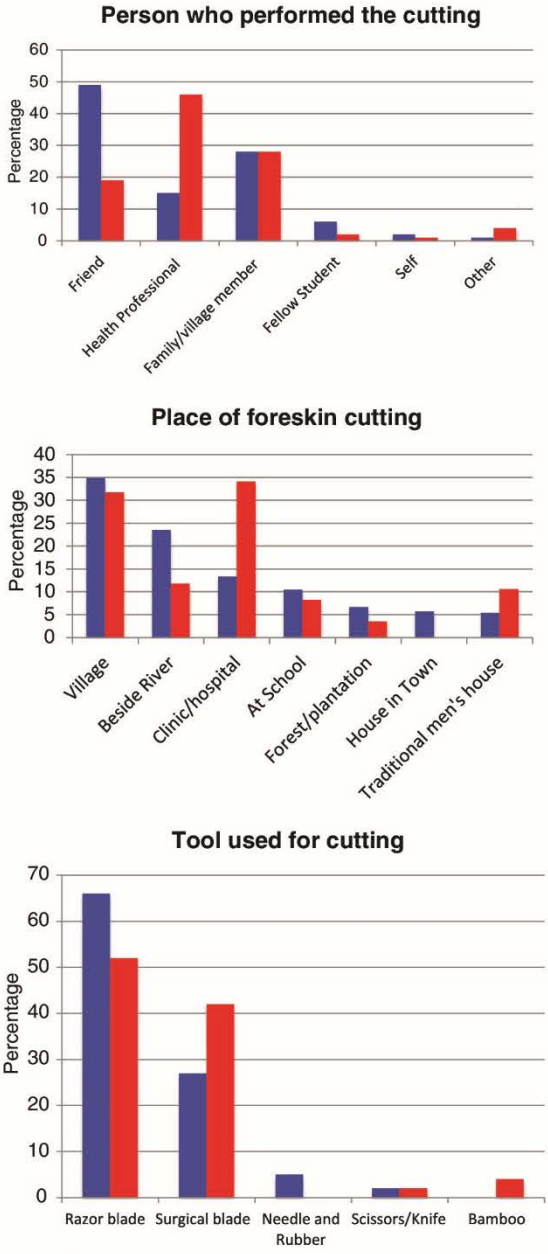


Figure 1 Place, person and tool used for foreskin cutting for men with longitudinal cut (in blue) and circumferential cut (in red).

there are far fewer cultural groups with a tradition of foreskin cutting in these regions. Older men from Highlands and Southern regions were less likely to have a foreskin cut, or have detailed knowledge about foreskin cutting. This reflects recent rapid changes that enable modern education, travel and work practices that facilitate the exchange of knowledge, beliefs and practices, including foreskin cutting.

This study provides further evidence that longitudinal cuts are the major forms of foreskin cutting in PNG [54,57,66,67]. Of men with dorsal longitudinal cuts in this study, more than half reported a variant where the glans penis is totally exposed. In this variant, the remnant foreskin hangs loosely on the ventral surface of the penis permanently exposing the inner surface of the foreskin. The foreskin then reduces in size, becomes dry and is visually similar to the outer surface of the foreskin. In some men with this variant, the foreskin reduces to such an extent that the penis appears very similar to a circumcised penis (See Figure 2). It is unclear what the implications of such longitudinal cuts are for HIV prevention. The major explanation of how MC protects against HIV is that the inner aspect of the foreskin is the prime site for HIV entry on the penis. The inner aspect (and the frenulum) have a thinner keratin layer than the glans or penile shaft and so enable HIV entry to Langerhans cells which carry specific HIV receptors [68]. Removing the foreskin through MC removes the prime site for HIV entry and so reduces the risk of HIV infection. This leads to the potential that changes to the exposed inner surface and reduction in the surface area of the remnant foreskin may provide some protection against HIV infection for men with this variant. However the potential protective effect is currently unknown [57,69]. A concerted research effort to investigate the potential protective effects of longitudinal cuts for HIV acquisition in PNG is essential given the scale of longitudinal cuts documented. This is particularly important given that most of the foreskin cutting does not occur within traditional initiation rituals or within the formal health sector, but predominantly between peers as an evolving contemporary socio-cultural practice. Moreover, many men with longitudinal cuts in PNG consider themselves as 'circumcised' because of the appearance of their penis and because the commonly used *Tok Pisin* terms *katim skin bilong kok* or *katim kok* do not differentiate between longitudinally cut or totally removed foreskin [46]. Studies from PNG, Rwanda, Swaziland and Kenya have highlighted regional and cultural variations of foreskin cutting that do not completely remove the foreskin, and that many of these men consider themselves 'circumcised'. This re-enforces the need for further research and more nuanced understanding of MC for HIV prevention in such settings [33,57,70,71]. This is particularly important given cultural contexts are constantly evolving and adapting to new influences and circumstances [72].

MC for adult men was viewed positively. Three quarters of uncut men (76%) stated that they would remove their foreskin if it had a health benefit and 71% if it reduced the risk of HIV infection. These results reflect similarly high proportions (86%) of male university students willing to have the foreskin removed in a pilot

Table 4 Attitudes and beliefs about foreskin cutting

		Uncut men % (n)	Longitudinal cut men % (n)	Circumferential cut men % (n)	*p* –value men	All men % (n)	Women % (n)	p-value men and women
Theme (i) Foreskin cutting and socio-cultural practice								
Having a split foreskin is a part of my culture	Yes	9% (32)	25% (97)	24% (21)	< .001	18% (150)	8% (37)	< .001
	No	68% (246)	57% (222)	60% (52)		62% (520)	42% (204)	
	Unsure	23% (85)	19% (73)	16% (14)		20% (172)	51% (248)	
Having a round cut is part of my culture	Yes	8% (28)	15% (58)	38% (33)	< .001	14% (119)	10.5% (51)	< .001
	No	69% (247)	63% (245)	47% (41)		64% (533)	37% (182)	
	Unsure	23% (83)	22% (86)	15% (13)		22% (182)	52.5% (256)	
Having a split foreskin proves manhood	Yes	25% (90)	51% (200)	34% (29)	< .001	38% (319)	18% (80)	< .001
	No	32% (114)	19% (72)	30% (26)		26% (212)	18% (79)	
	Unsure	43% (153)	30% (116)	36% (31)		36% (300)	63% (274)	
Having a round cut proves manhood	Yes	24% (87)	44% (173)	51% (44)	< .001	36% (304)	22% (107)	< .001
	No	31% (113)	19% (74)	23% (20)		25% (207)	18% (87)	
	Unsure	45% (161)	37% (142)	26% (23)		39% (326)	60% (288)	
Men with a split foreskin are respected by their peers	Yes	18% (65)	35% (135)	29% (25)	< .001	27% (225)	7% (35)	< .001
	No	29% (107)	32% (124)	40% (34)		32% (265)	11% (53)	
	Unsure	53% (191)	33% (130)	31% (27)		41% (348)	82% (396)	
Men with a round cut are respected by their peers	Yes	17% (61)	31% (122)	42% (36)	< .001	26% (219)	11.5% (56)	< .001
	No	28% (102)	31% (120)	32% (28)		30% (250)	11% (55)	
	Unsure	55% (198)	38% (148)	26% (23)		44% (360)	77.5% (378)	
Having a split foreskin is forbidden by my religion	Yes	23% (82)	15% (59)	12% (10)	< .001	18% (151)	13% (63)	< .001
	No	42% (122)	52% (205)	55% (47)		45% (374)	28% (137)	
	Unsure	44% (158)	33% (127)	34% (29)		37% (314)	59% (284)	
Having a round cut is forbidden by my religion	Yes	22% (79)	15% (59)	9% (8)	< .001	18% (146)	13% (62)	< .001
	No	35% (125)	51% (199)	64% (55)		45% (379)	29% (141)	
	Unsure	43% (157)	34% (131)	27% (23)		37% (311)	58% (276)	
Having a split foreskin is forbidden by my custom/culture	Yes	18% (63)	13% (50)	14% (12)	< .001	15% (125)	11.5% (54)	< .001
	No	44% (156)	65% (250)	64% (55)		56% (461)	30% (145)	
	Unsure	39% (139)	22% (86)	22% (19)		29% (244)	58.5% (281)	
Having a round cut is forbidden by my custom/culture	Yes	19% (68)	15% (58)	11% (10)	< .001	16% (136)	11.5% (55)	< .001
	No	43% (157)	61% (236)	70% (61)		54% (454)	30% (145)	
	Unsure	38% (136)	24% (95)	18% (16)		30% (247)	58.5% (280)	

Table 4 Attitudes and beliefs about foreskin cutting *(Continued)*

Theme (ii) Foreskin cutting and sexual practice								
A split foreskin decreases sexual pleasure for a man	Yes	13% (47)	16% (62)	8% (7)	< .001	14% (116)	9% (46)	< .001
	No	26% (95)	50% (194)	50% (42)		39% (331)	22% (104)	
	Unsure	61% (220)	34% (135)	43% (37)		47% (392)	69% (330)	
A round cut decreases sexual pleasure for a man	Yes	14% (51)	14% (56)	15% (13)	< .001	14% (120)	10% (48)	< .001
	No	26% (93)	43% (166)	53% (46)		36% (305)	22% (104)	
	Unsure	60% (218)	43% (168)	32% (28)		49% (414)	68% (329)	
Sex lasts longer for men who have a split foreskin	Yes	19% (68)	44% (171)	22% (19)	< .001	31% (258)	9.5% (46)	< .001
	No	12% (42)	13% (52)	20% (17)		13% (111)	10.5% (51)	
	Unsure	69% (250)	43% (166)	58% (50)		56% (466)	80% (387)	
Sex lasts longer for men who have a round cut	Yes	19% (67)	38% (145)	47% (41)	< .001	30% (253)	13% (63)	< .001
	No	1% (41)	12% (46)	14% (12)		12% (99)	8.5% (40)	
	Unsure	70% (252)	50% (195)	39% (34)		58% (481)	78.5% (375)	
Having a split foreskin encourages men to have more sexual partners	Yes	28% (100)	41% (159)	25% (21)	< .001	34% (280)	17% (82)	< .001
	No	19% (70)	30% (116)	44% (37)		27% (223)	21.5% (102)	
	Unsure	53% (192)	29% (113)	31% (26)		40% (331)	61.5% (294)	
Having a round cut encourages men to have more sexual partners	Yes	27% (99)	40% (153)	26% (22)	< .001	33% (274)	19% (90)	< .001
	No	18% (67)	26% (102)	48% (41)		25% (210)	21% (100)	
	Unsure	54% (196)	34% (132)	27% (23)		42% (351)	60% (281)	
Women prefer to have sex with a man who has a split foreskin	Yes	31% (112)	51% (200)	39% (34)	< .001	41% (346)	15% (72)	< .001
	No	10% (35)	7% (26)	11% (9)		8% (70)	11% (52)	
	Unsure	59% (214)	42% (165)	50% (43)		50% (422)	74% (358)	
Women prefer to have sex with a man who has a round cut	Yes	31% (114)	49% (193)	50% (44)	< .001	42% (351)	22% (106)	< .001
	No	10% (35)	6% (25)	8% (7)		8% (67)	8% (38)	
	Unsure	59% (213)	45% (175)	34% (37)		50% (425)	70% (338)	
Theme (iii) foreskin cutting and sexual health								
Men with a split foreskin do not need to use condoms to protect them from STIs & HIV	Yes	13% (45)	17% (65)	11% (9)	< .001	14% (119)	10% (48)	< .001
	No	50% (181)	61% (239)	69% (59)		57% (479)	50% (242)	
	Unsure	37% (135)	22% (88)	20% (17)		29% (240)	40% (195)	
Men with a round cut do not need to use condoms to protect them from STIs & HIV	Yes	14% (52)	17% 965)	9% (8)	< .001	15% 9125)	10% (47)	< .001
	No	49% (176)	61% (237)	72% (61)		57% (474)	51% (246)	
	Unsure	37% (132)	23% (89)	19% (16)		28% (237)	39% (190)	

Table 4 Attitudes and beliefs about foreskin cutting *(Continued)*

Men with a split foreskin can become infected with HIV	Yes	59% (211)	64% (251)	65% (56)	.015	63% (518)	45% (219)	< .001
	No	6% (20)	10% (39)	9% (8)		8% (67)	10% (50)	
	Unsure	36% (127)	26% (100)	26% (22)		30% (249)	44% (213)	
Men with a round cut can become infected with HIV	Yes	58% (209)	64% (250)	68% (60)	.059	62% (519)	41% (198)	< .001
	No	7% (26)	9% (36)	10% (9)		8% (71)	13% (64)	
	Unsure	35% (126)	27% (106)	22% (19)		30% (251)	46% (220)	
A split foreskin reduces the risk of becoming infected with HIV	Yes	31% (112)	37% (145)	33% (28)	.324	34% (285)	27% (130)	< .001
	No	25% (92)	26% (101)	28% (24)		26% (217)	22% (105)	
	Unsure	44% (157)	37% (142)	39% (34)		40% (333)	51% (248)	
A round cut reduces the risk of becoming infected with HIV	Yes	35% (126)	39% (153)	36% (32)	.813	37% (311)	33.5% (162)	< .001
	No	26% (93)	25% (98)	24% (21)		25% (212)	17% (82)	
	Unsure	39% (141)	36% (141)	40% (35)		38% (317)	49.5% (239)	
Theme (iv) foreskin cutting and safety								
It is safe to use the same blade or razor to split or remove the foreskin of many men at one time	Yes	5% (17)	8% (30)	6% (5)	< .001	6% (52)	3% (16)	< .001
	No	81% (293)	87% (339)	89% (77)		85% (709)	75% (365)	
	Unsure	14% (51)	5% (21)	5% (4)		9% (76)	21% (104)	
Splitting the foreskin in a village by a friend or relative is a safe procedure	Yes	8% (27)	15% (60)	17% (15)	.005	12% (102)	5.5% (26)	< .001
	No	67% (237)	64% (245)	65% (55)		65% (537)	63.5% (297)	
	Unsure	26% (91)	21% (80)	18% (15)		23% (186)	31% (146)	
Removing the foreskin in a village by a friend or relative is a safe procedure	Yes	8% (27)	12% (46)	17% (15)	.043	11% (88)	6% (30)	< .001
	No	67% (243)	66% (258)	66% (57)		64% (558)	61.5% (296)	
	Unsure	25% (92)	22% (87)	17% (15)		23% (194)	32.5% (157)	
Having a round cut by a doctor or nurse in a clinic or hospital is a safe procedure	Yes	83% (298)	92% (360)	88% (77)	.005	88% (735)	71% (342)	< .001
	No	3% (10)	2% (7)	3% (3)		2% (20)	5% (23)	
	Unsure	14% (51)	6% (25)	8% (7)		10% (83)	24% (118)	
Theme (v) foreskin cutting and socio-cultural beliefs								
Allowing blood to flow when the foreskin is split or removed is important in my custom/culture	Yes	21% (76)	26% (102)	30% (26)	.067	24% (204)	7% (33)	< .001
	No	42% (151)	46% (180)	38% (33)		43% (364)	25% (121)	
	Unsure	40% (133)	28% (111)	32% (28)		32% (272)	68% (326)	
A man needs to eat special food in the days after having his foreskin split or removed	Yes	46% (166)	71% (278)	61% (53)	< .001	59% (497)	25% (123)	< .001
	No	7% (26)	11% (42)	18% (16)		10% (84)	10% (47)	
	Unsure	47% (170)	18% (70)	21% (18)		31% (258)	65% (311)	

Table 4 Attitudes and beliefs about foreskin cutting *(Continued)*

A man needs to reduce the amount of water he drinks in the days after having his foreskin split or removed	Yes	52% (188)	85% (333)	72% (63)	< .001	69% (584)	22% (107)	< .001
	No	7% (26)	5% (19)	13% (11)		7% (56)	10% (49)	
	Unsure	41% (148)	10% (41)	15% (13)		24% (202)	68% (327)	
A man needs to avoid women in the days after having his foreskin split or removed	Yes	68% (245)	91% (355)	90% (78)	< .001	81% (678)	48% (230)	< .001
	No	4% (16)	3% (10)	2% (2)		3% (28)	4% (18)	
	Unsure	28% (101)	7% (27)	8% (7)		16% (135)	48% (232)	
A split foreskin makes a man's body grow strong	Yes	30% (108)	54% (213)	43% (37)	< .001	43% (358)	16% (76)	< .001
	No	11% (39)	9% (36)	16% (14)		11% (89)	12% (56)	
	Unsure	59% (210)	37% (144)	41% (35)		46% (389)	72% (349)	
A round cut makes a man's body grow strong	Yes	31% (111)	53% (209)	50% (44)	.001	43% (364)	18% (86)	< .001
	No	9% (33)	7% (27)	14% (12)		9% (72)	11% (52)	
	Unsure	60% (217)	40% (156)	36% (32)		48% (405)	71% (343)	
A split foreskin makes the penis grow bigger	Yes	31% (111)	53% (206)	37% (32)	< .001	42% (349)	11% (52)	< .001
	No	9% (33)	14% (55)	19% (16)		12% (104)	13% (61)	
	Unsure	60% (217)	33% (131)	44% (38)		46% (386)	76% (369)	
A round cut makes the penis grow bigger	Yes	31% (112)	48% (189)	42% (37)	< .001	40% (338)	14% (68)	< .001
	No	10% (35)	14% (54)	22% (19)		13% (108)	11.5% (55)	
	Unsure	59% (214)	38% (149)	36% (32)		47% (395)	74.5% (358)	

Table 5 Acceptability of male circumcision for self and male child for uncut, longitudinal cut and round cut men

		Uncut men	Longitudinal cut men	Round cut men	p-value
		% (n)^	% (n)	% (n)	
Would have foreskin completely removed if it had a health benefit	Yes	76 (269)	88 (278)		<.001
	Maybe	12 (45)	0		
	No	12 (42)	12 (38)		
Would have foreskin completely removed if it reduced the risk of getting HIV	Yes	71 (250)	84 (258)		<.001
	Maybe	13 (46)	0		
	No	15(55)	16 (49)		
Preferred place to have foreskin removed	Hospital/clinic	95 (312)	97 (247)		.26
	Others	3 (9)	2 (5)		
	Not sure	2 (8)	1 (2)		
Preferred person to remove foreskin	Health worker	90 (298)	95 (292)		<.01
	Other	4 (14)	3 (10)		
	Don't know /not want MC	6 (19)	1 (4)		
Planning to remove foreskin	Yes	64 (229)	51 (163)		<.001
	Maybe	14 (50)	26 (84)		
	No	22 (78)	22 (70)		
Recommend foreskin removal to friends	Yes	64 (210)	64 (209)	89 (57)	<.001
	No	36 (116)	36 (116)	11 (7)	
Would have the foreskin removed from male child if it had a health benefit	Yes	86 (260)	92 (280)	95 (58)	<.05
	No	14 (43)	8 (26)	5 (3)	
Would have the foreskin removed from male child if it reduced the risk of HIV or STIs	Yes	87 (250)	93 (285)	91 (53)	<.05
	No	13 (38)	7(20)	9 (5)	

^ Totals are not the same for all characteristics. Some participants did not answer all questions.

study [65] and qualitative findings showing PNG men to be generally in favour of MC for HIV prevention [46]. Further, men with an existing longitudinal cut were overwhelmingly in favour of having the remnant foreskin removed if it reduced the risk of HIV infection. Most of these men had their longitudinal cut in a community setting, but almost all stated they would prefer to have the removal procedure conducted in a health facility by a health professional which they considered a safer option. The high proportion of men willing to have MC is similar to studies in high HIV prevalence settings in Africa (median 65%) but somewhat greater than studies in other moderate prevalence settings, such as India (58%), Thailand (14% and 25% before and after information) and Dominican Republic (29% and 67% before and after information) [13,40,41,43]. Methodology, study population, HIV prevalence and socio-cultural context are so different across these studies that comparisons are hard to interpret. Moreover men in these studies were categorised in a circumcised – uncircumcised dichotomy, making interpretation even more difficult for the PNG context where the longitudinal cut is the major form of cutting. However, these studies do reflect the need to investigate understandings and cultural contexts of specific populations to inform if, or how, MC may be a part of the local response to HIV.



Figure 2 Longitudinal Foreskin cut: Variant (i) Foreskin cut but still partially covers the glans penis; Variant (ii) Foreskin cut and remains loose behind the glans penis.

MC for children was viewed positively. More than 90% of men and three quarters of women stated they would

remove the foreskin of their child if it had a health benefit and/or reduced the risk of HIV. These rates are similar to parents in some high prevalence African settings and provide some of the first evidence about parents' willingness to circumcise their sons in a moderate HIV setting [13]. This provides a unique challenge to the PNG health system that struggles to provide even basic primary health care services for the majority of the population. There are only 0.5 doctors and 5 nurses/midwives per 10 000 people in PNG and only 39% of births are supervised by skilled birth attendants [73,74]. Having a large number of adults, adolescents or infants present for MC would require considerable training, infrastructure and resource allocation across the entire health system.

Specific attitudes and beliefs documented in this study have direct relevance for policy makers. When given the ability to respond yes, no, or unsure to statements about foreskin cutting it was common for around a third of men and often more than half of women responded 'unsure'. Although this high level of uncertainly may be of concern to some service providers or policy makers, it reflects the dynamic socio-cultural context in PNG and that many people are aware of foreskin cutting but may not have fixed attitudes or beliefs towards foreskin cutting. This provides an opportunity for public health campaigns, as called for by Kelly et al. [46], to provide accurate information in a culturally sensitive way that builds on the strength of culture, rather than destroying it. In a country where one's culture and religion is so explicitly referred to in everyday life, it is important to note that few men and women stated foreskin cutting was forbidden by their custom/tradition or religion. Further, none of the beliefs about culture, religion or sexual practice documented in this study contradict the positive views of men and parents towards MC, or the appropriateness of providing MC services in this setting.

It is pleasing to note that the majority of both men and women believe men with a cut (or removed) foreskin still need to use condoms to prevent STI and HIV. However, of concern is one quarter of men and 40% of women stated they were unsure. This requires current public health messages about STI and HIV prevention to emphasise that condoms are for everyone regardless of a man's foreskin cutting status. It is also encouraging that almost all men and women think it is unsafe to use the same blade to cut many men. This is likely to be due to cultural beliefs about the contagion potential of blood re-enforced by public HIV prevention messages about the danger of sharing tools for body cutting, tattooing or scarification practices [75]. Nevertheless, 19% of men and 52% of women were not sure or do not think it is necessary to avoid sexual contact in the days after the foreskin cut, highlighting the need for more specific MC education.

As in other low-moderate HIV burden settings with heterosexual transmission, a key challenge is how to expand existing clinical MC services, increase the safety of existing community foreskin cutting practices and/or introduce new MC services appropriate to local contexts. Decision makers must consider programs that deliver the greatest epidemiological and public health impact while being responsive to diverse socio-cultural practices and health service capacity [33,45,46]. In this context, researchers and policy makers in PNG are actively considering international and local evidence to inform policy making and future research [76,77].

The major strength of this study was that it was a partnership between PNG and Australian universities and two large resource companies across four provinces at sites where people from across PNG come to study or work. This allowed access to a great diversity of men and women who provided data on traditional and contemporary foreskin cutting practices and beliefs. However, only some major descriptive analysis of this large quantitative data set on foreskin cutting practices and beliefs could be presented in this paper. Further more detailed analyses of quantitative data and findings from qualitative interviews and focus group discussions will be published separately. Given the hyper-diversity of having more than 800 languages, and thus diverse sets of beliefs and practices in the country, this study provides a limited, although valuable snapshot of current foreskin cutting and the acceptability of MC in PNG.

Conclusion

This study considerably expands the evidence base of current foreskin cutting practices in this moderate HIV prevalence setting. The major form of foreskin cut is the longitudinal cut along the dorsal surface resulting in the remnant foreskin hanging from the ventral surface of the penis. In most cases this totally exposes the glans penis and results in a remnant foreskin that is dry, reduced in size and with the inner surface visually similar to the outer surface. Foreskin removal (MC), from both uncut men and men with an existing longitudinal cut was considered appropriate and acceptable by most men and women in this study. Potential MC services will need to be responsive to the great diversity of local socio-cultural beliefs and practices and existing health service constraints. Research evidence of the protection conferred by longitudinal cuts is urgently needed to inform HIV prevention strategies in this setting. This study provides vital evidence on current foreskin cutting beliefs and practices and the implications for the acceptability of MC for HIV prevention in PNG. It thus enables more effective planning of HIV prevention in PNG and other populations with dynamic and varied socio-cultural foreskin cutting practices.

Additional files

Additional file 1: Figure S1. Male Questionnaire in English.
Additional file 2: Figure S2. Female Questionnaire in English.

Competing interests
The authors declare there they have no competing interests.

Authors' contributions
DM and WJM conceived, designed and coordinated the study and drafted the manuscript. RT, TM, CM, FF, MRM, MW, KB participated in the design and coordination of the study; collected, managed and analysed data; helped draft and revise the manuscript. RM and JK managed, analysed and interpreted data and help to draft and revise the manuscript. All authors have read and approved the final manuscript.

Acknowledgements
We wish to thank the study participants, local steering group members and all members of the 'Acceptability of Male Circumcision for HIV Prevention in Papua New Guinea' study. A special thanks to Divine Word University, Pacific Adventist University, James Cook University, Higaturu Oil Palms and Barrick Gold (Porgera Joint Venture) for partnering in the study, including in-kind support. Thanks also to the Papua New Guinea National Department of Health/Asian Development Bank HIV Prevention in Rural Enclaves Project for intellectual and logistic support throughout. Capacity building workshops and ongoing support throughout the study were facilitated by Associate Professor Petra Buttner from James Cook University; Ethics approvals were granted by Papua New Guinea National AIDS Council, Pacific Adventist University, Divine Word University and James Cook University and endorsed by Provincial AIDS Committees of Enga, Oro and Madang Provinces and National Capital District, all for which we are grateful. The study was funded by National Health and Medical Research Project Grant 601003 and Capacity Building Workshop for PNG staff funded by Australian Leadership Award Fellowships Agreement Number 59019.

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Received: 9 May 2013 Accepted: 5 September 2013
Published: 9 September 2013

References
1. Auvert B, Taljaard D, Lagarde E, Sobngwi-Tambekou J, Sitta R, Puren A: **Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial.** *PLoS Med* 2005, **2**(11):e298.
2. Bailey RC, Moses S, Parker CB, Agot K, Maclean I, Krieger JN, Williams CF, Campbell RT, Ndinya-Achola JO: **Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial.** *Lancet* 2007, **369**(9562):643–656.
3. Gray RH, Kigozi G, Serwadda D, Makumbi F, Watya S, Nalugoda F, Kiwanuka N, Moulton LH, Chaudhary MA, Chen MZ, *et al*: **Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial.** *Lancet* 2007, **369**(9562):657–666.
4. Weiss HA, Quigley MA, Hayes RJ: **Male circumcision and risk of HIV infection in sub-Saharan Africa: a systematic review and meta-analysis.** *AIDS* 2000, **14**(15):2361–2370.
5. Siegfried N, Muller M, Deeks JJ, Volmink J: **Male circumcision for prevention of heterosexual acquisition of HIV in men.** *Cochrane Database Syst Rev* 2009, **2**, CD003362.
6. Nagelkerke NJ, Moses S, de Vlas SJ, Bailey RC: **Modelling the public health impact of male circumcision for HIV prevention in high prevalence areas in Africa.** *BMC Infec Dis* 2007, **7**:16.
7. Londish GJ, Murray JM: **Significant reduction in HIV prevalence according to male circumcision intervention in sub-Saharan Africa.** *Int J Epidemiol* 2008, **37**(6):1246–1253.
8. Auvert B, Taljaard D, Rech D, Lissouba P, Singh B, Shabangu D: **Effect of the Orange Farm (South Africa) male circumcision roll-out (ANRS-12126) on the spread of HIV.** In *6th IAS Conference on HIV Pathogenesis, Treatment and Prevention: 20 July 2011*. Rome, Italy: International AIDS Society; 2011.
9. WHO: *[Press Release] WHO and UNAIDS announce Recommendations from Expert Meeting on Male Circumcision for HIV Prevention*. Geneva: WHO; 2007.
10. Nnko S, Washija R, Urassa M, Boerma JT: **Dynamics of male circumcision practices in northwest Tanzania.** *Sex Transm Dis* 2001, **28**(4):214–218.
11. Jayeoba O, Dryden-Peterson S, Okui L, Smeaton L, Magetse J, Makori L, Modikwa V, Mogodi M, Plank R, Lockman S: **Acceptability of male circumcision among adolescent boys and their parents, Botswana.** *AIDS Behav* 2012, **16**(2):340–349.
12. Iliyasu Z, Abubakar IS, Sani IH, Jibo AM, Karaye IM, Salihu HM, Aliyu MH: **Male circumcision and HIV risk behavior among University students in Northern Nigeria.** *Am J Mens Health* 2012, **25**:401–406.
13. Westercamp N, Bailey RC: **Acceptability of male circumcision for prevention of HIV/AIDS in sub-Saharan Africa: a review.** *AIDS Behav* 2007, **11**(3):341–355.
14. Lukobo MD, Bailey RC: **Acceptability of male circumcision for prevention of HIV infection in Zambia.** *AIDS Care* 2007, **19**(4):471–477.
15. Ngalande RC, Levy J, Kapondo CP, Bailey RC: **Acceptability of male circumcision for prevention of HIV infection in Malawi.** *AIDS Behav* 2006, **10**(4):377–385.
16. Scott BE, Weiss HA, Viljoen JI: **The acceptability of male circumcision as an HIV intervention among a rural Zulu population, Kwazulu-Natal, South Africa.** *AIDS Care* 2005, **17**(3):304–313.
17. Mattson CL, Bailey RC, Muga R, Poulussen R, Onyango T: **Acceptability of male circumcision and predictors of circumcision preference among men and women in Nyanza Province, Kenya.** *AIDS Care* 2005, **17**(2):182–194.
18. Halperin DT, Fritz K, McFarland W, Woelk G: **Acceptability of adult male circumcision for sexually transmitted disease and HIV prevention in Zimbabwe.** *Sex Transm Dis* 2005, **32**(4):238–239.
19. Lagarde E, Dirk T, Puren A, Reathe RT, Bertran A: **Acceptability of male circumcision as a tool for preventing HIV infection in a highly infected community in South Africa.** *AIDS* 2003, **17**(1):89–95.
20. Kebaabetswe P, Lockman S, Mogwe S, Mandevu R, Thior I, Essex M, Shapiro RL: **Male circumcision: an acceptable strategy for HIV prevention in Botswana.** *Sex Trans Infect* 2003, **79**(3):214–219.
21. Bailey RC, Muga R, Poulussen R, Abicht H: **The acceptability of male circumcision to reduce HIV infections in Nyanza Province, Kenya.** *AIDS Care* 2002, **14**(1):27–40.
22. WHO, UNAIDS: *Joint Strategic Action Framework to Accelerate the Scale-Up of Voluntary Medical Male Circumcision for HIV Prevention in Eastern and Southern Africa (2012–2016)*. Geneva: UNAIDS; 2011.
23. WHO, UNAIDS: *Progress in Scale-up of Male Circumcision for HIV prevention in Eastern and Southern Africa*. Geneva: WHO; 2011.
24. WHO: *Use of devices for adult male circumcision in public health HIV prevention programmes - Conclusions of the WHO Technical Advisory Group on Innovations in Male Circumcision*. Geneva: WHO; 2012.
25. Westercamp M, Agot KE, Ndinya-Achola J, Bailey RC: **Circumcision preference among women and uncircumcised men prior to scale-up of male circumcision for HIV prevention in Kisumu, Kenya.** *AIDS Care* 2012, **24**(2):157–166.
26. Waters E, Stringer E, Mugisa B, Temba S, Bowa K, Linyama D: **Acceptability of neonatal male circumcision in Lusaka, Zambia.** *AIDS Care* 2012, **24**(1):12–19.
27. Tarimo EA, Francis JM, Kakoko D, Munseri P, Bakari M, Sandstrom E: **The perceptions on male circumcision as a preventive measure against HIV infection and considerations in scaling up of the services: a qualitative study among police officers in Dar es Salaam, Tanzania.** *BMC Publ Health* 2012, **12**(1):529.
28. Sheldon WR, Nhemachena T, Blanchard K, Chipato T, Ramjee G, Trussell J, McCulloch CE, Blum M, Harper CC: **Male circumcision for HIV prevention: clinical practices and attitudes among healthcare providers in South Africa and Zimbabwe.** *Sex Transm Dis* 2012, **39**(7):567–575.

29. Ngo TD, Obhai G: **Male circumcision uptake, postoperative complications, and satisfaction associated with mid-level providers in rural Kenya.** *HIV/AIDS - Research and Palliative Care* 2012, **2012:**37–43.
30. Mavhu W, Hatzold K, Laver SM, Sherman J, Tengende BR, Mangenah C, Langhaug LF, Hart G, Cowan FM: **Acceptability of early infant male circumcision as an HIV prevention intervention in Zimbabwe: a qualitative perspective.** *PLoS One* 2012, **7**(2):e32475.
31. Lundsby K, Draebel T, Wolf Meyrowitsch D: **'It brought joy in my home as in the area of my wife'. How recently circumcised adult men ascribe value to and make sense of male circumcision.** *Global Public Health* 2012, **7**(4):352–366.
32. Kuznik A, Lamorde M, Sekavuga DB, Picho B, Coutinho A: **Medical male circumcision for HIV/AIDS prevention in Uganda - the cost of disposable versus re-usable circumcision kits.** *Trop Doct* 2012, **42**(1):5–7.
33. Gasasira RA, Sarker M, Tsague L, Nsanzimana S, Gwiza A, Mbabazi J, Karema C, Asiimwe A, Mugwaneza P: **Determinants of circumcision and willingness to be circumcised by Rwandan Men, 2010.** *BMC Publ Health* 2012, **12**(1):134.
34. Andersson N, Cockcroft A: **Male circumcision, attitudes to HIV prevention and HIV status: a cross-sectional study in Botswana, Namibia and Swaziland.** *AIDS Care* 2012, **24**(3):301–309.
35. Siegler AJ, Mbwambo JK, Diclemente RJ: **Acceptability of medical male circumcision and improved instrument sanitation among a traditionally circumcising group in East Africa.** *AIDS Behav* 2012, **16**(7):1846–1852.
36. Sawires SR, Dworkin SL, Fiamma A, Peacock D, Szekeres G, Coates TJ: **Male circumcision and HIV/AIDS: challenges and opportunities.** *Lancet* 2007, **369**(9562):708–713.
37. Muula AS: **Male circumcision to prevent HIV transmission and acquisition: what else do we need to know?** *AIDS Behav* 2007, **11**(3):357–363.
38. Peltzer K, Niang CI, Muula AS, Bowa K, Okeke L, Boiro H, Chimbwete C: **Male circumcision, gender and HIV prevention in sub-Saharan Africa: a (social science) research agenda.** *Sahara J* 2007, **4**(3):658–667.
39. Kippax S, Holt M, Friedman S: **Bridging the social and the biomedical: engaging the social and political sciences in HIV research.** *J Int AIDS Soc* 2011, **14**(Suppl 2):S1.
40. Tieu HV, Phanuphak N, Ananworanich J, Vatanparast R, Jadwattanakul T, Pharachetsakul N, Mingkwanrungrueng P, Buajoom R, Teeratakulpisarn S, Teeratakulpisarn N, *et al*: **Acceptability of male circumcision for the prevention of HIV among high-risk heterosexual men in Thailand.** *Sex Transm Dis* 2010, **37**(6):352–355.
41. Brito MO, Caso LM, Balbuena H, Bailey RC: **Acceptability of male circumcision for the prevention of HIV/AIDS in the Dominican Republic.** *PLoS One* 2009, **4**(11):e7687.
42. Brito MO, Luna M, Bailey RC: **The feasibility and acceptability of male circumcision among men, women, and health providers of the Altagracia Province, Dominican Republic.** *AIDS Care* 2010, **22**(12):1530–1535.
43. Madhivanan P, Krupp K, Kulkarni V, Kulkarni S, Klausner JD: **Acceptability of male circumcision for HIV prevention among high-risk men in Pune, India.** *Sex Transm Dis* 2011, **38**(6):571.
44. Madhivanan P, Krupp K, Chandrasekaran V, Karat SC, Reingold AL, Klausner JD: **Acceptability of male circumcision among mothers with male children in Mysore, India.** *AIDS* 2008, **22**(8):983–988.
45. Kelly A, Kupul M, Aeno H, Shih P, Naketrumb R, Neo J, Fitzgerald L, Kaldor JM, Siba PM, Vallely A: **Why women object to male circumcision to prevent HIV in a moderate-prevalence setting.** *Qual Health Res* 2013, **23**(2):180–193.
46. Kelly A, Kupul M, Fitzgerald L, Aeno H, Neo J, Naketrumb R, Siba P, Kaldor J, Vallely A: **"Now we are in a different time; various bad diseases have come." Understanding men's acceptability of male circumcision for HIV prevention in a moderate prevalence setting.** *BMC Publ Health* 2012, **12**(1):67.
47. National AIDS Council Secretariat: Global AIDS Report: *Country Progress Report, Papua New Guinea, Reporting Period January 2010 - December 2011.* Port Moresby, Papua New Guinea: National AIDS Council Secretariat; 2012.
48. National AIDS Council Secretariat and Partners PNG: *UNGASS 2008 Country Progress Report: Papua New Guinea.* Port Moresby: National AIDS Council Secretariat; 2008.
49. Vallely A, Page A, Dias S, Siba P, Lupiwa T, Law G, Millan J, Wilson DP, Murray JM, Toole M, *et al*: **The prevalence of sexually transmitted infections in Papua New Guinea: A systematic review and meta-analysis.** *PLoS One* 2010, **5**(12):e15586-1–e15586-10.
50. National AIDS Council Secretariat: *National Research Agenda for HIV&AIDS in PNG 2008–13.* Port Moresby: National AIDS Council Secretariat; 2008.
51. National AIDS Council Secretariat: *National HIV and AIDS Research Capacity Building Plan 2010–2013.* Port Moresby: National AIDS Council of Papua New Guinea; 2010.
52. National AIDS Council Secretariat: *Papua New Guinea National HIV and AIDS Strategy 2011–2015.* Port Moresby: National AIDS Council Secretariat; 2010.
53. Hogbin H: *The island of menstruating men: Religion in Wogeo New Guinea.* Scranton: Chandler; 1970.
54. Hammar LJ: *Sin, Sex and Stigma: A Pacific Response to HIV and AIDS.* Wantage: Sean Kingston Publishing; 2010.
55. Caldwell J, Isaac-Toua G: **AIDS in Papua New Guinea: situation in the Pacific.** *J Health Popul Nutr* 2002, **20**(2):104–111.
56. Hull TH, Budiharsana M: **Male circumcision and penis enhancement in Southeast Asia: matters of pain and pleasure.** *Reprod Health Matters* 2001, **9**(18):60–67.
57. Hill PS, Tynan A, Law G, Millan J, Browne K, Sauk J, *et al*: **A typology of penile cutting in Papua New Guinea: Results of a modified delphi study among sexual health clinicians.** *AIDS Care* 2011, **24**(1):77–86.
58. Kempf W: **The politics of incorporation: masculinity, spatiality and modernity among the Ngaing of Papua New Guinea.** *Oceania* 2002, **73**(1):56–77.
59. Tuzan D: *The Voice of the Tambaran.* Berkeley: University of California; 1980.
60. Buchanan HR, Frank R, Couch M, Amos A: **The Re-Making of men and penile modification**. In *Technologies of Sexuality, Identity and Sexual Health.* Edited by Manderson L. London: Routledge Press; 2012.
61. Millan J, Yeka W, Obiero W, Pantumari J: *HIV/AIDS Behavioural Surveillance Survey: Within High Risk Settings - Papua New Guinea (2006).* Port Moresby: National AIDS Council Secretariat, National HIV/AIDS Support Project; 2006.
62. Buchanan HR, Akuani F, Kupe F, Amos A, Sapak K, Be F, Kawage T, Frank R, Couch M: *Behavioural Surveillance Research in Rural Development Enclaves in Papua New Guinea: A Study with the Oil Search Limited Workforce.* Port Moresby, Papua New Guinea: The National Research Institute; 2011.
63. Kelly A, Kupul M, Man WYN, Nosi S, Lote N, Rawstorne P, Halim G, Ryan C, Worth H: *Askim na save (Ask and understand): People who sell and/or exchange sex in Port Moresby. Key Quantitative Findings.* Sydney, Australia: Papua New Guinea Institute of Medical Research and the University of New South Wales; 2011.
64. National Statistical Office of Papua New Guinea: *Preliminary Figures: Papua New Guinea Census 2011.* Papua New Guinea: Port Moresby; 2011.
65. Tommbe R, Asugeni L, MacLaren D: *What Can be Learned about Male Circumcision and HIV Prevention from a Cohort of Students and Staff at a Papua New Guinea University?.* Port Moresby, Papua New Guinea: Pacific Adventist University; 2012.
66. Jenkins C, Buchanan-Aruwafu H: *Cultures and Contexts Matter: Understanding and Preventing HIV in the Pacific.* Manila, Phillipines: Asian Development Bank; 2007.
67. Buchanan-Aruwafu H: *An integrated picture: HIV risk and vulnerability in the Pacific.* Noumea, New Caledonia: Secretariat of the Pacific Community; 2007.
68. McCoombe SG, Short RV: **Potential HIV-1 target cells in the human penis.** *AIDS* 2006, **20**(11):1491–1495.
69. Kigozi G, Wawer M, Ssettuba A, Kagaayi J, Nalugoda F, Watya S, Mangen FW, Kiwanuka N, Bacon MC, Lutalo T, *et al*: **Foreskin surface area and HIV acquisition in Rakai, Uganda (size matters).** *AIDS* 2009, **23**(16):2209–2213.
70. Brown JE, Micheni KD, Grant EM, Mwenda JM, Muthiri FM, Grant AR: **Varieties of male circumcision: a study from Kenya.** *Sex Transm Dis* 2001, **28**(10):608–612.
71. Thomas AG, Tran BR, Cranston M, Brown MC, Kumar R, Tlelai M: **Voluntary medical male circumcision: a cross-sectional study comparing circumcision self-report and physical examination findings in Lesotho.** *PLoS One* 2011, **6**(11):e27561.
72. Montgomery C, Pool R: **Critically engaging: integrating the social and the biomedical in international microbicides research.** *J Int AIDS Soc* 2011, **14**(Suppl 2):S4.
73. Rule J, Worth H, Roberts G, Taylor R: **Human resource challenges in scaling up the response to HIV in Papua New Guinea.** *WPSAR* 2012, **3**(3). 10.5365/wpsar.2012.3.2.006.
74. Dawson A, Howes T, Gray N, Kennedy E: *Human resources for health in maternal, neonatal and reproductive health at community level: A profile of Papua New Guinea.* Sydney, Australia: Human Resources for Health Knowledge Hub and Burnet Institute; 2011.
75. Kelly A, Kapul M, Aeno H, Neo J, Naketrumb R, Fitzgerald L, Hill P, Kaldor J, Siba P, Vallely A: **More than just a cut: A qualitative study of penile practices and their relationship to masculinity, sexuality and contagion and their implications for HIV prevention in Papua New Guinea.** *BMC Int Health Hum Rights* 2011, **12**(10). 10.1186/1472-698X-12-10.

76. Vallely A, MacLaren D, on behalf of PNGIMR, UNSW, UQ, DWU, PAU, JCU investigator teams: **[Briefing Document] Male circumcision for HIV prevention in Papua New Guinea: a summary of two research projects: briefing document**. In *National Policy Forum: Male Circumcision on HIV prevention in Papua New Guinea: November 2011*. Port Moresby, Papua New Guinea: Papua New Guinea Institute of Medical Research and James Cook University; 2011.
77. Vallely A, MacLaren D: **National Policy Forum on Male Circumcision for HIV Prevention in Papua New Guinea: Summary and recommendations for public health**. In *National Policy Forum on Male Circumcision for HIV Prevention in Papua New Guinea: 2011*. Port Moresby, Papua New Guinea: Papua New Guinea Institute of Medical Research and James Cook University; 2011. on behalf of PNGIMR, UNSW, UQ, DWU, PAU, JCU investigator teams.

doi:10.1186/1471-2458-13-818
Cite this article as: MacLaren *et al.*: Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea. *BMC Public Health* 2013 **13**:818.

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10.2 Mutual Research Capacity Strengthening

Redman-MacLaren, ML, MacLaren, DJ, Harrington, H, Asugeni, R, Timothy-Harrington, R, Kekuabata, E, Speare, R 2012, 'Mutual research capacity strengthening: a qualitative study of two-way partnerships in public health research in Solomon Islands', *International Journal for Equity in Health 2012*, vol. 11, no. 79.

Authors' roles: MRM: Co-designed the research (including study tools), facilitated interviews with co-researchers, analysed the interview data, drafted and edited the manuscript. DM: Facilitated interviews with co-researchers, reviewed data analysis and edited manuscript. HH: Provided interview data, contributed to analysis of data and edited manuscript. RA: Provided interview data, contributed to analysis of data and edited manuscript. RTH: Provided interview data, contributed to analysis of data and edited manuscript. EK: Provided interview data, contributed to analysis of data and edited manuscript. RS: Conceived the concept of study, co-designed the research (including study tools), reviewed data analysis and edited manuscript. All authors agree with manuscript results and conclusions.

Accesses: 3470; **Citations:** 15; **Date:** 6 May 2015

Redman-MacLaren *et al. International Journal for Equity in Health* 2012, **11**:79
http://www.equityhealthj.com/content/11/1/79

INTERNATIONAL JOURNAL FOR EQUITY IN HEALTH

RESEARCH Open Access

Mutual research capacity strengthening: a qualitative study of two-way partnerships in public health research

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Abstract

Introduction: Capacity building has been employed in international health and development sectors to describe the process of 'experts' from more resourced countries training people in less resourced countries. Hence the concept has an implicit power imbalance based on 'expert' knowledge. In 2011, a health research strengthening workshop was undertaken at Atoifi Adventist Hospital, Solomon Islands to further strengthen research skills of the Hospital and College of Nursing staff and East Kwaio community leaders through partnering in practical research projects. The workshop was based on participatory research frameworks underpinned by decolonising methodologies, which sought to challenge historical power imbalances and inequities. Our research question was, "Is research capacity strengthening a two-way process?"

Methods: In this qualitative study, five Solomon Islanders and five Australians each responded to four open-ended questions about their experience of the research capacity strengthening workshop and activities: five chose face to face interview, five chose to provide written responses. Written responses and interview transcripts were inductively analysed in *NVivo 9*.

Results: Six major themes emerged. These were: Respectful relationships; Increased knowledge and experience with research process; Participation at all stages in the research process; Contribution to public health action; Support and sustain research opportunities; and Managing challenges of capacity strengthening. All researchers identified benefits for themselves, their institution and/or community, regardless of their role or country of origin, indicating that the capacity strengthening had been a two-way process.

Conclusions: The flexible and responsive process we used to strengthen research capacity was identified as mutually beneficial. Using community-based participatory frameworks underpinned by decolonising methodologies is assisting to redress historical power imbalances and inequities and is helping to sustain the initial steps taken to establish a local research agenda at Atoifi Hospital. It is our experience that embedding mutuality throughout the research capacity strengthening process has had great benefit and may also benefit researchers from more resourced and less resourced countries wanting to partner in research capacity strengthening activities.

Keywords: Capacity building, Research capacity strengthening, Health research, Solomon Islands, Atoifi Adventist Hospital, Mutuality

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Introduction

Health research capacity strengthening is critical to improving health equity in less resourced countries [1]. In the past, capacity building was provided in health and development sectors to deliver training and/or distribution of materials [2]. However, training for individuals alone is inadequate to achieve the goal of improving health equity - institutional strengthening is also a key component of capacity building [3]. Research capacity building requires "the ongoing process of empowering individuals, institutions, organizations and nations to: define and prioritize problems systematically; develop and scientifically evaluate appropriate solutions; and share and apply the knowledge generated" [4]. The increased use of terminology such as *capacity development* and *capacity strengthening* in health and development reflects a change in the way we understand and operationalize this work. Capacity strengthening considers power imbalances (with power taken to mean the ability to direct or influence the behaviour of individuals and groups), cultural contexts, relationships between less resourced and more resourced, system requirements and the existing strengths of people participating in the capacity development process [5-11]. In the current literature about research capacity strengthening (RCS), the process appears to be largely one way with no guidelines on how the "experts", mostly from more resourced countries can learn from those being "strengthened", mostly in less resourced countries [2]. In this paper we use the term *capacity strengthening* instead of *capacity building* because *capacity strengthening* more accurately describes the mutual development of our research capacity as established researchers (researchers well established in their career with a sustained track record of leading research and publishing in peer-reviewed literature), emerging researchers (researchers who are predoctoral or early career researchers) and community chiefs supporting research.

In September 2009 a one-week introduction to health research workshop was facilitated at Atoifi Adventist Hospital, located in Solomon Islands' most populated island, Malaita. This was a major event in the evolution of health research at the hospital and the surrounding communities. Atoifi Adventist Hospital is a 90 bed general hospital established by the Seventh-day Adventist church in 1966, 22 years prior to Solomon Islands independence from Great Britain. It is located on the remote east coast, and directly serves people who live a rural subsistence lifestyle in the East Kwaio language group and indirectly the people of the other 10 language groups on Malaita. There is a wharf and grass airstrip at the hospital but no roads. People access the hospital by walking (some for several days), by canoe, irregular shipping or twice weekly light aircraft. Health services at the hospital have been characterised by the legacy of colonisation, Christianisation and western biomedical dominance that has taken little account of local customs, practices and beliefs. This is most starkly experienced by several thousand people who live in the mountainous interior of the island who have chosen local social, cultural and spiritual autonomy over introduced colonial and Christian practices [12-16]. Atoifi College of Nursing is located on the hospital campus and educates half of the nursing workforce for the Solomon Islands.

Research has not been a priority for the hospital or college of nursing in its 40 year history. However there has been periodic health research that has taken place at the hospital and surrounding community. Two hospital based studies have been published, one in 1984 on birthweight at Atoifi using birthweight records [17] and the second in 2000 on the intravenous use of coconut water [18]. Both of these were led and published by visiting international doctors and not a part of ongoing RCS activities.

Having worked as a medical scientist at the hospital from 1992–1994, DM returned in 1999 to conduct public health research, initially for masters research, and from 2001 for doctoral research at the hospital and surrounding communities [14,19,20]. DM embedded collaborative processes throughout his research including design, analysis and presentation of results with village health worker and East Kwaio chief, EK [21,22]. Since then DM, MRM and others have supported Solomon Islander colleagues in their initial steps to include research in their professional practice. HH, a Solomon Islander, is the principal of the College of Nursing and conducted a study at Atoifi hospital in 2003 for a Master of Adult Education qualification. Having worked together during 1992–1994 and conducting master and doctoral research at similar times both HH and DM have had ongoing discussion about the need to strengthen research capacity at Atoifi [23]. The two colleges of nursing in Solomon Islands provide only a brief introduction to research in undergraduate courses. Therefore, access to substantial research training is very difficult, and only small numbers of students are able to access scholarships to international universities. On their return to Solomon Islands, most of these people hold positions in the nation's capital with very few willing or able to work, or conduct research, in provincial locations such as Atoifi. The nation has hosted many international health researchers. However, most of these researchers work with Solomon Islands Medical Training and Research Institute, located in the capital, Honiara. This is despite the majority of the population and greatest burden of disease being located in rural provincial villages across the island archipelago. To enable RCS at Atoifi different models were explored, and ultimately departed from the

model that selects an elite few for international universities, to one the engages with provincial institutions and local grassroots communities. This more participative model allowed for a broad collection of local health professionals and community leaders to be a part of health research for the first time – and enabled local research questions to be developed, local research methods adapted and local answers to be developed to inform policy and procedures to address local health issues.

In 2008, the Director of Nursing and the mental health nurse from Atoifi Adventist Hospital (AAH) and EK, with the assistance of DM, travelled to Australia to present on social and cultural issues faced by the new mental health service at the hospital at an international community mental health conference. During that visit a request was made to James Cook University (JCU) to assist in the next steps in increasing the research capacity of Hospital and College of Nursing staff. It was requested that the RCS approach be tailored to the unique context of the remote hospital with limited research infrastructure, its unique history and social, cultural and spiritual diversity. It was an aim for many at the hospital to be able to lead collaborative research teams in the future. Within this context, a group of three public health researchers from JCU Australia (including MRM and DM) travelled to Atoifi in September 2009 to conduct the one-week *Introduction to Health Research* workshop, the details of which are published elsewhere [24]. As a result of this workshop, HH, RA and RTH from Atoifi were offered and accepted adjunct appointments at JCU. These appointments enhanced opportunities for HH, RA and RTH to learn about research, lead research activities and support nursing colleagues and students and community members to undertake research. HH and RA travelled to Cairns, Australia to formally present on RCS at the 2010 Fulbright Symposium, providing opportunities to observe and discuss the nature of research, various research designs and results and to experience the accountability of the scientific community [25].

At the completion of the 2009 *Introduction to Health Research* workshop the same group of Solomon Islanders requested a further practical 'learn-by-doing' workshop that included systematically and rigorously conducting small studies into health issues of importance to local communities and health services. Specific research needs were identified by workshop participants from Solomon Islands to conduct public health studies that were scientifically rigorous and could inform local health policy and practice. In response, public health researchers from James Cook University, University of Tasmania and New South Wales Health, Australia partnered with the group to facilitate a two-week workshop in April 2011. Local participants not only included health professionals, but at the request of the Solomon Islander researchers on the team, included leaders from coastal and mountain communities, particularly chiefs, village headmen, pastors and teachers, both males and females. Some of these lay participants were illiterate in written language, but brought a wealth of social, cultural and religious knowledge and linkages with extensive community networks.

Learning outcomes for this subsequent two-week workshop addressed topics of research design, data collection and reporting with teaching strategies that included the planning, conduct and reporting of pilot studies on three topics: tuberculosis (TB); HIV; and intestinal parasitic worms. The research topics for the pilot studies were mutually identified by Atoifi staff and community leaders as important health issues in their community and ones in which the Australian team members had skills and experience. In addition, the need for a community survey for lymphatic filariasis (LF) was identified during the two weeks of the workshop when a 40 year old male presented to the hospital with elephantiasis of the lower leg. Responding to this clinical presentation a fourth pilot study, a LF survey, was planned by Solomon Islander and Australian members of the workshop team (RS is a public health researcher who helped establish the WHO collaborating Centre for Lymphatic Filariasis and Soil Transmitted Helminths at JCU). The survey was conducted by Solomon Islander researchers in the days after the Australian researchers had departed.

The structure of the research workshop was a mixture of formal lectures and extensive group interaction at every stage of planning, conducting and reporting the pilot studies. The outcomes were impressive: during 10 working days 43 participants designed four pilot studies, obtained local ethics approval, collected data, completed analysis and interpretation, and presented the findings in a local research symposium. Two weeks after the workshop, results from the TB study were presented at the Solomon Islands Annual National TB symposium. Results from all four pilot studies were also presented at the Inaugural Solomon Islands National Nursing Research Symposium in May 2012 and the TB pilot study has been published in peer-reviewed literature [26-30].

Participatory research frameworks [31,32] underpinned by decolonising methodologies [33-35] were used throughout the workshop. It was our experience that the workshop had appeared to be highly beneficial to all parties. We therefore conducted a systematic, reflective qualitative study with key workshop facilitators and participants to explore and document benefits experienced by both Australian and Solomon Islander researchers. We aimed to answer the research question: Was this research capacity strengthening activity a two-way, mutual process?

Methods

A qualitative methodology was used to gather reflective responses on how the capacity strengthening had been experienced. Ten established researchers, emerging researchers and community chiefs who provided leadership for the workshop and/or pilot research activities participated. In this purposeful sample there were two East Kwaio chiefs and three emerging researchers from Atoifi Hospital/College of Nursing (five of 43 Solomon Islander workshop participants). All five researchers from Australian universities and health institutions participated. The group consisted of seven males (3 Solomon Islander; 4 Australian) and three females (2 Solomon Islander; 1 Australian). Utilising qualitative methods allowed respondents from a wide variety of social, cultural, epistemological, educational, professional and linguistic backgrounds to reflect and respond to questions on their own experience. Four deliberately open-ended questions were posed: (i) When considering your capacity to undertake research, what have been the benefits for you (researcher/person), your organisation/community or more broadly? (ii) Were there any negatives? (iii) Do you have a story which demonstrates your experience of this capacity building? (iv) What do you think will happen next? Why?

Five respondents chose face to face interviews facilitated by another member of the team (MRM or DM). Interviews were facilitated in both Solomon Islands Pijin (n=2) and English (n=3). Five respondents chose to provide written responses. All five were written in English. Interviews were transcribed and/or translated by a Pijin speaker. Written responses and interview transcripts were compiled in MS Word and imported into the qualitative software programme *NVivo 9*. Text was analysed and emergent themes identified using inductive grounded theory procedures [36]. Emergent themes were initially elicited by MRM and discussed with all authors. Necessary changes to themes were made in response to feedback. A visual model was created to conceptualise the linkages between emergent themes (Figure 1).

Ethics approval for the 2011 Health Research Workshop was granted by James Cook University Ethics Committee, Atoifi Adventist Hospital Administration Committee and the National Health Training and Research Institute, Ministry of Health and Medical Services, Solomon Islands.

Results

Six major themes emerged from the interview and written responses: Respectful Relationships; Increased Knowledge and Experience of Research; Participation at all Stages of Research; Contribution to Public Health Action; Support and Sustain Research Opportunities; and

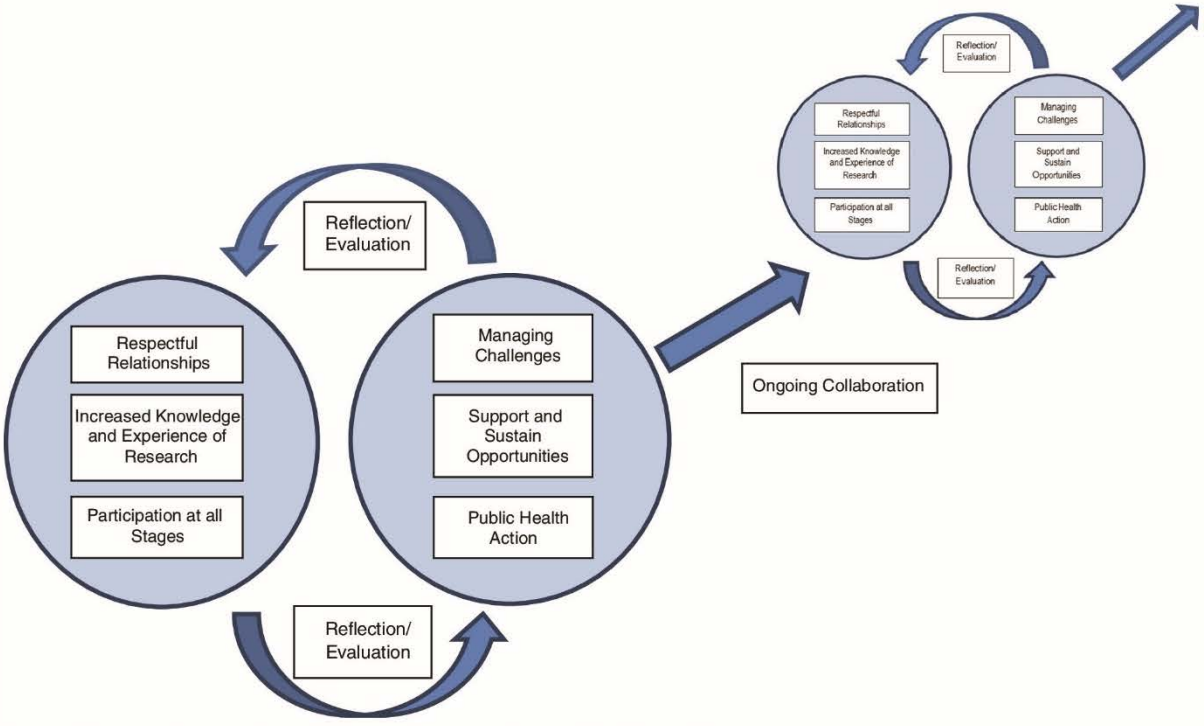


Figure 1 Elements of research capacity strengthening in the context of mutuality.

Managing Challenges of Research Capacity Strengthening. These themes were common to both Solomon Islander and Australian respondents.

Respectful relationships

Respectful relationships between research workshop facilitators, participants and East Kwaio community members were reported as pivotal to the success and sustainability of RCS activities. Research activities reportedly improved the often antagonistic relationship between AAH staff and the East Kwaio community, particularly people from the nearby mountain areas who have chosen not to convert to the introduced Christian religion and continue to practice ancestral religion. AAH staff are reportedly more respected by the East Kwaio community as a result of the workshop. One Atoifi researcher stated the RCS activities have *"created a good relationship between surrounding community and Atoifi hospital compared to our previous relationship with both the coastal and mountain community."* Another Atoifi researcher reported *"Research is part and parcel of valuing things, people, community, public and being committed in doing the best for people through working together with them. We want to work very closely with mountain people to provide health services for them, as this will be an unique model which can't be seen anywhere in the Solomons".*

The reputation of AAH was perceived as being improved beyond the immediate community. RCS activities *"gives recognition to the hospital by the outside research institution like Solomon Islands Medical Training and Research Institute, Ministry of Health and JCU",* stated an Atoifi researcher. One Australian researcher stated, *"There has to be an increase in reputation of Atoifi as a research place for doing research. The powerful bits about this project are that we are working with people that are incredibly influential in their community ... they have influence in the area and also nationally".*

Valuing community leaders as partners in research was identified as important for researchers from both Atoifi and Australia. For some this was a new way of working. One Australian (laboratory based) researcher stated, *"The approach is different to anything I have considered- I would not have considered people outside the scientific community and would have relied on local medicos- but community people are really interested in being part of the process."* He went on to say, *"I thought it would be a mess but was proven wrong to my original assumptions. With local people we achieved more than I would have ever considered possible."* An East Kwaio chief stated of his appreciation of chiefs and community members being involved.

> *"Hem mekim heart blo mi hem feel gud. Why mi feel gud, bikos, iumi involvem not only olgeta man save lo raetim, but disfela wokshop, samting mi hapi long hem nau, no mata man hem no raet, but, hemi putim tingting blong hem for iumi share together".*

Translation: It makes my heart feel good. Why I feel good, because, we involved not only the people who have knowledge to write, but this workshop, the thing I am happy with it, even if someone can't write, but they could contribute their knowledge for us to share together.

Relationships between many of the Solomon Islander and Australian researchers have been ongoing for two decades (EK, HH, TRH, RA, DM & MRM) [19,20,37,38]. The respectful, sustained nature of these relationships has been critical to the research strengthening process. Respectful, mutual relationships were also important to the Australian researchers, as stated by one visiting Atoifi for the first time: *"Relationships were built in process- because we included people – not using an authoritarian outlook- we included people and mentored that is why we have built trusted relationships".*

Increased knowledge and experience of research process

Knowledge and experience of public health research processes were identified as key outcomes of the RCS activities. A number of researchers discussed the movement from theoretical to practical health research knowledge. *"Theory about research has become a reality as I practically apply what I have learnt in real practice. This has helped me to understand the meaning of the research terminologies and understand the whole process i.e. research hypothesis / question, various ways of data collection and analysis as well as compiling and reporting results,"* said one Atoifi researcher. An Australian (qualitative) researcher discussed the broadened understanding of research resulting from the workshop. *"I have learned more about research - my espoused methodology, the qualitative methods I employ for undertaking community based research and a whole new world of quantitative methods".* Another Australian researcher reported, *"It (the workshop) has allowed me to have a greater understanding of the research process because it needed to be distilled into simple language to be accessible to all participants but still retain its research rigour".*

Increased knowledge and experience of specific techniques used in qualitative research such as transcription of a face to face interview recording was identified by one chief with vast experience as an orator, community mediator and interviewer.

> *"We don't know, hau bai iumi go about the process ia; taim mifala go... stori no moa; Iu laik repeatim olsem samting; iu laik long olsem, ah, lelebet part iu laik English moa long em; lelebet part iu laik language*

moa long em; lelebet part iu laik Pijin moa; and repeatim and repeatim; but mifala no save`, but taim word to word iu barava raetim samting ia. . .Man, ten minute interview or, twelve minute interview, iumi raetim about three hours. So datwan, man, hem wanfala samting wea mi barava learnem during long research workshop".

Translation: We don't know how to go about the process (of research); when we interviewed we repeated something, spoke a little in English, a little in Pijin, a little in language (East Kwaio), but when we wrote it word for word, man, a ten minute interview, or twelve minute interview you write (transcribe) for about three hours. So that, man, is something I really learnt during the workshop.

More confidence to undertake community based public health research was identified as an outcome of the workshop by researchers from both Solomon Islands and Australia. *"Why I can do research at any time is because of the confidence I gained after the workshop research experience in April,"* stated an Atoifi researcher. Another Atoifi colleague reported, *"I will start to look at priority areas that will need research and start with small projects. Firstly the small projects should give me enough confidence to start looking at major research projects".* For Australian researchers, confidence to undertake research grew from being exposed to new people and new opportunities. One Australian reported, *"Testing out my capacity to be able to research in a team where I haven't known anyone and build relationships two-ways in a short space of time in a respectful way. I have learnt, been able to go the journey with that and been enriched."* Another Australian reported *"I have learnt about the potential for change if we just act together- no need to keep it tight and controlled- go with it using values as a basis for decision-making. If the community want it and we can contribute- let's go".*

The workshop elicited interest from nurses working in the hospital. *"A male registered nurse. . . was looking for a research book to further read on what was presented"* reported an Atoifi researcher. Nursing students were reported to be seeking involvement in research projects. *"A student asked for off day because she wants to go out and be involved in collecting data at the community as part of their practice and further asked for (a day) off on Thursday the second week to listen to the presentation, (it) is amazing",* a Atoifi researcher reported. The researcher went on to explain that the knowledge and experience gained through the activities, *"will help me to teach others".*

An increased understanding of the ethics of community based public health research was highlighted by researchers from both Atoifi and Australia. One Atoifi researcher stated, *"I must follow and abide by the ethics of research so that no negatives will interfere with the research process."* For one Australian (laboratory based) researcher this was highlighted through the ethical consideration of respecting local cultural rules that meant faecal samples were not to be taken to Australia. The researcher stated, *"I would like to have taken samples back (to Australia) - I need to have value added".* The "value" referred to was from the perspective of adding protozoal prevalence studies to the faecal samples in an Australian laboratory.

Participation at all stages in research

Taking part in all stages of the research process was identified as important. One Atoifi researcher stated, *"actually taking part in the process or the stages that begins in drafting of proposal which involves consultation with the administration for consents/communities and individual . . .gives me the confidence to become motivated to undertake research".* One Australian researcher reported, *"Some apparent challenges or difficulties were able to be overcome through leaders at the hospital and community participating in the workshop and that community leaders were able to assist in formulating the research question and methodologies – for example this was able to overcome some social and gender sensitivities around the collection and microscopy of human faeces for the gutworm study".*

All respondents discussed the importance of the partnership with chiefs and community leaders, with one Australian stating the chiefs and community leaders' participation had changed the way he thought about engaging participants in research.

"When we talked with (the chiefs) – if we had simply not had that talk, we wouldn't have learnt anything about this (culturally-appropriate approaches to research). We would have thought local people were being difficult- it is a case of asking. As Daniel Borston said "the greatest obstacle is not ignorance of knowledge but the illusion of knowledge." I would have planned with medicos I now know that if I do more research I will have the support of the people in the mountains. I would have gone in with colonial assumptions; I didn't understand they were assumptions. I did a lot of learning about assumptions".

Another Australian researchers stated that the chiefs, *"talked through the things they know about TB and which ones they would do (in the pilot study). . .they chose TB in the mountains. . .it highlighted community feeling they owned it".*

One East Kwaio chief reported how health research was typically not done in partnership with the people from Solomon Islands. *"Most of time, people think,*

research, hemi blong olketa white man, ol no save doem ia. . . .hem no fitim mifala olketa local man." Translation: Most of the time people think research belongs to the white men- they don't know how to do it . . .its not something for us locals. He added,

> *"Mifela man no save read na raet. . .but still we got the wisdom, to share. So dat wan nao hem wanfala samting wei mi barava hapi long hem. Wei disfala workshop mi hapi long hem, nau dis wan, hem no wansait no moa, but everiwan, iumi insait long disfala research. And datwan hem makim mi barava hapi tumus".*

Translation: We (chiefs and community leaders from East Kwaio mountains) can't read and write, but we still have wisdom to share. So that is one thing that makes me really happy. What I am happy about regarding this workshop is that it wasn't just one group – but everyone - we were all included in the research. That makes me very happy.

Involvement of community chiefs and leaders ensured community participation in pilot research projects. An Atoifi researcher reported, *"This workshop opens the community's mind to accept research work in their villages and not resisting it as before, because they have some knowledge about research".* An Australian researcher revealed his surprise at *"the phenomenal response to requests for specimens that we achieved in the time we were here",* demonstrating the willingness of community members to be involved.

Contribution to public health action

The involvement of outside researchers, local health professionals and community members led to immediate public health action and wider influence on national public health policy. This was highlighted through three examples:

(i) Antehelmintic treatments for individuals and a whole village (Na'au, East Kwaio).
All people who had parasitic worm eggs identified in their faeces were offered anthelmintic treatment within 1 week. Since one of the study communities (Na'au) had a high prevalence of hookworm, AAH staff worked with the community and treated all residents using a mass drug administration with albendazole. One Atoifi researcher reported the experience of a chief who had participated in the pilot study.

> *"I was also approached by two villagers from Na'au, expressing how Albendazole relieved their long existing abdominal pain. They were complaining of this abdominal pain for almost over 10 years and was diagnosed of having peptic ulcer at the hospital, however after taking Albendazol during the de-worming process at Na'au it relieved their abdominal pain, this is a miracle to them and they were telling people about this experience".*

Village leaders led a community project to increase cleanliness including keeping pigs in designated areas and digging drains in low lying areas of the village. Within two weeks results from the parasite survey were included in an application led by community leaders to improve sanitation. *"Benefits were also the practical outcomes that have arisen because of the workshop. . . (it has) accelerated and provided supporting evidence for a sanitation project in the village"* (Australian researcher).

(ii) Screening for Lymphatic Filariasis of a whole village (Alasi, East Kwaio)
During the workshop, a male community member presented at Atoifi Hospital with elephantiasis, a clinical manifestation of lymphatic filariasis (LF). A survey was designed with input from Solomon Islander researchers and community members supported by the Australian researchers (primarily RS). Local ethics approval was obtained and an entire village survey conducted during one night (between 10 pm and 2 am) only one week after the clinical presentation. Samples were split with one set of blood slides screened at Atoifi laboratory and another sent to JCU (Australia) for antigen and antibody testing not available at Atoifi.

> *"I was very impressed at the speed, skill and organisational ability of the Atoifi team to respond to the case by discussing the appropriate blood survey for lymphatic filariasis with LF experts in our team, engaging with community leaders to arrange the bleeding of the entire village in the middle of the night, training in appropriate technical aspects of collection, storage and transport of specimens and implementation of the whole study in a matter of days after the patient presented at the hospital".* (Australian researcher)

The survey showed that LF transmission was not occurring in Alasi (manuscript in preparation). The results were reported back to the villagers in Alasi, with a now reduced anxiety about the likelihood of others developing elephantiasis as a result of LF. The result was also communicated to the Ministry of Health and assisted Solomon Islands to be granted LF-free status by WHO later in 2011.

(iii) Contribution to national health policy.

The RCS activities were also reported to be influencing other national and international health research agendas, despite the remote location of Atoifi and the limited resources. One Atoifi researcher reported the impact the TB pilot study had on the national research agenda.

"One successful story was the presentation of the TB survey at the National level by PHC (Public Health Co-ordinator) a few weeks ago. . .he was then interviewed and put to media. Now the National TB for the country are moving in to support the research project that have been started by Atoifi/JCU Team. (It has) resulted in everybody asking to know more about this research approach done by Atoifi and JCU"

Support and sustain research opportunities

A number of new and expanded research activities at Atoifi were identified through the RCS activities, including expansion of TB, LF and intestinal worms research in East Kwaio (in both coastal and mountain regions) and support for non-communicable disease research such as studies on diabetes, tobacco and marijuana use. A number of village leaders in East Kwaio have expressed a strong desire to be involved in further studies in these areas.

The need to strengthen skills to support these opportunities including to report and publish research results was strongly identified. An Atoifi researcher explained, *"It's the editing report writing that I see become the hic-cough* (sic) *for me as this will give me the sense of achievement after all instead of having this negative thought of being not able to complete my own project. What I started I have the responsibility to complete".*

The workshop was reported to have assisted the development of reporting skills for one Atoifi researcher.

"I have been working on a mini research project trying to understand what the textbook is saying when JCU came along to run the research workshop. All the questions I have been asking myself throughout the process have been cleared and answered during the two weeks training. As a result, I was able to complete the process of my mini-research project with a clear understanding on how I have done it. And this research will be presented at the 3rd biannual PSRH conference in Honiara on July 5–8, 2011. This will be my first step ever in presenting a research paper and I count it as a first-step in my professional development".

An Australian researcher reported concern about sustaining ongoing research capacity building activities to enable improved health. *"The danger of present project is that it will not make changes to health services, (we) need to do further work to trial and make changes. It's important the next steps are linked to health impact possibilities to improve health".*

RCS undertaken at Atoifi, rather than having to leave the campus or the country, was identified as a benefit to both individual researchers and the institution. It allowed for strengthening of research knowledge and experience with a broad range of professional and community participants in the local context and using local examples. This allowed RCS while maintaining the operations of the hospital and college of nursing. It also encouraged researchers from Atoifi and Australia to consider postgraduate and other formal study. One Atoifi researcher said the workshop *"encourages me to do my PhD study in public health area".* An Australian researcher discussed her plans to report learning from research capacity work in her PhD. Another Australian researcher expressed *"It would be wonderful to see ongoing exchanges of staff between Solomon Islands and Australia – both for formal training and short term exchanges".*

Managing challenges of research capacity strengthening

A number of challenges were identified throughout the workshop that required considered management. Understanding English was a challenge for some community leaders, most often during the formal presentations. Some JCU researchers gave presentations in Pijin (DM & MRM) but some presentations were given in simple English and periodically translated (or further explained) in Pijin by HH or Kwaio language by EK. This was not satisfactory, as reported by one chief.

"Taim olketa man blong iumi, long bush olketa kam down na participate, laik, Professor hem tok English. Taim hem tok English, for hem kam lo olgeta man e read na write, hem gud. But mifala man no save even English, but mifala no save, datwan hem barava olsem, hem barava, hem no gud long mifala".

Translation: When our people from the bush came down to participate, like, the Professor spoke English. When he spoke English, for those who read and write, that is good. But for us who don't know English, we don't understand, that is very, like, its really not good for us.

Australian researchers agreed. One stated, *"I wished we could have had more Pijin/Kwaio used in the workshops as I am sure some of it was lost on the community participants, because they told me."* Another reported, *"Language: when requesting feedback* (via written One Minute Reflections exercises at the end of each session) *we got asked really good research skills questions on some*

stuff we had spoken about, that we had said quite clearly in English. That was a negative".

Challenges to undertaking RCS were different depending upon the researchers' country of origin and level of research experience. For Atoifi researchers challenges lay in the logistics of organising the workshop and how to encourage active participation in RCS activities while continuing to operate the Hospital and College of Nursing. One Atoifi researcher demonstrated this struggle, *"Nurses expressed their disappointment because they could hardly attend the research workshop - (it) is a clear indication of how they value this capacity building research workshop".* The negatives for Australian researchers related to working in a less-resourced environment, including lack of electricity, printing, internet and other communication and health risks (malaria, gastroenteritis). However, the negatives were not insurmountable. One Australian identified ways forward, despite the challenge of limited infrastructure at Atoifi.

> *"Negatives include the difficulties in transport and communication – there is a lot of interaction and planning and follow up before and after the workshop. This is difficult when the internet and phone/fax are not working and there is only intermittent electricity. This makes collaborative writing of articles/ manuscripts challenging and increases the amount of time required to finalise report writing – however reporting back to community through community forums at the village level does not face such issues and so results can get back quickly".*

The social expectations of having to perform duties as a senior researcher or *'big man'* in the Solomon Islands and having many people in work and living spaces were also identified as challenges.

Discussion

Responses from researchers and chiefs from Solomon Islands and visiting researchers from Australia demonstrate that *all* benefitted from the way this RCS activity was carried out. RCS was indeed two-way; it was a mutually beneficial experience. The RCS, however, was experienced differently for each researcher and community leader, but all researchers reported an increased capacity to undertake research. Although mutuality can be defined as "common to all parties" [11], in our experience, mutuality in RCS did not mean we all developed the same research skills. However, there was a common experience of enhanced ability - of increased confidence and capacity to undertake research as a result of the RCS activities and a desire to/for support further research at Atoifi and surrounding communities. This is consistent with research methodologies such as community-based participatory research and participatory action research which acknowledge the researcher/s *and* research participants (co-researchers) benefit from the research process [39-41].

From the emergent themes of our experience of RCS at Atoifi we created a visual model to conceptualise the linkages between the themes (Figure 1). This cyclical model encapsulates key elements buttressed by mutuality, including cycles of culturally inclusive reflection/ evaluation by all groups involved in RCS activities. The elements of this model are all key to ongoing collaboration and further public health RCS at Atoifi.

Mutuality and link to decolonising methodologies

Participating on different terms during AAH RCS included the acknowledgement that mutual needs were being met for all researchers. As Smith explains from neighbouring Aotearoa/New Zealand:

> *"When indigenous people become the researchers and not merely the researched, the activity of research is transformed. Questions are framed differently, priorities are ranked differently, problems are defined differently, people participate on different terms [35]".*

This is in contrast with the model of 'expert' researcher teaching the 'learner' researcher who is then 'strengthened'. As described by Sherwood, "from such praxis the process becomes a two-way sharing and learning encounter that contributes to the building of valid and meaningful data" [42].

White privilege is acknowledged when working within a decolonising framework [35,43]. The acknowledgement of privilege for those of us who are the white Australian researchers working in Solomon Islands contributes to our ability to be open about the benefits we have received when undertaking RCS. There is also a level of privilege that occurs between those of us who are Solomon Islanders when we have the privilege of educational, religious and positional power. Ongoing antagonisms between the hospital staff (educated, Christian) and the traditionalist East Kwaio 'bush people' (illiterate, ancestor worship) are little-by-little being addressed to change this historical inequity. "Power redistribution is required for mutual, two-way RCS (research capacity strengthening), including access to information, language used, location of workshop, representation of outcomes, leadership of research processes" [41]. We have found there are mutual benefits for all researchers involved in RCS done in this way - the benefits flow two-ways. Being honest in claiming (Solomon Islanders) or devolving (Australian) historical power and being open to the possibilities of new approaches and

models of working together brings many benefits for everyone.

Our ongoing challenges

There are structural challenges in sustaining this type of RCS. Resources are not readily available for people-paced RCS. There are limited funding options for health RCS in Solomon Islands and limited incentives for supporting RCS from less resourced countries. Often heath research favours commercialised, profit building technologies in resource rich countries and does not strongly support RCS in small, remote or less resourced areas such as ours in Solomon Islands [44]. "They (research funding bodies) do not typically allocate funds for capacity-building or generate long-term relationships with research institutions in developing countries" [44]. However, progress is being made. Successful RCS activities at Atoifi, supported by a modest internal research grant from JCU and in-kind support by New South Wales Health have demonstrated the ability of Solomon Islander nurses and the associated local communities to undertake health research. This approach of RCS is now being shared at the national level, including a keynote presentation by RA, EK and MRM at the Inaugural Solomon Islands National Nurses' Research Symposium in May, 2012 [29]. HH also presented about RCS conducted at Atoifi during a nurse educators training workshop in Honiara, the capital of Solomon Islands in 2012.

How might this study benefit others?

The two-way benefits demonstrated through these RCS activities have led to direct public health action, not only within East Kwaio communities, but for national and international public health policy. This study lays a positive foundation for future public health research in East Kwaio and other areas in Solomon Islands. It provides a successful approach and model of key elements for RCS. Through this it demonstrates possibilities for researchers from less resourced and more resourced countries to address health research capacity, health inequity and support public health action.

Sustaining research capacity strengthening

Sustaining two-way RCS activities, including implementing research plans is an ongoing challenge for Atoifi. As others have found previously, "RCS is a long term activity, requiring long-term investment—in the early stages, there is often little to show beyond the implementation of process" [41]. We are striving to sustain the initial steps with follow-up activities and greater Solomon Islands leadership in public health research at Atoifi. Following the workshop in 2011, further RCS activities have been undertaken at Atoifi in October 2011 and May 2012 with modest internal JCU funds and supported qinkind by Atoifi Hospital and NSW Health. In response to a strong desire from local village leaders and community participants, two villages with a combined population of more than 350, were surveyed for intestinal parasites. A further round of interviews on TB management and HIV prevention were also undertaken, often led by health professionals or chiefs who participated in the 2011 workshop. Formal sessions also covered: further analysis of existing data; managing research data; scientific and grant writing; drafting manuscripts; and completion of research reports for publication. Numerous community leaders are now approaching Atoifi leaders requesting that their villages partner in public health research projects. This has informed a number of applications for research funds from national and international bodies.

As tangible benefits to communities are experienced and reported, these communities are acknowledging the practical value of health research and strongly support additional research that answers their local questions. Acknowledging the mutual nature of RCS and the benefits to local communities, Solomon Islander and international researchers will assist in the sustainability of RCS activities. This acknowledgement will also assist to address the power differences and shifts in relationship between players. It will also guide the dynamic relationships, capacities and skills of Solomon Islander and outsiders.

Following the 2011 workshop HH successfully applied for a Pacific Leadership Program – Greg Urwin Award and was hosted for a five month professional placement at the World Health Organization Collaborating Centre for Nursing and Midwifery Education and Research Capacity Building, and School of Public Health, Tropical Medicine and Rehabilitation Sciences at James Cook University in Australia. This program included research leadership activities in both Australia and Solomon Islands. This further strengthens the mutuality of RCS and bolsters the strong foundation for future research.

Limitations to this study

Data collection for this paper was a mixture of written responses to questions (n=5) and face to face interviews (n=5). The face to face interviews were facilitated by two different researchers. This may have influenced the amount and type of data elicited from researchers involved. However, this respected cultural and gender norms and all participating researchers have reviewed this manuscript and there is consensus on our themes and analysis.

On analysing this data, we learnt much about the role of mutuality for RCS. We failed to ask a specific question about what researchers thought the benefits were for researchers from the other country, that is, we did not ask of Solomon Islanders what they thought the

benefits of the RCS was for the Australians and vice versa. A specific question about the benefits for the 'other group' might have enhanced our understanding of the mutuality on the process.

This manuscript was drafted by an Australian researcher, reporting this 'mutual' experience. This epitomizes the unequal power, educational opportunity, language in which the publication is written and formal writing capacity that still lies with the most resourced, despite efforts to date. There is obviously a need for more time and resources to further develop independent writing and research reporting skills in those of us from Solomon Islands, as we have previously identified [24]. However all Solomon Islander authors collectively reviewed, critiqued, edited the draft manuscript until consensus was reached on the language and terminology used and themes and analysis of interview data.

Conclusions

It is our experience that RCS can benefit both those historically labelled "experts" from more resourced countries and those being 'strengthened' in research skills from less resourced countries. We propose that RCS can and should evolve into a more open two-way, mutually beneficial process. When acknowledging the benefits for all parties involved in RCS done in this way, we begin to redistribute/reclaim power often held by the more resourced researchers. Respectful, mutual relationships, a shared knowledge and experience of research process and participation at all stages by all parties opens possibilities for improved health for the communities in which we work and for future health research activities.

Competing interests

The authors declare there they have no competing interests.

Authors' contributions

MRM: Co-designed the research (including study tools), facilitated interviews with co-researchers, analysed the interview data, drafted and edited the manuscript. DM: Facilitated interviews with co-researchers, reviewed data analysis and edited manuscript. HH: Provided interview data, contributed to analysis of data and edited manuscript. RA: Provided interview data, contributed to analysis of data and edited manuscript. RTH: Provided interview data, contributed to analysis of data and edited manuscript. EK: Provided interview data, contributed to analysis of data and edited manuscript. RS: Conceived the concept of study, co-designed the research (including study tools), reviewed data analysis and edited manuscript. All authors agree with manuscript results and conclusions.

Acknowledgements

We thank chiefs, community leaders and colleagues who have contributed to our understanding of research capacity strengthening. Thank you to Dr Peter Massey and Dr Richard Bradbury who contributed to strengthening research capacity in Solomon Islands and who reviewed this manuscript. Thank you also to Associate Professor Jane Mills, JCU and Ms Nalisa Neuendorf, JCU for reviewing the manuscript. The three anonymous reviewers' comments greatly improved this paper, thank you to each of you. This research was funded by a Research Infrastructure Block Grant, James Cook University, Australia.

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Received: 6 June 2012 Accepted: 22 November 2012
Published: 18 December 2012

References

1. Mony PK, Kurpad A, Vaz M: **Capacity building in collaborative research is essential.** *Br Med J* 2005, **331**:843–844.
2. ESSENCE: **Planning, Monitoring and Evaluation Framework for Capacity Strengthening in Health Research**. In *ESSENCE Good practice document series*. Edited by Akuffo H. Geneva: World Health Organization; 2011.
3. Ritchie J, Zwi AB, Blignault I, Bunde-Birouste A, Silove D: **Insider-outsider positions in health-development research: reflections for practice.** *Dev Pract* 2009, **19**:106–112.
4. Langsang MA, Rodolfo D: **Building capacity in health research in the developing world.** *Bull World Health Organ* 2004, **82**:764–770.
5. Ubels J, Acquaye-Baddoo N, Fowler A: *Capacity Development in Practice.* London: Earthscan; 2010.
6. Eade D: *Capacity Building: An Approach to People-Centred Development.* London: Oxfam (UK and Ireland); 2005.
7. Labonte R, Laverack G: **Capacity building in health promotion, Part 2: Whose use? And with what measurement?** *Crit Publ Health* 2001, **11**:129–138.
8. Labonte R, Laverack G: **Capacity building in health promotion, Part 1: For whom? And for what purpose?** *Crit Publ Health* 2001, **11**:111–127.
9. Liberato SC, Brimblecombe J, Ritchie J, Ferguson M, Coveney J: **Measuring capacity building in communities: a review of the literature.** *BMC Publ Health* 2011, **11**:850.
10. Ritchie J, Nathan S, Mehaffey A: **Capacity building for international health gains.** *N S W Public Health Bull* 2000, **11**:24–26.
11. Online Dictionary: *Oxford Dictionaries.*: Oxford University Press; 2012. http://oxforddictionaries.com/definition/english/power.
12. Keesing R: *Custom and Confrontation: The Kwaio Struggle for Cultural Autonomy.* Chicago: University of Chicago Press; 1992.
13. Akin DW: *Negotiating Culture in East Kwaio, Malaita, Solomon Islands.* Ann Arbor: University of Microfilms International; 1993.
14. MacLaren D: *Culturally Appropriate Health Care in Kwaio, Solomon Islands. An Action Research Response.* Brisbane: Griffith University, School of Public Heath; 2007.
15. Keesing R: **Sins of a Mission.** In *Family and Gender in the Pacific: Domestic contradictions and the colonial impact*. Edited by Jolly M, McIntyre M. Cambridge: Cambridge University Press; 1989:193–212.
16. Keesing R: *Kwaio Religion: The Living and the Dead in a Solomon Island Society.* New York: Columbia University Press; 1982.
17. Strahan M: **Birthweights in a Rural Solomon Island Population.** *J Trop Pediatr* 1984, **30**:293–296.
18. Campbell-Falck D, Thomas T, Falck TM, Tutuo N, Clem K: **The intravenous use of coconut water.** *Am J Emerg Med* 2000, **18**:108–111.
19. MacLaren D, Kekeubata E: **Reorienting health services through community health promotion in Kwaio, Solomon Islands.** *Promot Educ* 2007, **14**:78–79.
20. MacLaren D, Asugeni J, Asugeni R, Kekeubata E: **Incorporating sociocultural beliefs in mental health services in Kwaio, Solomon Islands.** *Australas Psychiatry* 2009, **17**(Suppl 1):S125–S127.
21. Kekeubata E, MacLaren D: *Keynote Address: Strengthening Community Action for Health Promotion - An example from Solomon Islands. 19th International Union for Health Promotion and Education (IUHPE) World Conference on Health Promotion and Health Education; 13 June 2007.* Vancouver; 2007.
22. Kekeubata E, MacLaren D: *Keynote Address: Culture, Conflict, Colonisation and Christianisation: The Intricate Web of Community Health and Wellbeing in Kwaio, Solomon Islands. Transitions: Health and Mobility in Asia-Pacific Populations Asia-Pacific Futures Research Network Conference; 25 June 2007.* Melbourne; 2007.

23. MacLaren D, Harrington H: **Conducting Community Health Research in Tropical Countries: Reflections from Melanesia.** *Annals of the ACTM: A Journal of Tropical and Travel Medicine* 2011, **12:**49.
24. Redman-MacLaren M, MacLaren D, Solomon J, Muse A, Asugeni R, Harrington H, Kekuabata E, Speare R, Clough A: **Research workshop to research work: initial steps in establishing health research systems on Malaita, Solomon Islands.** *Health Res Pol Syst* 2010, **8:**33.
25. Redman-MacLaren M, Asugeni R, Harrington H: **Research Workshop to Research Work: working together to develop research skills at Atoifi Adventist Hospital, Solomon Islands**. In *Sustainable Societies in the Tropical World: 2010 Fulbright 60th Anniversary Symposium*. Cairns, Australia: James Cook University; 2010.
26. Timothy-Harrington R: **Knowledge of HIV and HIV prevention in community members around Atoifi**. In *Inaugural Solomon Islands National Nurses' Research Symposium; 10 May 2012; Honiara, Solomon Islands*. Honiara: Division of Nursing, Ministry of Health and Medical Services; 2012.
27. Harrington H: **Prevalence of Gut Worms in Atoifi and Na'au Communities**. In *Inaugural Solomon Islands National Nurses' Research Symposium; 10 May 2012; Honiara, Solomon Islands*. Honiara: Division of Nursing, Ministry of Health and Medical Services; 2012.
28. Jimuru C: **TB questions, East Kwaio answers: community-based participatory research in a remote area of Solomon Islands**. In *Inaugural Solomon Islands National Nurses' Research Symposium; 10 May 2012; Honiara, Solomon Islands*. Honiara: Division of Nursing, Ministry of Health and Medical Services; 2012.
29. Asugeni R, Kekeubata E, Redman-MacLaren ML: **Public Health Research Capacity Strengthening for Change**. In *Inaugural Solomon Islands National Nurses' Research Symposium*. Honiara, Solomon Islands: Honiara: Division of Nursing, Ministry of Health and Medical Services; 2012.
30. Massey PD, Wakageni J, Kekeubata E, Maena'adi J, Laete'esafi J, Waneagea J, Fangaria G, Jimuru C, Houaimane M, Talana J, *et al:* **TB questions, East Kwaio answers: community-based participatory research in a remote area of Solomon Islands.** *Rural Remote Heal* 2012, **12:**2139.
31. Wells K, Jones L: **"Research" in community-partnered, participatory research.** *JAMA* 2009, **302:**320–321.
32. Cornwall A, Jewkes R: **What is participatory research?** *Soc Sci Med* 1995, **41:**1667–1676.
33. Prior D: **Decolonising research: a shift toward reconciliation.** *Nurs Inq* 2006, **14:**162–168.
34. Smith LT: **On Tricky Ground: Researching the Native in the Age of Uncertainty**. In *The Sage Handbook of Qualitative Research*. 3rd edition. Edited by Denzin N, Lincoln Y. Thousand Oaks: Sage Publications; 2005.
35. Smith LT: *Decolonizing Methodologies: Research and Indigenous Peoples*. 2nd edition. London: Zed Books; 2012.
36. Birks M, Mills J: *Grounded Theory: A Practical Guide*. London: SAGE Publications; 2011.
37. MacLaren D: *Kastom and Health: A Study of Indigenous Concepts of Custom, Health and Appropriate Health Care within Kwaio, Malaita*. Brisbane: Griffith University, School of Public Health; 2001.
38. MacLaren M: *Mrs on Malaita: Reflective Practice in Action in Solomon Islands. International Federation of Social Work Global Social Work Conference; 2–5 October*. Adelaide, Australia; 2004.
39. Reason P, Bradbury H: *The SAGE Handbook of Action Research: Participative Inquiry and Practice*. 2nd edition. London: SAGE Publications; 2008.
40. Wallerstein N, Duran B: **Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity.** *Am J Public Health* 2010, **100**(Suppl 1):S40–S46.
41. Wallerstein NB, Duran B: **Using community-based participatory research to address health disparities.** *Health Promot Pract* 2006, **7:**312–323.
42. Sherwood J: *Do No Harm: decolonising Aboriginal health research*. Sydney: University of New South Wales, Department of Social Work; 2010.
43. Fine M: **Working the hyphens: Reinventing the Self and Other in qualitative research**. In *Handbook of qualitative research*. Edited by Denzin N, Lincoln Y. Newbury Park: Sage; 1994:70–82.
44. Pratt B, Loff B: **Health research systems: promoting health equity or economic competitiveness?** *Bull World Health Organ* 2012, **90:**55–62.

doi:10.1186/1475-9276-11-79
Cite this article as: Redman-MacLaren *et al.*: **Mutual research capacity strengthening: a qualitative study of two-way partnerships in public health research.** *International Journal for Equity in Health* 2012 **11**:79.

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10.3 Ethics Approvals

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10.4 Ethics Report: Letter to Lead Investigator

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10.5 Audit Trail of Data Analysis

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
15.5.13			Purposive sample from RDS of 8 IVs; open coding	Single women talk about MC being clean, healthy, sexy. Married women like the hygiene aspects but were concerned MC might results in their husbands seeing out other sexual partners		
15.5.13	Observed more positive comments by married women than single women about of MC?	RDS Quantitative	Descriptive statistics measuring frequencies of categories: e.g. married/single	No obvious relationship between marital status and acceptance of MC	In open coding interviews I noticed 'place' (Province of origin) seemed important in way MC was discussed by women	15.5.13 Did my experience of being on PAU campus when collecting this data and hearing what single women said about MC influence the way I 'came' to the data?
16.5.13	Those from the provinces which circumcised for cultural reasons seemed more positive about MC	FGDs (2): PAU (1); DWU (1)	Open coded two FGD transcripts which identified the participant's Province of Origin Mapped provinces where MC was conducted as part of culture	Almost all (but not everyone), who came from circumcising areas favoured infant circumcision and many adult MC	Check quant data comparing Province of origin, round cut/split is part of culture and remove foreskin rom child if health benefit (M&F); check Buchanan (2012) re MC as cultural practice in PNG	16.5.13 Is this too obvious an observation from the data? Wouldn't this be expected?

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
			(infants/children) (IMAGE STORED)			
16.5.13	The provinces where MC occurs reported in the quant data were mostly in NGI and Momase regions	Buchanan (2012) The re/making if men and penile modification (Ch 5) in Manderson, L. *Technologies of Sexuality, Identity and Sexual Health*	Analysed this book chapter (with particular ref to the map) and compared with map I was generating from quant and qual data	Buchanan's chapter reported MC as recorded in anthropological literature, not actual map of where MC occurs in PNG, but also included areas I had not yet read about in FGD data;	17.5.13 Intermediate coding of 8 theoretically sampled IVs (n=X) and FGD (N=X) transcripts for rich data about place and MC; continued mapping;	Quant data helpful to identify who practices MC as part of culture. Comparing quant and qual data re MC and place results in a (mostly) consistent picture about where MC is practiced
	NGI: East New Britain, Manus, New Ireland, North Solomons (Bougainville) and West New Britain	FGD: DWU (1)		I need more info to make map more complete (done)		
	Momase: (East Sepik, Madang, Morobe, and West Sepik (Sandaun).					
18.5.13	Wanting to be sure with participants who knows MC occurs and where	FGD DWU 3 Women FGD PAU Single Women NEED an Industry partner IV? (28.5.13 NOW DONE)	Coded FGD data and now adding in question in interpretive focus group question schedule			
22.5.13	What women REALLY want (sex); women were discussing MC in relation to their sexual needs	FGD DWU3; FGD PAU Single girls; FGD POP Female	Sourced data about sexual experiences and preferences; also cultural practices	Mixture of preferences	Link back to whether MC is cultural	Ask about this in the IFGs at PAU

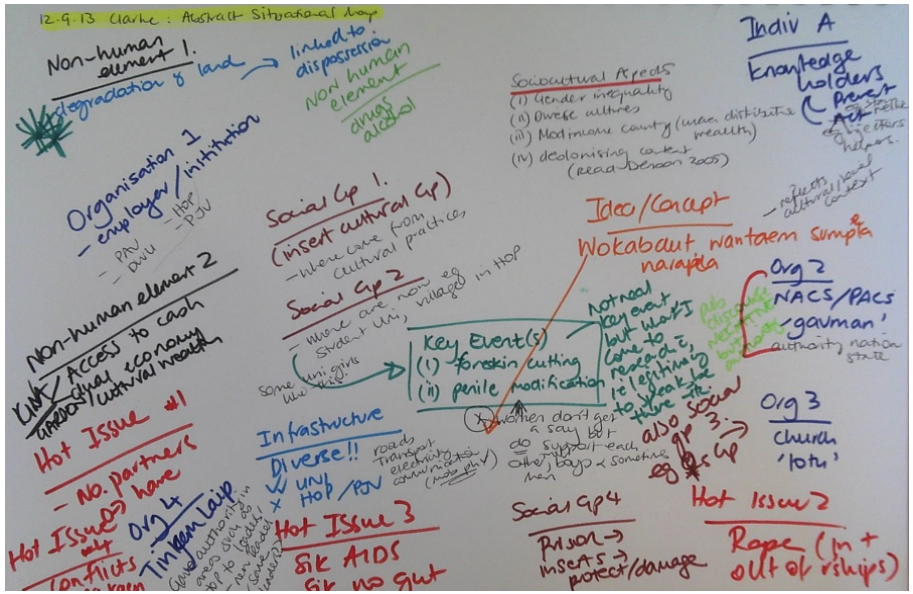
DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
29.5.13	Action focus- the MANAGE part of the PhD question? How women manage what is happening, not just who decides and what do they think, but what do they DO- does a man's MC status (or inserts/injections) change the way the way women choose sexual partners, do they have any choice, what are their spheres of influence? Can they do anything about it? Have they done something about it before (drawing on strengths-based therapy!) Maybe next steps in looking at the data?	Anything in the quantitative data that could help with this?				
29.5.13	Need to talk to women whose husbands/partners are already circumcised- esp have been circumcised since being in a relationship with them. What has changed, what hasn't? What were their hopes/ fears? Have these been realised?	Interviews at PAU (PO, WNB)	Analysis of data generated from IVs and IFGs	Comparison between me with MC and not (i) sexual satisfaction key to this i.e. men last longer (reported in MC Study data by men and women); (ii) cultural practice men are routinely circumcised and there is a lot of to do about this. Still a diverse range of opinions some positive and some negative about MC.	Need to investigate whether women have more influence over circumcision status if they are in a more intimate relationship with the man.	Does this reflect the feminist ideology that women's sphere of influence is most often private that is they have more power in the private sphere?

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
24-28 June 2013; Fieldwork PAU	Do women know about male circumcision and why men are circumcised? What do they know? Do women **have a say** about male circumcision here? When do women have a say/make a decision for infant/child circumcision? Do women **want a say** about male circumcision here? Do women talk about (or act upon) **infant/child** circumcision? Does MC matter to women? What makes women interested in male circumcision? Would women be interested/supportive of male circumcision **if it would benefit them** e.g. reduce risk of survival cancer, STIs, HIV et cetera? Would women be interested/supportive of male circumcision **if it would benefit other women** i.e. partner/s of their sons? Are there other (e.g. sexual) benefits of male circumcision for women?	Interviews & IFGs at PAU	Interviews & IFGs at PAU	Women know so much; single girls and married women can find out taboo information if they want to; high stakes if not careful with info (e.g. sorcery can be enacted in traditionally circumcising areas if knowledge not respected/shared in wrong places; need to be careful with women's knowledge and protect identities!	Need to see differences at rural site in Oro; does educational status make a difference to the impact of MC and penile modifications on women there?	

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
	Do women have more **influence about the decision for men to be circumcised** in the context of a marriage/close relationship (i.e. do women have greater decision-making influence in the private sphere and less in the public sphere as per feminist discourse)?					
	Do you have a **story about how a woman reacted** to their partner being circumcised? Did they have any say in the man's decision?					
	Are there any stories about **compensation and male circumcision**?					
	How do **women in Oro** understand male circumcision? Is that **different** from other places? Please explain.					
25.7.13	Questions re boys circumcising in schools and impact on girls/women (any examples from mothers, sisters, cousins, aunts etc.).	PAU IV6	IV recorded and transcribed	Highly educated woman can take decisions, going against family; boys do MC to have more sexual partners and satisfy girls	Consider role of **education** in women's agency re MC	
	What outside influences have you heard about male circumcision? Have they	Focus group with married women at Simbaripa 29.7.13	Used these questions to focus the individual	women fear making decisions about infant circumcision; safety is a huge concern for	analyse data in detail - no assumptions!	

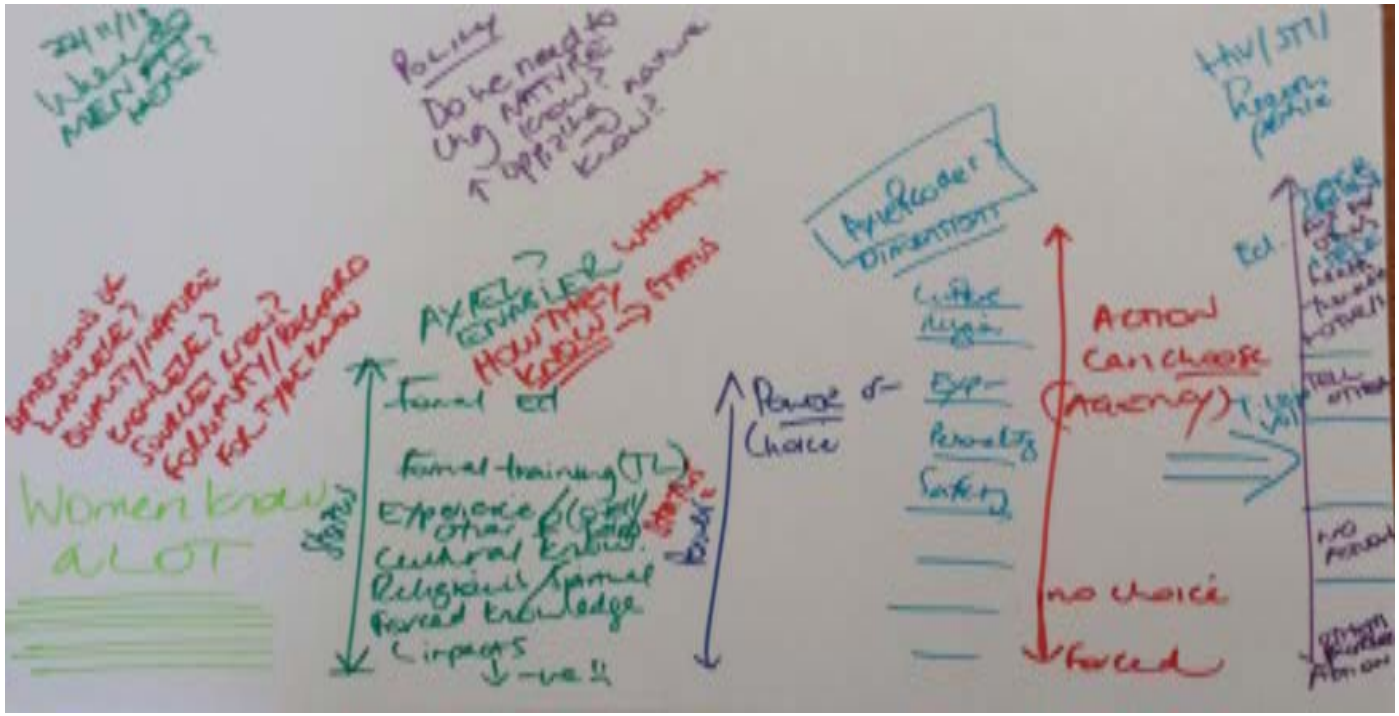
DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
29.7.13; Field work Oro	changed the way you used to think about male circumcision? In what way? If you had the right to make a choice about male circumcision right now what would it be? Would it be a different decision if it were your husband or your son? What would be the safest option for women in your community? If we needed to make sure women weren't harmed by a decision about male circumcision, what decision which you make?		interviews with married women	women; some women are brave and willing to risk their safety for health; management keen to support action out of this research		
12-14.8.13	Is this about equality, acceptance of sexual violence, women's education and status in society? It appears women who are more educated are able to make a greater number of decisions or take more equal decisions than women who are not as educated and/or do not hold such a high status in society	Reflections on interviews at Popondetta	12-14.8.13 Transcription and analysis of interview with IV7 from Irihambo, Popondetta	15.8.13 women possibly more accepting MC with education; women play a role in MC inc food prep, accessing medicines etc;	keeping safe/surviving the core category?	

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
15.8.13	How/do women **survive** MC and PM? What happens for them? (not sure about word **survive**)	RDS- existing codes (did some code collapsing/consolidating)	10.9.13 Reviewed RDS codes, including changes to sexual practices impacting women after cutting 11.9.13 Transcribed and coded IV, memo re ways women support each other in connect of VAW	Women do think MC is sexier, cleaner and healthier but these benefits seem outweighed by negative outcomes for them (perception that men seek other sexual partners, which will increase risk of ill health). Do women give up possible increased sexual pleasure for fear of man having more partners and bringing this home to them, wanting more sex etc?	Explore re sexual pleasure for women in context of survival (or similar)	
		IV senior woman, HOP 30.7.13				
11.9.13	ANOTHER LINE: How can culture (or iteration of culture) be **protective/positive** for women in the context of changes such as MC (in non-MC areas)?	Conversation with PAU IV6				

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
12.9.14	Adele Clarke- human and non-human actants				Next steps- relational analysis with situational maps i.e. choose one element to be the focus and consider the other elements in relation to that one, in the hope it will generate new insights, questions for the data, possible questions for additional interviews etc	Possible core category: wokabaut wantaem sumpela narapela (walk with someone else). This seems to encapsulate the way women stay safe (original intent of comment) and other positive (and some negative) aspects of life for women in the context of a communal society (more than the last category of 'survive' we were exploring does)….so am exploring this idea some more. Also has good 'grab' and 'fit' for other aspects of the study (men's relationship with each other etc)

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
11.11.13	Culture first? Does influence of Christianity and education make much of a difference?	IV with PAU IV3 and PAU IV4	Coded and noted key ideas including possible core category **power of choice;**	Education appears to be expanding the range of choices for women and educated women know they have more choice than non-educated women	Expanding the power of choice brings ideas of individuality and human rights (stated by PAU IV3 and PAU IV4, PAU Nursing students)	
12.11.13	Is there a link between sexual pleasure reported as a reason for liking MC by female students and their relative safety on campus?	IFG single girls PAU and IFG single girls Irihambo	Review IFG and single girls especially	IFG single girls PAU and IFG single girls Irihambo all like the sex when man MC; also single girls report this in IVs	Do women prefer MC BUT not when it experienced OUTSIDE of their power of choice	
14.11.13	**Power of choice idea is BIG**	PAU IV3 and PAU IV4; resonates with analysis of existing data	In supervision, identified with Jane 5 categories and one possible core category	Taking on new roles; acquisition of stats; power of choice; seeing possibilities; taking possibilities (with possible axial code here "enabling environments"?	Learn more about trajectory and permutations of action	Power of choice has energy and **action** associated with it; consider grab, fit
19.11.13	Do young girls in rural areas have ideas about **power and choice?** Does education/new roles impact these young women?	IFG Single girls Simbaripa	Intermediate coding of IFG into NVivo			
20.11.13	Consolidation codes to increase level of abstraction from RDS	MC Study Qual data NVIVO file	Collapsed 130 initial codes into 117 focused codes	Not much shrinking here, need to get more ruthless!	Sub-category next with BOTH data sets	…this will be fun, eek!

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
21.11.13	Need to consolidate codes and now get evidence linked to focused codes, sub-categories and categories (maybe even the CORE CATEGORY)	PhD Data NVivo file	Collapsed 34 initial codes (Hoare) into focused codes from PhD data set	Moving from details of description to actions/interactions i.e. increasing levels of abstraction	Move focused codes into sub-categories/categories	PAU interviews (n=6) and HOP IVs (n=4) open and intermediate coding complete prior to codes collapsed into categories; intermediate codes from FGDs folded into initial categories
22.11.13	How does education levels of women relate to ideas about power and choice?	IFG Single girls Simbaripa	Intermediate coding of IFG into NVivo			
22.11.13	Mapped trajectory of proposed categories and identified possible axial codes. Question emerged- where do men fit into this?	(see image below)	Copied NVivo file and collapsed 196 nodes into 5 sets (5 possible categories)			

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
						
20.2.14	Discussion with supervisors re preliminary TGT. JMcB suggested options rather than choices for the 3rd category; RS suggested need to investigate the role of belief in behaviour change	Draft findings chapter	Changes to category names, prepare to take to women in PNG; Review data in relation to beliefs			Need to read more about beliefs in relation to HP/public health action

DATE	TRIGGER POINT	DATA SOURCE	ACTION TAKEN	RESULTS/OBSERVATIONS	NEXT STEPS	NOTES
24.2.14	Feedback from RT in PNG re 5 page storyline- suggested women happy to talk about infant circumcision but not MC of husbands/partners (except single girls who know about it, talk about it but report little to no influence in decision making)	Rachael Tommbe, co-researcher reflecting on data collection/RDS	Ask women during feedback trip	Some women can talk to their husbands about infant MC, single girls can rarely discuss MC with boyfriends- it just happens…		
24.2.14	Feedback from RT in PNG re 7 page storyline: how much can women speak to their husbands/partners about anything? If there is exiting communication, when does it start getting 'out of bounds' for general communication? When does it become not ok to talk about MC and PM?	Rachael Tommbe, co-researcher reflecting on data collection/RDS	Discussed with women in feedback groups at Popondetta	Women can talk about less contentious issues (e.g. health for child etc) but many women can't talk about intimate issues such as sexual health, male circumcision, sexual feelings as easily		Women wanted men to have training about sexual health as then they would have an excuse to talk, as the research groups had been an excuse to talk about things not usually talked about i.e. MC, sexual health etc

10.6 Study Report and Recommendations for New Britain Palm Oil Limited

FINDINGS AND RECOMMENDATIONS

The implications of male circumcision for women in Papua New Guinea, including for HIV prevention.

A brief report from research conducted by Michelle Redman-MacLaren, PhD (Candidate), College of Medicine and Dentistry, James Cook University prepared for ***New Britain Palm Oil Limited.***

Why this study was needed

Papua New Guinea (PNG) has 90% of all reported HIV infections in the Oceania Region, with over 31,000 people living with HIV. Significant risk of infection exists in PNG because of unprotected sex with multiple partners. Biological factors that increase women's risk of HIV include: high rates of untreated sexually transmitted infections (STIs), the young age at which women commence sexual activity and low male circumcision rates. Inequality for women in PNG, which includes unequal educational and economic opportunities as well as physical and sexual abuse, increases the vulnerability of women to HIV.

Women account for 60% of HIV infections in PNG. It is important when considering male circumcision for HIV prevention, that HIV prevention strategies benefit both men and women. It is also important to consider potential negative consequences for women. Understanding how women experience and manage the many issues of male circumcision for themselves, their sexual partners and their sons is essential to understanding broader HIV and sexual health issues in PNG. A great diversity of traditional and contemporary male circumcision and foreskin cutting practices exist across the country. Medical male circumcision is currently being investigated as a HIV prevention strategy. Studies have documented mixed responses by women to male circumcision as a HIV prevention method in PNG.

About the Study

The objectives of the study were to:

1. Describe women's understanding and experience of male circumcision and penile modifications,
2. Describe and construct a theoretical model of the processes used by women to manage the outcomes of male circumcision and penile modification in PNG in partnership with women in PNG,
3. Identify the implications of results on/for local level action and national HIV policy.



Qualitative data was sampled from the 'Acceptability of Male Circumcision for HIV Prevention in PNG study' (MC Study) data. Transcripts from 20 interviews and 11 focus group discussions were thematically analysed. In 2013, researchers Michelle Redman-MacLaren and Rachael Tommbe conducted a further 11 interviews and 7 interpretive focus groups with 67 women and 1 man at NBPOL and PAU to expand upon the developing themes.

Partners

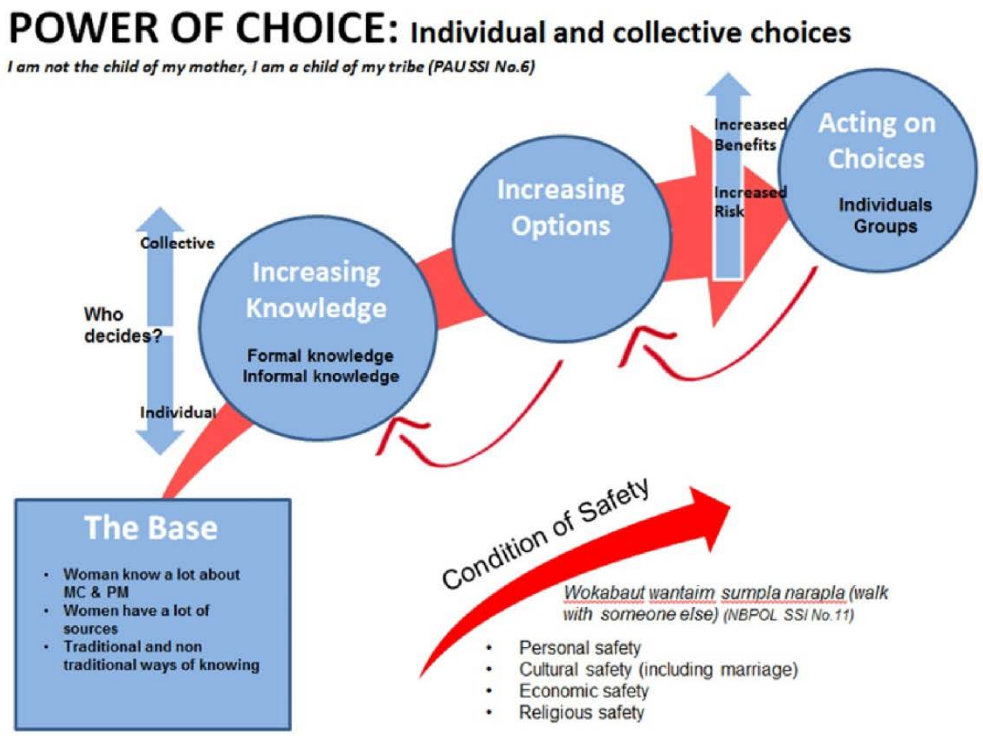
Research partners for this study included Pacific Adventist University and New Britain Palm Oil Limited (formerly Higaturu Oil Palms). Partners of the MC Study also included Divine Word University and Porgera Joint Venture. I thank each of these research partners for their ongoing support.

Key Findings from the Study

- Women have extensive knowledge about male circumcision and foreskin cutting practices, despite cultural norms that mean most women do not participate in decision-making about male circumcision or other penile modifications.
- Women gain knowledge through personal (sometimes negative) experiences of their partners or children, through cultural traditions and/or through formal training or education. Women who have formal education or training, or who hold formal roles in their communities reported a greater power of choice about their own decision-making, including how male circumcision affects them.
- Educated women reported more opportunities to influence their partner's decision about male circumcision or other penile modifications, to choose a new partner or arrange male circumcision for their male children.
- Increased formal and informal education (such as HIV and sexual health training) results in increased status for women and access to a greater range of choices. The often culturally sanctioned low-status roles for women in PNG can be changed with training and/or formal education, which gives more power and thus more choices. If women have greater power of choice, they are less vulnerable to harmful, unintended consequences that may result from a policy of medical male circumcision.
- Women need to feel safe to have a power of choice.

Below is a model that was developed following discussions with people who participated in the research. This model was checked with people when the feedback trips were done in March 2014 and was adapted to highlight important aspects of the model.





An expanded audio explanation of the model is provided - presented in English and recorded during a feedback group with single women at Pacific Adventist University, PNG (6 March 2014). Please visit: http://youtu.be/cqAp40-YXjI (audio length: 16.18 minutes).

Recommendations for NBPOL

During the initial interpretive focus groups at NBPOL, discussions were held regarding what should 'happen next'. Recommendations from co-researchers and health workers at NBPOL were also collated and presented during a meeting with Mr Mike Jackson, NBPOL General Manager, Mrs Elizabeth Cazalet, Nursing Manager and other NBPOL managers and senior staff on Wednesday, 5 March 2014. Arrangements were made with Ms Cazalet to invite experienced sexual health trainer Mr Kelwyn Browne to Oro. Mr Browne was an Investigator on the MC Study and was a member of the Expert Reference Group for this doctoral research. NBPOL took responsibility for the arrangements and costs of this additional training as partners of the research. Sexual health training for NBPOL and Provincial Health clinic staff took place in June



2014. Brief interventions were facilitated with 371 NBPOL employees. In addition, clinicians were provided with a two-day sexual health training course, with a total of 22 health workers, nurses and health extension officers attending (women n=11; men n=11). Company supervisors (n=22) also participated in sexual health training. This work has continued, with HIV nurse Mr Charles Yadup and colleagues facilitating training with all departments and estates.

The following recommendations for future action relate specifically to NBPOL and have been identified from evidence generated during this doctoral study.

1. Continued workplace training at New Britain Palm Oil Limited

During feedback meetings at NBPOL, women talked about how difficult it was to discuss their experience of male circumcision and other penile modifications with their husbands/partners due to social and cultural taboos. Men rarely have opportunity to learn about or discuss reproduction and sexual health with a health worker. In contrast, women attend clinic appointments during child bearing years and are exposed to health knowledge in a different way. Co-researchers recommend sexual health training is made available for men at NBPOL. It was expressed that men who understood the anatomy of women and how certain penile modifications hurt women may be more considerate of their partners.

(i) Sexual health training for men working at NBPOL as part of their workplace training activities,

(ii) More sexual health training for health workers at NBPOL and in the broader Oro province to support men and women to prevent HIV and other STIs,

(iii) Provide information for employees re male circumcision, what type of cut is protective and where men can safely access this type of cut.

Action to date:

(i) Discussions with the Mrs Elizabeth Cazalet, Nursing Manager NBPOL regarding next steps for research, March 2014 and ongoing email communication, 2014-15,

(ii) June 2014: Brief intervention workshops with 327 workers, a 2-day workshop with 22 clinicians and a 4-hour workshop with 22 supervisors,

(iii) Ongoing training facilitated by Mr Charles Yadup, HIV Nurse and colleagues in all Departments and Estates,



(iv) Drafted summary report to NBPOL with findings and recommendations to inform policy development and implementation; emailed Managing Director, Nursing Manager and HIV Nurse on 6 May 2015.

Next Steps:

(i) Conduct a process and outcome evaluation of brief interventions, to prevent HIV and other STIs. Collect both quantitative data (HIV and other STI incidence) and qualitative data, adapt the methods of interventions and related workplace policy, monitor, evaluate and report findings,

(ii) Use the workplace intervention study findings to inform employers, business groups and policy makers in PNG and other PICTs of value of workplace interventions to reduce HIV and other STIs,

(iii) Publish research findings including: Workplace interventions for community health: Sexual health policy and practice (BMC Health Research Policy and Systems).

2. NBPOL employees must stop informal penile cutting of other employees

Women were concerned that penile cutting and other modifications, including injections and inserts, were being conducted by NBPOL employees and/or on NBPOPL property. One man had been dismissed from the employ of NBPOL, but the practices were still continuing in various forms.

Recommendations:

(i) Review workplace policies that support safe penile cutting,

(ii) Enact workplace policies to ensure employees are not conducting unsafe penile modifications outside of the health centres, including injections in Estates aninits palm (underneath palms),

(iii) Conduct activities to enhance a supportive workplace culture to support this policy, for example the safe disclose of sensitive information,

(iv) Conduct more research about the injections using the skin blo diwai (bark of a tree) and their impact, including cancer or other physiological changes for men and damage to women's bodies (such as tearing and infection).

Action to date:

(i) Information provided to NBPOL Managers at a feedback meeting on concerns that policy is not being noted,



(ii) Sample of fluid used for injections has been provided to laboratory partners for content analysis

(iii) Brief intervention workshops conducted (June 2014) to contribute to a workplace where sexual health is discussed in a more open and informed manner; ongoing training being provided by NBPOL Health Centre staff.

Next Steps:

(i) Send summary report to NBPOL with findings and recommendations, including for policy development and implementation,

(ii) Discuss workplace policy with Nursing Manager and health workers during next visit to NBPOL,

(iii) Conduct intervention study at NBPOL, including process and outcome evaluation to further develop an understanding of what will support a healthier workforce,

(iv) Report research findings for NBPOL workplace interventions in: PNG Medical Journal.

3. Establish men's clinics: NBPOL and PAU

Co-researchers from both NBPOL and PAU identified the need for a men's health clinic that was accessible and not stigmatising. It was expressed that women often go to the clinic particularly when preparing to give birth or take their children, but men rarely go except for emergencies.

Recommendations:

(i) NBPOL: Establish a minimum of one clinic per week at the Siroga Clinic that is specifically for men staffed by male health workers (employees and community members),

(ii) PAU: Establish a minimum of one clinic per week at the PAU Clinic that is specifically for men staffed by male health workers (employees and community members).

Action to Date:

(i) Presented this recommendation to the NBPOL Managers on 5 March 2014 for consideration,

(ii) Presented this recommendation to the HIV Committee at PAU on 28 August 2014 for consideration by the PAU Administration Committee (Minutes sent to Committee Chair on 12 October, 2104).

Next Steps:

(i) Discuss next steps with champions for this recommendation at both field sites: Mr Charles Yadup, NBPOL and Ms Rachael Tommbe, PAU,



(ii) Visit both field sites to discuss this recommendation, resource requirements, policy implications and develop a monitoring and evaluation component with partners to the introduction to inform future action,
(iii) Support the development of a business case for this expansion of service, including resource implications and possible sources of funding,
(iv) Publish analysis of translating research findings for workplace interventions in: BMC Health Services Research.

4. Health worker training in men's health: NBPOL and PAU

Health workers at both NBPOL and PAU identified a need for additional training about men's health issues. Many of the health workers felt unclear about men's health, how to discuss prevention of HIV and other STIs. This was especially the case for women health workers who also wanted further training on discussing sexual health issues with men working across social and cultural barriers.

Recommendations:

(i) Training for health workers to address male physiology, common sexual health needs of men and sexual treatment regimens,
(ii) Training for both male and female health workers on how to discuss sexual health with male patients,
(iii) Make male health workers available as much as possible to reduce stigma and increase health-seeking behaviour of men.

Action to date:

(i) A two-day workshop conducted at NBPOL facilitated by Mr Kelwyn Browne, Sexual Health Nurse for 22 clinicians, June 2014.

Next Steps:

(i) Determine outstanding men's health training needs in partnership with NBPOL and PAU in the light of these findings,
(ii) Identify possible trainers and resource implications, including possible resources within and between research partner organisations (PAU teaches a degree in nursing!),
(iii) Identify possibilities for an increased component about men's health in the nursing curriculum being taught at PAU,



5. Safety for women at NBPOL

As evidenced in the transformational grounded theory, women need safety to act upon their choices. Currently at NBPOL many women lack safety to move around freely. Women fear walking alone or in small groups, walking from the bus stop to their home in the company estates. It is critical that researchers and health staff work with company managers and decision makers to reduce risk of sexual assault in oil palms/roads/public spaces.

Recommendations:

(i) Women be provided safe transport through Estates by the Company,

(ii) Training with men in all Departments and Estates to include attitudes about the company implications of men assaulting women,

(iii) Training with men in all Departments and Estates to include discussions about options for safety, including identifying what works best (for example, as reported by one co-researcher, *"Walkabout wantaem sumpla narapla, tasol walkabout wanwan em i no sef"* (walk with someone else, walking alone is not safe) (SSI NBPOL 5),

(iv) Discuss legal options with management, including the role of the police in Oro Province.

Action to Date: Included recommendations in summary report to NBPOL

Next Steps: Meet with Managing Director, Health team & Health and Safety Officer when next in Oro to discuss possible ways forward; provide research evidence and support for future action.



Publications and presentations reporting PhD findings to date

(Available upon request or by clicking on hyperlinks, where available)

Redman-MacLaren, M. L., Mills, J., Tommbe, R., MacLaren, D. J., Speare, R., & McBride, W. J. (2013). Women and HIV in a moderate prevalence setting: an integrative review. *BMC Public Health, 13*(1), 552. doi: 10.1186/1471-2458-13-552 http://www.ncbi.nlm.nih.gov/pubmed/23742068

Redman-MacLaren, M., Tommbe, R., & Mills, J. (2014). Interpretive focus groups: a participatory method for interpreting and extending secondary analysis of qualitative data. *Global health action, 7*(25214), 6. doi: http://dx.doi.org/10.3402/gha.v7.25214

MacLaren, D., Tommbe, R., T., M., Manineng, C., Fregonese, F., Redman-MacLaren, M., . . . McBride, W. J. (2013). Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea. *BMC Public Health, 13*(1), 818. doi: 10.1186/1471-2458-13-818 http://www.ncbi.nlm.nih.gov/pubmed/24015786

Redman-MacLaren, M. L., Tommbe, R., & Mills, J. (Producer). (2014, 07.04.2014). Weaving understanding: Use of secondary data to generate new understandings about HIV risk with women in Papua New Guinea. Retrieved from https://www.youtube.com/watch?v=Fg3OqF6fK38&feature=youtu.be

Redman-MacLaren, M. L., Tommbe, R., Mills, J., McBride, J., & Speare, R. (2014). *Increasing knowledge increases choices: Evidence from a HIV study with women in Papua New Guinea.* Paper presented at the Talanoa Pasifika 2014 Cairns, Australia.

Redman-MacLaren, M. L., Tommbe, R., Mills, J., MacLaren, D. J., & MbcBride, W. (2014). *Women's experience of male circumcision in Papua New Guinea: a grounded theory study.* Paper presented at the AIDS 2014, Melbourne, Australia.

Redman-MacLaren, M. L., & Mills, J. (2014). *Weaving understanding: Use of secondary data to generate new understandings about HIV risk with women in Papua New Guinea.* Paper presented at the 9th International Congress of Qualitative Inquiry, Illinois, USA. Included viewing of: https://www.youtube.com/watch?v=Fg3OqF6fK38

Redman-MacLaren, M., & Browne, K. (2014). *Gendered responses to male circumcision for HIV prevention* Paper presented at the Cairns HIV Hub Conference 2014, Cairns.

For more information about this research or to discuss the content of this report, please contact Michelle Redman-MacLaren, Senior Research Officer, James Cook University michelle.maclaren@jcu.edu.au or call +61 7 4232 1878.

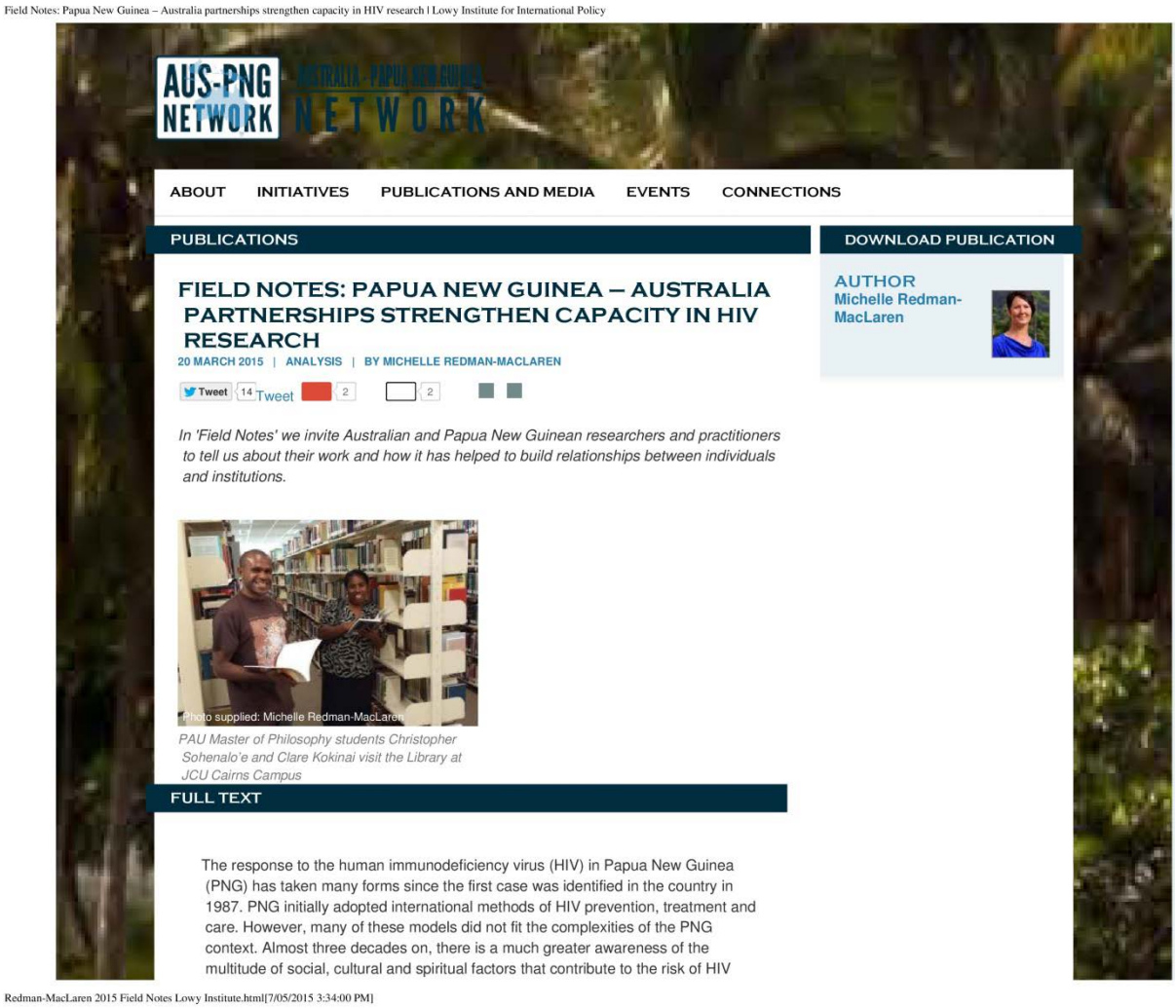


10.7 A Papua New Guinea–Australia HIV Research Partnership

Manineng, C, MacLaren, D, **Redman-MacLaren, M,** Tommbe, R, & Mafile'o, T 2014, 'A Papua New Guinea—Australia HIV Research Partnership: Generating new knowledge, building capacity and forging new friendships', *HIV Australia*, vol. 12, no. 2, pp. 72–74, retrieved from: http://www.afao.org.au/library/topic/hiv-education/HIVA-12-2-ONLINE-R.pdf#page=72

Authors' Roles: CM drafted and finalised the article, with input from all authors.

Accesses: NA; **Citations:** NA





across the 800 language groups in PNG. This process has led to more ambitious research endeavours by national and international HIV research teams.

One such research partnership has developed between us as researchers at Pacific Adventist University (PAU), near Port Moresby in the National Capital District, PNG and James Cook University (JCU), Australia. The PNG National AIDS Council and AusAID called for research that examined, 'the role of churches-denominations: what positive things are occurring, HIV knowledge, potential opportunities for partnerships'. In response, we have been researching Seventh-day Adventist (SDA) responses to HIV and AIDS in Papua New Guinea (2012-2015). This research is funded by DFAT (previously AusAID) and builds upon existing relationships developed during a large multi-site study of the acceptability of male circumcision for HIV prevention. Our research team includes PNG and Australian researchers, as well as researchers from Aotearoa/New Zealand and the Netherlands. Our team consists of researchers with academic backgrounds in education, health, theology, development and anthropology.



Members of the study team from PAU and JCU met in Cairns to write book chapters that will be collated to report research findings. (Photo supplied: Michelle Redman-MacLaren)

One of our first challenges was writing the research application together. At the time we started out, most of us were living on the PAU Campus in PNG. One Australian researcher (Dr Mike Wood, JCU) flew up to PAU for the development of the application and another (Professor Ton Otto) provided feedback on documents via email. Writing the application together highlighted the diverse cultural, philosophical, professional and spiritual worldviews we held as researchers. Given the focus of this commissioned research was the SDA church's responses to HIV, the development of the application required a deep understanding of this faith tradition.





There was a lot of 'translating' of concepts and language, in particular by the Co-Principal Investigator the late Pr Matupit Darius. Pr Darius was a leader in the response to HIV in PNG and was an actor and producer of the well-known HIV videos 'O Papa God' and 'Em Rong Blo Mi Yet'. We found that what was assumed knowledge by some researchers was fascinating and new knowledge to others. Other researchers sat in the 'borderlands', understanding but not practicing an SDA world view. The negotiations required gentleness, honesty, patience and more than a few shared meals – *taim mipla bung na kaikai, mipla hamamas tru!* (when we meet and eat together we are really happy!).

Once the application was developed and submitted and changes made, as requested by the National AIDS Council Secretariat, it was then a matter of finding the right people for the ambitious research tasks. Our commitment to strengthen research capacity in every research project was a strong guiding principle. To that end the project funded three Master of Philosophy students at PAU and employed another, recently graduated Masters student as a research worker. Investigators on the study doubled as Master of Philosophy supervisors.

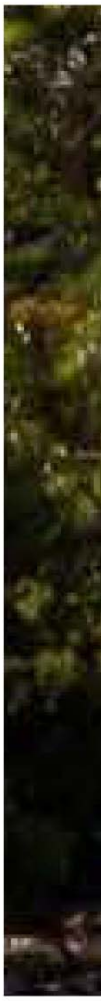
Of course, none of this was going to be possible without the support of the SDA church in PNG. The gentle negotiations led by PNG-based researchers, Pr Matupit and Professor Tracie Mafile'o, resulted in a Letter of Support for the study to progress. Research activities were conducted in 10 Provinces with 15 SDA churches, 9 SDA church schools, nine SDA health clinics, the SDA Church Headquarters and the Adventist Development and Relief Agency (ADRA), both based in Lae.

Challenges were aplenty! The initial funding to the Master of Philosophy students was inadequate, leadership in the study added to already heavy work-loads and for some, personal circumstances changed and they felt unable to meet the rigorous academic requirements. However, the central strength throughout was the ongoing and positive nature of the relationships within the research group. When one could not go on, another stepped up. Resources and personnel were reallocated and support provided – either in person or by using other platforms, such as teleconferences and group emails. When JCU researchers were in PNG, they were hosted by PAU and contributed by conducting lectures for all Master of Philosophy postgraduate students, not just those involved in this particular research study. This increased the breadth of research scholarship offered at PAU. When PAU researchers were in Australia they were hosted by JCU and contributed by advising on other studies and delivered a public lecture at JCU.









Master of Philosophy students with their supervisors collecting data at Kabiufa Adventist Secondary School, Goroka. (L-R): Clare Kokinai, Dr David MacLaren, Christopher Sohenalo'e, Rachael Tommbe and Dr Lalen Simeon. (Photo supplied: Michelle Redman-MacLaren)

Our greatest challenge was the loss of our much respected Co-Lead Investigator, Pr Matupit Darius early in the third year of the study. The heartbreaking event saw us all travel back to the PAU campus on Koiari country to mourn his untimely passing. It was at this time the depth of our commitment to each other and the work was most visible and most raw. The success of this work was built on relationships of trust and courage and we felt we had to finalise the study to honour Pr Darius' legacy. Mrs Rachael Tommbe stepped up to be the PAU Co-Lead Investigator.

The research findings from this study have been shared widely. An Inter-Church Forum, supported by DFAT, was hosted by PAU in September 2014 to discuss the research findings and how they are applicable to services provided by a number of churches in the Church Partnership Programme. In addition, notable exchanges took place when PNG and Australian researchers reported findings at the PNG Medical Symposium in Lae, the Australasian Society for HIV Medicine in Darwin, Australia and at the International Congress on AIDS in Asia and the Pacific (ICAAP) held in Bangkok, Thailand. Sharing new knowledge about the SDA church responses to HIV is now informing health programs, education curricula and policies.

This work is benefiting many within PNG and beyond. HIV service providers are now better informed of the centrality of spirituality and culture when responding to HIV in PNG. The research capacity developed during this project is now benefiting other



research institutions. The Masters students involved in this study are now in leadership roles in research, including at a university (PAU) and an international research institute (Burnet Institute). The partnerships and lessons learned have been taken well beyond this research project and are broadly benefitting both PNG and Australia.

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Michelle is an Australian community development worker/public health researcher who has worked in rural, remote and international settings for over 20 years. Michelle is passionate about working in the Pacific, especially with women. Michelle is involved with research capacity strengthening across a number of projects in PNG and Solomon Islands and is currently undertaking her PhD with women exploring HIV prevention in PNG.

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Lalen is from New Ireland Province in PNG with an extensive career as a secondary teacher and Lecturer in Education. Since 2011, Lalen has been the Director of Research and Postgraduate Studies at PAU. In addition to co-ordinating and teaching students across a number of Masters programs at PAU, Lalen has a





strong interest in issues affecting women and youth. She is an Investigator on a number of research projects including women and agriculture (in partnership with the University of Canberra), workplace strategies address impacts of family and sexual violence on workplaces in PNG (in partnership with UNSW) and the SDA Responses to HIV in PNG study.

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David is an Australian public health researcher who has worked and conducted research across Australia, New Zealand and the Pacific. David is particularly interested in the intersection between culture, spirituality, health and health services and leads a number of research projects in PNG and Solomon Islands. All centralise mutual research capacity strengthening.



Background image courtesy: Jonathan E Shaw Attribution

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10.8 Co-interviewing Across Gender and Culture

Redman-MacLaren, ML, Api, UK, Darius, M, Tommbe, R, Mafileo, TA & MacLaren, DJ 2014, 'Co-interviewing across gender and culture: Expanding qualitative research methods in Melanesia', *BMC Public Health,* vol. 14(922).

Authors' Roles: MRM: co-designed the research study (including study tools), facilitated interviews with co-researchers, analysed the interview data, drafted and edited the manuscript; UA: co-designed the research (including study tools), facilitated interviews with co-researchers, analysed the interview data and edited the manuscript; MD: co-designed the research (including study tools), oversaw the establishment of the research project, contributed the core cultural content of this article, contributed to analysis of data and edited the initial manuscript; RT: co-designed the research project, is Co-lead Investigator of the study and edited the manuscript; TM: co-designed the research project, advised on data collection and edited the manuscript; DM: co-designed the research project, is Co-lead Investigator of the study, provided critical input through the reflective process and edited the manuscript.

Accesses: 1999; **Citations:** 0; **Date:** 6 May 2015

Redman-MacLaren et al. BMC Public Health 2014, 14:922
http://www.biomedcentral.com/1471-2458/14/922

BMC Public Health

RESEARCH ARTICLE Open Access

Co-interviewing across gender and culture: expanding qualitative research methods in Melanesia

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Abstract

Background: The social and cultural positions of both researchers and research participants influence qualitative methods and study findings. In Papua New Guinea (PNG), as in other contexts, gender is a key organising characteristic and needs to be central to the design and conduct of research. The colonial history between researcher and participant is also critical to understanding potential power differences. This is particularly relevant to public health research, much of which has emerged from a positivist paradigm. This paper describes our critical reflection of flexible researcher responses enacted during qualitative research in PNG.

Methods: Led by a senior male HIV researcher from PNG, a male from a PNG university and a female from an Australian university conducted qualitative interviews about faith-based responses to HIV in PNG. The two researchers planned to conduct one-on-one interviews matching gender of participants and interviewer. However, while conducting the study, four participants explicitly requested to be interviewed by both researchers. This experience led us to critically consider socially and culturally situated ways of understanding semi-structured interviewing for public health research in Melanesia.

Results: New understandings about public health research include: (i) a challenge to the convention that the researcher holds more power than the research participant, (ii) the importance of audience in Melanesia, (iii) cultural safety can be provided when two people co-interview and (iv) the effect an esteemed leader heading the research may have on people's willingness to participate. Researchers who occupy insider-outsider roles in PNG may provide participants new possibilities to communicate key ideas.

Conclusions: Our recent experience has taught us public health research methods that are gender sensitive and culturally situated are pivotal to successful research in Melanesia. Qualitative research requires adaptability and reflexivity. Public health research methods must continue to expand to reflect the diverse worldviews of research participants. Researchers need to remain open to new possibilities for learning.

Keywords: Co-interviewing, Qualitative research, Public health research, Culture, Gender, Power, Papua New Guinea, Melanesia

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Background

The social, cultural and professional positions of both researcher and research participant influence qualitative methods and study findings. When conducting interviews for public health research about sexual health in Papua New Guinea (PNG) and Melanesia more broadly, it has been our practice to match the gender of the research participant with the researcher [1-5]. This gendered approach is consistent with many cultural practices and obligations in Melanesia and is also informed by feminist and decolonising research theory which explains research as a power-laded process [6-8]. We understand that having power means being able to influence the behavior of individuals or groups [9]. Ensuring that the researcher is the same gender as the research participant is one way of potentially making more equal the power between researcher and participant, particularly for female research participants discussing sensitive health issues.

In this article, we report new insights about conducting sexual health research in PNG. A diverse nation made up of over 800 distinctly different language and cultural groups, PNG has corresponding diversity of beliefs and practices. However the majority of cultural groups are organised along patrilineal lines. Gender is thus a key dimension of social life that influences the nature of individual and collective relationships [10]. In PNG, gender refers to the characteristics assigned to women and men by the society in which they live [11]. Gender influences the type of tasks undertaken by men and women, employment opportunities and can indicate vulnerability to inter-personal violence and HIV [12-15]. Matching the gender of the researcher and research participant therefore reflects social and cultural patterns [16].

Taking into account the colonial history between researcher and participant is also critical to understanding potential power differences. As researchers from PNG, based in PNG, or Australians working in PNG, we are committed to enacting decolonising research methodologies. This is particularly important given that PNG gained independence from Australia in 1975. One key step towards decolonising research and addressing potential power imbalance between researcher and participants is for those of us who were formerly 'the researched' to become 'the researchers'. Linda Tuhiwai Smith explains, "When indigenous people become the researchers and not merely the researched, the activity of research is transformed. Questions are framed differently, priorities are ranked differently, problems are defined differently, people participate on different terms" [6].

Researchers who enact decolonising methodologies prioritise power redistribution and acknowledge the reality of colonisation upon the research process [17]. Decolonising research rejects the notion that Western ideologies and worldviews are superior. They privilege Indigenous ways of knowing and understanding history. As observed by Kovach, decolonising research provides space for a shift for non-Indigenous researchers to move beyond the them/us binary and move towards "new, mutual forms of dialogue, research, theory, and action" [18]. It is with a commitment to respectful research practice that we critically reflect upon an experience of conducting qualitative interviews for HIV research, which challenged our assumptions and led us to learn more about how to conduct public health research in PNG.

Methods

Our experience of co-interviewing

In 2012, Unia Api (UA) a Papua New Guinean male from a university in PNG and Michelle Redman-MacLaren (MRM) a White Australian female from a university in Australia, conducted eight semi-structured interviews about HIV services with staff at a faith-based organisation in Lae, a large industrial city in PNG. The interviews formed part of a collaborative study undertaken to understand the influence of donors and the church on the faith-based organisation and how this influenced HIV prevention activities and treatment services [19]. The co-principal investigator of the study was the Late Pastor Matupit Darius (MD), a senior and highly respected church leader. MD was renowned across PNG and the Pacific as a film maker, actor and HIV advocate as well as being a theologian and academic at Pacific Adventist University. MD led UA and MRM to Lae in September 2012 and introduced UA and MRM to key church and faith-based organisation leaders. He also provided supervision and support for the two researchers conducting field work. Eight individual interviews were conducted in three sites across the city. Four of these interviews were conducted consistent with the planned gendered approach to individual interviews. However, four of the research participants (two managers - one male and one female and two HIV counsellors - one male and one female) requested to be interviewed by both UA and MRM. On each occasion, UA and MRM reiterated the offer to interview the two men and two women separately using the gendered approach planned. However, it was the expressed wish of each participant that both UA and MRM conduct the interview. The interviews progressed on this basis, with UA being lead interviewer during three interviews and MRM being lead interviewer during one interview. The lead interviewer asked the semi-structured questions prepared prior to the interview and the co-interviewer took notes, probed and ask supplementary questions. In addition the co-interviewer summarised the main points at the end of each of the interview. All interviews were voice recorded and transcribed verbatim.

When the interviews were concluded, the field team (UA, MRM and MD) critically reflected upon the co-interviews.

We considered what influence our respective cultural heritage may have had on the interview process and content discussed, including how the 'mismatched' gender might have impacted the interview process. Our initial and primary concern was the fact two interviewers had actively co-facilitated the interviews with a single participant. Had co-interviewing increased the researchers' power in the interview process and did this influence participant response? Conversely had co-interviewing increased the participants' power in the interview process and correspondingly influenced their response?

Ethics and adherence to qualitative research review guidelines

Ethical approval for the study was obtained from James Cook University Human Research Ethics Committee (H4295), Pacific Adventist University (Approval Letter, 10 March 2012) and the PNG National AIDS Council Secretariat (RES10 COM005). All participants gave their informed consent to participate in the study. Authors of this article confirm adherence to the qualitative research review guidelines and have carefully considered the relevance of the study question, appropriateness of qualitative method, transparency of procedures and soundness of interpretation.

Insider-outsider research

Drawing upon the work of Louis and Bartunek [20], Ritchie and colleagues describe insider researchers as those who have had a place in the group being studied prior to the research starting [21]. Outsider researchers are described as those who begin to relate to the research topic only as the research study begins. Researcher experience is influential in shaping the interview process [22] and having a researcher who is identified as an insider can enhance the research process in decolonising research contexts [8]. To contextualise our findings and the subsequent discussion, we explicate the insider/outsider roles held by the two researchers. UA is a man from PNG who works at the "*ples blong save*" ('place of knowledge' - the University) in the same faith tradition as the faith-based organisation. He is also a *wantok* (literally, speaks the same language) of some of the research participants. MRM is as an Australian who speaks *Tok Pisin* (demonstrating extended links to Melanesia/PNG), has previously lived in PNG, had previously conducted HIV work with the faith-based organisation and was once a member of the faith tradition. Both UA and MRM hold an insider-outsider role, although in different ways.

Results

What we discovered

From the experience described above, we critically reflected on the advantages and disadvantages for the research participants to be co-interviewed by two people, a male from PNG and a female from Australia. We discussed how culturally-shaped concepts of audience, status and cultural safety could have contributed to the participants' desire for two interviewers.

In the PNG context, a possible advantage for the research participant of having two interviewers is that two people provide greater audience. Greater audience could be seen to reflect an important status and elevate the contribution of the research participant. In the oral, *bikman* culture that is predominant in most of PNG, somebody who has a high status would expect to have as many people listening to his (or less commonly, her) opinions as possible. Having two interviewers therefore gave additional status to the study participant. Further, the audience provided by two interviewers, might have been seen as a way of ensuring ideas were communicated to the leader of the study, MD, who was a highly respected *bikman* in PNG. In addition, the research participants were able to speak to an international researcher and share their opinions, while still having somebody from PNG there to contextualise the knowledge generated during the interview. These dynamics may have enhanced the perception of both audience and potential influence over research outcomes that could benefit the people the research participants work with.

Being co-interviewed by two researchers may have been seen to enhance the value of the research participant's contribution to influence their organisation. One participant explicitly stated that being involved in the research project gave an opportunity to speak out about areas of concern. *"As I've made reference earlier to the [name] church, research is the key so people like you, research practitioners like you... have a pivotal role because based on the research we only create activities that supports, that incorporate stories that you guys have already done"* (Research participant No.2). Being involved in the study was a way participants could advocate for people living with HIV and gain the support of their organisation.

It was our experience that co-interviewing enabled probing and additional questions not explored by the lead interviewer. This provided space for the research participant to provide more details about initial responses and enabled a rich co-generation of data that would have been more difficult to achieve with one interviewer. From the perspective of the researchers, the nature of the questions, the language used and meaning co-construction was richer than if there had only been one interviewer. However, for two researchers to conduct an interview with one research participant, whatever the gender or cultural backgrounds, the possibility exists of unequal power distribution in favour of the interviewers. This was not an apparent concern for the four research participants who actively invited both researchers to co-interview.

These research participants were genuine in their requests to be co-interviewed, despite repeated offers of individual interviews by either researcher. This dynamic led us to review cultural understandings of the 'interview' and other researcher experiences in PNG and across Melanesia.

Discussion

Co-interviewing

Co-interviewing has been described as a method to bridge cultural and gendered divides [7,23]. However, in sexual health research the interviewer explores highly sensitive topics such as relationships, sexual experiences and sexually transmitted infections. Nevertheless, it was the observation of both UA and MRM, as experienced researchers, that the research participants genuinely wanted us both to be there. In this professional context, where participants were employees of a faith-based organisation, having male and female interviewers as an audience of two from two different universities appeared desirable. Did the presence of both researchers further honour participants' response to HIV in PNG, such as their personal experiences, the HIV prevention services, mainstreaming of HIV or attempts to address organisational impediments to undertake 'culturally acceptable HIV activities'? In addition to discussing their professional response to HIV, some participants also talked about their own sexual health issues and measures taken to improve sexual health outcomes. Participants explicitly stated their desire to use results from the study as evidence to enhance service delivery and increase access to resources. As an example, a HIV program manager expressed concern that inadequate infrastructure was restricting the types of STI and HIV tests able to be provided at a clinic. This was included in the summary of results and presented to the faith-based organisation. Subsequent to this, infrastructure was improved and testing facilities are now available at the clinic. This exemplifies how power was understood and utilised by participants to achieve transformation within their realm of influence.

In the cultural context of PNG, co-interviewing increased the size and status of the 'audience', which correspondingly increased the status and possible outcomes of both the participant and their organisation (and by association the people they provide services for). It is also possible that co-interviewing involving two researchers was a mechanism to redistribute power away from a single interviewer who, when alone, had the power to influence what was reported. A strident criticism of some research, particularly in colonial or post-colonial situations, is that researchers have used 'power-over', rather than 'power- with' research participants or populations [24]. Use of 'power-over' by researchers perpetuates unjust power imbalances in the research process [6]. Co-interviewing provided a more culturally accountable process and diminished the power of an individual researcher to influence what was reported.

Our study used specific methods to devolve, share and enable the participant to have more power, consistent with our commitment to participative, decolonising research methods [6,14,18,25,26]. Methods employed included ensuring a private location for the interview and paying careful attention to the physical arrangements of the interview, including seating positions and room arrangement. Researchers also explicitly stated that the research participant was the expert in the interview and used open-ended qualitative questions to encourage the participant to discuss content that was most important to them [27]. These discussions were facilitated in *Tok Pisin* (a lingua franca of PNG), English (the language of the ex-colonisers) or a mixture of the two [28]. In PNG, there are three national languages *Hiri Motu, Tok Pisin* and English. Papuan peoples in the Southern region of PNG speak *Hiri Motu,* with *Tok Pisin* spoken throughout much of the remainder of the country. English is mostly used in formal education and for more official communication. Providing the option to discuss HIV in *Tok Pisin*, a language closer to the lived experience of most participants, provided another way to reduce potential power imbalances between researcher and participant.

In addition to physical surroundings and languages used, we also explained the reporting and feedback process and assured participant's an opportunity to provide comments on preliminary findings prior to findings being reported publically (conducted in Lae during May 2013). Researchers and participants also discussed the potential to use results to advocate for greater resources. The risk was the presence of two researchers' would inadvertently increase expectations about the study team's ability to influence action based on information shared in the interview. Thus the onus was on the researchers to carefully and honestly explain the research process, who would receive the findings and who would be responsible for research-informed action.

Co-production of knowledge

As a result of our critical reflection, we realise the study was bringing assumptions about power imbalance in research to a group of people from PNG with an indigenous worldview who perhaps conceived of power differently. In decolonising and indigenous research methods, power is understood to be held by the non-indigenous researcher who has come into the indigenous cultural context. In fact, research itself is seen as one of the "dirtiest words", due to the misuse of power by non-indigenous researchers [6]. We have questions about the construction of researcher power in PNG, as described in some decolonising research theory.

Melanesian cultures are based on collective rather than individualist ideologies. Collectivist foundations inform practice, including how knowledge is produced/co-produced. It is therefore unusual for people to talk privately (one-on-one) unless they have a very close or intimate relationship. In fact, there are a number of risks inherent in agreeing to speak to someone privately. In a collectivist, oral tradition, if one speaks privately to another, there is no-one present to verify the truth of the assertions made. Talking privately may endanger the interviewee or interviewer if the partners or family members do not agree to the interview. In fact, as evidenced by the village courts in PNG, many witnesses to the evidence provided is often preferred - many people want to listen to, and verify, what is being said, including spouses, aunties, uncles and *bubus* (grandparents/grandchildren) [29]. Applying this cultural understanding, we have learnt that the way a decolonising researcher might seek to ethically 'do no harm' by conducting a private interview with a person of the same gender may, on some occasions, need to be enacted differently in Melanesia. The different sites of power remain, including positional power, relational power between workers and supervisors and formal and informal power in the interview context. However, the way this power is conceptualized and experienced by the research participant may be different. More power may be given to a participant by increasing or changing the researcher 'audience', for example by having two interviewers. This is consistent with cultural approaches that utilise public forums rather than private or more individualist/formal processes (for example, written submissions) to raise issues. Knowledge production and transmission is a site of powered interaction and requires a nuanced understanding of the two-way, collective, culturally constructed process that has specific and different characteristics based on Melanesian worldviews [30]. In the remainder of the paper, we reflect further on some key issues that have emerged as a result of critical reflection upon our research practice.

Legitimacy in the research process

In Melanesia, everyone has their place [30]. Older people and senior leaders give legitimacy to the process of knowledge production and transmission. In this experience, the interviewers UA and MRM were afforded additional legitimacy by having MD, an esteemed senior church leader and HIV advocate, theologian and researcher help arrange the interviews. MD helped to organise the interviews and give his authority to the research project. UA and MRM were conducting the interviews, but people may have been more willing to participate in the study because MD was on location and supporting the research. The interviewers' legitimacy arose from the respect afforded a more senior person in the social, cultural and religious context. It is our experience that when conducting research or training in PNG, it is important to have an older person and younger person together, so when the younger person conducts the interviews, or enacts their training (particularly in their village setting) they have a legitimacy to act. This is consistent with the experience of other researchers in PNG [31]. A senior researcher provides authority and status to the younger researcher's activity. This was certainly the case with UA and MRM working under the authority and status of MD.

Opportunity to speak

Melanesian culture has specific conditions that determine who can speak and who cannot [32]. Opportunities to be listened to depend upon a person's status in the community. This dynamic also occurs in religious communities in PNG, where leaders of the Christian churches typically preach to people, rather than ask questions of people. Interviewees may have seen the invitation to participate in research conducted by a Christian University as a new approach - that the church leaders from the church university have come to my door. Researchers act differently to some church leaders when they provide a safe and non-judgmental environment and really listen. By saying *taem blong yu long toktok* (this is your time to talk) and carefully listening to interviewee responses, researchers devolve positional (and in some cases gendered and/or cultural) power and enable participants to articulate their concerns and opinions.

Limitations

There are a number of limitations to the analysis of our co-interviewing experience. Only a small number of interviews were conducted (n = 8) and of these only half (n = 4) requested to be co-interviewed. However, this dynamic was consistent enough for us to identify a pattern that we had not expected in the original qualitative research design. We responded with flexibility and cultural sensitivity. There are also questions about why the other four participants did not request to be co-interviewed. Two of these four participants were employees of the faith-based organisation while two were employees of the church. Were we as researchers seemingly less available to offer this option, or did the participants genuinely prefer to be interviewed by one researcher? Did the cultural status or organisational status of the participants influence this outcome? Despite not knowing the answer to these questions, this experience has expanded our sensitivity to culturally safe and appropriate ways of conducting research in PNG and across Melanesia.

Conclusions

As researchers, we are very committed to conducting research in an ethical manner and working in ways which are highly sensitive to the gender, social, and cultural values held by research participants [2,33-36]. These values also reflect our understanding of power held by the researcher/s and the research participants. We know insider-outsider status can impact the research process. There are also cultural beliefs and practices that shape qualitative research and if deliberately employed, may help to address power imbalances. Culturally there may be more status provided to the participant when two researchers are present at the interview as greater import is placed on the content shared.

Reflexivity in research practice requires researcher/s to critically reflect upon the experience and position they bring, the methods they use and how they adapt research practice to incorporate learning [37]. A reflexive and critical approach to professional research practice questions how knowledge is generated and, further, how relations of power influence the processes of knowledge generation [38]. Qualitative research methods are constantly expanding as researchers with diverse worldviews participate in, lead and evolve culturally-relevant research practice [39]. Our recent experience has taught us to critically reflect upon accepted qualitative research methods and to centralise the cultural context in which research is being conducted. Research methods that are gender sensitive, culturally situated and relevant to the research question are pivotal to successful research in Melanesia and may challenge accepted ethical notions of 'do no harm' [31]. Successful research that is sensitive to gender and culture requires cultural knowledge, continuous critical reflection and researcher flexibility based upon respect.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

MRM: co-designed the research study (including study tools), facilitated interviews with co-researchers, analysed the interview data, drafted and edited the manuscript; UA: co-designed the research (including study tools), facilitated interviews with co-researchers, analysed the interview data and edited the manuscript; MD: co-designed the research (including study tools), oversaw the establishment of the research project, contributed the core cultural content of this article, contributed to analysis of data and edited the initial manuscript; RT: co-designed the research project, is Co-lead Investigator of the study and edited the manuscript; TM: co-designed the research project, advised on data collection and edited the manuscript; DM: co-designed the research project, is Co-lead Investigator of the study, provided critical input through the reflective process and edited the manuscript. All authors agree with manuscript results and conclusions. All authors read and approved the final manuscript.

Acknowledgements

We dedicate this article to the Late Pr Matupit Darius. Pr Darius provided leadership for this study, helped formulate the ideas contained in this article and helped to write the initial manuscript. Pr Darius died in early 2014 while the initial manuscript was under review. We thank the faith-based organisation managers and staff for their generous and honest contribution to our understanding of HIV in PNG. This research was funded by the National AIDS Council Secretariat of Papua New Guinea, with support from Pacific Adventist University (PNG) and James Cook University (Australia). Thank you to Drs Kathy Lepani and Bob Dick for their generous and insightful comments that helped to improve this article.

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Received: 31 March 2014 Accepted: 29 August 2014
Published: 6 September 2014

References

1. MacLaren D, Tommbe R, Mafile'o T, TM Manineng C, Fregonese F, Redman-MacLaren M, Wood M, Browne K, Muller R, Kaldor J, McBride WJ: **Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea.** *BMC Public Health* 2013, **13**(1):818.
2. Tommbe R, MacLaren DJ, Redman-MacLaren ML, Mafile'o T, Asugeni L, McBride WJ: **Researching male circumcision for HIV prevention in Papua New Guinea: a process that incorporates science, faith and culture.** *Health Res Policy Systems* 2013, **11**(1):1–8.
3. MacLaren ML: *Students, sex and Solomon Islands: Realities of Participation in Action Research.* Brisbane, Australia: Action Learning & Action Research Association National Conference; 2006:24–25.
4. Timothy-Harrington R: *Knowledge of HIV and HIV Prevention in Community Members Around Atoifi.* Honiara, Solomon Islands: Inaugural Solomon Islands National Nurses' Research Symposium; 2012.
5. Simeon L, Mafile'o T, Api UK, Gane B, Thomas B: **Successful Models of Youth Leadership: A Study of Papua New Guinea Youth.** In *Port Moresby: Pacific Adventist University With Pacific Leadership Program, AusAID;* 2010.
6. Smith LT: *Decolonizing Methodologies: Research and Indigenous Peoples.* 2nd edition. London: Zed Books; 2012.
7. Ackerly B, True J: **Back to the future: Feminist theory, activism, and doing feminist research in an age of globalization.** *Women's Stud Int Forum* 2010, **33**(5):464–472.
8. Thibodeaua S, North Peiganb F: **Loss of trust among first nation people: implications when implementing child protection treatment initiatives.** *First Peoples Child Family Review* 2007, **3**(4):50–58.
9. **Definition of 'Power' in English.** http://www.oxforddictionaries.com/definition/english/power.
10. Strathern M: *Dealing With Inequality: Analysing Gender Relations in Melanesia and Beyond: Essays by Members of the 1983/1984 Anthropological Research Group at the Research School of Pacific Studies, the Australian National University.* Cambridge: Press Syndicate of the University of Cambridge; 1987.
11. National AIDS Council Secretariat of Papua New Guinea: *National Gender Policy and Plan on HIV and AIDS 2006–2010.* Papua New Guinea: Port Moresby: National AIDS Council Secretariat; 2006.
12. Lewis IR: **At risk: the relationship between experiences of child sexual abuse and Women's HIV status in Papua New guinea.** *J Child Sex Abus* 2012, **21**(3):273–294.
13. Kelep-Malpo K: **Matrilineality and its implications for traditional and contemporary Papua New Guinea cultures.** *Catalyst* 2007, **37**:1.
14. Hinton R, Earnest J: **Stressors, coping, and social support among women in Papua New Guinea.** *Qual Health Res* 2010, **20**(2):224–238.
15. Redman-Maclaren ML, Mills J, Tommbe R, Maclaren DJ, Speare R, McBride WJ: **Women and HIV in a moderate prevalence setting: an integrative review.** *BMC Public Health* 2013, **13**(1):552.
16. Mertens DM: *Transformative Research and Evaluation.* New York: The Guilford Press; 2009.
17. Mertens D, Cram F, Chilisa B: *Indigenous Pathways into Social Research.* Walnut Creek: Left Coast Press Inc; 2013.

18. Kovach M: *Indigenous Methodologies: Characteristics, Conversations, and Contexts.* Toronto: University of Toronto Press; 2009.
19. Api UK, Redman-MacLaren ML, Darius M, Tommbe R, MacLaren DJ: *A Faith Based Organisation Response to HIV: Perspectives from ADRA.* Lae, Papua New Guinea: Meeting of the Sexual Health Society of Papua New Guinea, PNG Medical Symposium; 2013:5–6.
20. Louis MR, Bartunek JM: **Insider/outsider research teams: collaboration across diverse perspectives.** *J Manag Inq* 1992, **1**(2):101–110.
21. Ritchie J, Zwi AB, Blignault I, Bunde-Birouste A, Silove D: **Insider-outsider positions in health-development research: reflections for practice.** *Dev Pract* 2009, **19**(1):106–112.
22. Hampshire K, Iqbal N, Blell M, Simpson B: **The interview as narrative ethnography: seeking and shaping connections in qualitative research.** *Int J Soc Res Methodol* 2012, 1–17.
23. Burnard P: **Some problems in using ethnographic methods in nursing research: commentary and examples from a Thai nursing study.** *Divers Health Soc Care* 2004, **1**(1):45–51.
24. Starhawk (pseud. M Simons): *Truth or Dare: Encounters with Power, Authority, and Mystery.* San Fransisco: Harper and Row; 1987.
25. Stringer E: *Action Research.* 4th edition. Thousand Oaks: SAGE Publications, Inc; 2014.
26. Dick B, Stringer E, Huxham C: **Theory in action research.** *Action Res* 2009, **7**(1):5–12.
27. Vähäsantanen K, Saarinen J: **The power dance in the research interview: manifesting power and powerlessness.** *Qual Res* 2013, **13**(5):493–510.
28. Ndimande BS: **Decolonizing research in postapartheid South Africa.** *Qual Inq* 2012, **18**(3):215–226.
29. Goddard M: *Substantial Justice: An Anthropology of Village Courts in Papua New Guinea.* New York: Berghahn Books; 2009.
30. Narokobi B: *The Melanesian Way.* Port Moresby: Port Moresby Institute of Papua New Guinea Studies; 1983.
31. Czymoniewicz-Klippel MT, Brijnath B, Crockett B: **Ethics and the promotion of inclusiveness within qualitative research: case examples from Asia and the Pacific.** *Qual Inq* 2010, **16**(5):332–341.
32. Nabobo-Baba U: *Knowing and Learning: An Indigenous Fijian Approach.* Suva, Fiji: APS Publications; 2006.
33. Mafile'o T, Kaise Api U: **Understanding youth resilience in Papua New Guinea through life story.** *Qual Soc Work* 2009, **8**(4):469–488.
34. Massey PD, Wakageni J, Kekeubata E, Maena'adi J, Laete'esafi J, Waneagea J, Fangaria G, Jimuru C, Houaimane M, Talana J, MacLaren D, Speare R: **TB questions, East Kwaio answers: community-based participatory research in a remote area of Solomon Islands.** *Rural Remote Health* 2012, **12**:2139.
35. Redman-MacLaren M, MacLaren D, Harrington H, Asugeni R, Timothy-Harrington R, Kekeubata E, Speare R: **Mutual research capacity strengthening: a qualitative study of two-way partnerships in public health research.** *Int J Equity Health* 2012, **11**(1):79.
36. Redman-MacLaren M, MacLaren D, Solomon J, Muse A, Asugeni R, Harrington H, Kekuabata E, Speare R, Clough A: **Research workshop to research work: initial steps in establishing health research systems on Malaita, Solomon Islands.** *Health Res Policy Systems* 2010, **8**(1):33.
37. Clarke AE: *Situational Analysis: Grounded Theory After the Postmodern Turn.* Thousand Oaks: Sage Publications Inc; 2005.
38. D'Cruz H, Gillingham P, Melendez S: **Reflexivity, its meanings and relevance for social work: a critical review of the literature.** *Brit J Soc Work* 2007, **37**(1):73–90.
39. Denzin NK, Lincoln YS: *The SAGE Handbook of Qualitative Research.* 4th edition. Thousand Oaks: SAGE Publications; 2011.

doi:10.1186/1471-2458-14-922
Cite this article as: Redman-MacLaren *et al.*: Co-interviewing across gender and culture: expanding qualitative research methods in Melanesia. *BMC Public Health* 2014 **14**:922.

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10.9 Women's Experience of Male Circumcision in Papua New Guinea: A Grounded Theory Study

Redman-MacLaren, M, Tommbe, R, Mills, J, MacLaren, D & McBride, W 20–25 July 2014, *Women's experience of male circumcision in Papua New Guinea: a grounded theory study*, poster presented at the AIDS 2014: 20th International AIDS Conference, Melbourne.

Authors' Roles: MRM conceived of, designed and conducted the study, drafted and finalised the poster; RT supported data collection and analysis; JM supervised the design and implementation of research; DM supported the design and implementation of the research and edited the poster; JM co-supervised the design and implementation of research. All authors approved the final version of the Poster.

Accesses: NA; **Citations:** NA

Women's experience of male circumcision in Papua New Guinea: A grounded theory study.

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10.10 Papua New Guinea–Australia Partnerships Strengthen Capacity in HIV Research

Redman-MacLaren, M 2015, *Papua New Guinea—Australia partnerships strengthen capacity in HIV research*, retrieved from http://auspng.lowyinstitute.org/publications/field-notes-papua-new-guinea-australia-partnerships-strengthen-hiv-research-capacity?noredirect=1

Author Roles: MRM conceived of, drafted and finalised the blog: supported by Rachael Tommbe, Lalen Simeon and David MacLaren

Accesses: NA; **Citations:** NA

A Papua New Guinea–Australia HIV Research Partnership: generating new knowledge, building capacity and forging new friendships

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10.11 Strengthening Capacity for Local Evidence to Inform Local Responses to HIV in a Remote Solomon Island Health Service

Original Research

Strengthening capacity for local evidence to inform local responses to HIV in a remote Solomon Islands health service

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Background: Documenting specific knowledge and attitudes about HIV in the culturally diverse nation of Solomon Islands is essential to inform locally targeted public health responses. As part of a large capacity-strengthening project at Atoifi Adventist Hospital in East Kwaio, Solomon Islands, researchers, using a 'learn-by-doing' process, worked with participants in public health research methods.

Methods: Overall, 43 people attended research capacity building workshops in 2011; eight joined the HIV study group. A cross-sectional survey including semi-structured interviews on HIV was conducted by the group. In February 2014, a hospital administrator was interviewed about how the 2011 study informed local HIV responses.

Results: Of the 53 survey participants, 64% self-assessed as having little or no HIV knowledge, but 90% knew HIV could be transmitted between men and women during sex. Less than 50% knew HIV could be transmitted between two men having sex, 45% thought HIV could be transmitted by mosquitoes and 55% agreed condoms help protect from HIV. Most participants reported negative attitudes towards people with HIV. Three years later the health administrator reported ad hoc responses to HIV because of low HIV prevalence, increasing noncommunicable diseases, staff turnover and resource shortages.

Discussion: This HIV study was used to strengthen research skills in local health professionals and community members in Solomon Islands. It showed that community members require accurate information about HIV transmission and that entrenched stigma is an issue. Although results provided local evidence for local response, ongoing health system challenges and little local HIV transmission meant HIV services remain rudimentary.

Reducing the burden of HIV remains a global challenge. Despite the declining number of new infections of HIV globally, there was still an estimated 1.9 million people newly infected in 2013.[1] In Oceania, up to 51 000 people are living with HIV with almost 2100 new infections in 2012.[2] Papua New Guinea has the greatest burden of HIV in Oceania with an estimated 21 459 people living with HIV.[3] Solomon Islands has dramatically fewer cases with only 22 reported cases since 1994 with 14 people living with HIV.[4] Solomon Islands has a population of 610 800 people speaking 63 languages.[5,6] The majority (over 80%) live in rural villages, and around 40% are under 14 years of age.[7] The country shares a border with Papua New Guinea and they share many social, cultural, economic, political and health system characteristics. People regularly travel between the countries. This all puts the people of Solomon Islands at risk of HIV.[7]

Since 2009, there has been a concerted effort to have operational research embedded into the way local health services and community leaders engage with public health issues in East Kwaio on the remote eastern coast of the island of Malaita. This has included theoretical training and practical workshops in public health research methods using decolonizing methodologies and participatory research frameworks.[8–10] Much of the training has been at Atoifi Adventist Hospital (AAH), a 65-bed general hospital with an attached Atoifi College of Nursing (now Pacific Adventist University – Atoifi

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Submitted: 29 January 2015; Published: 6 May 2015
doi: 10.5365/wpsar.2015.6.1.015

Campus). AAH is the largest nongovernmental hospital in the country, and the College (now University) educates almost half of the country's nurses. There are no roads, so village people access AAH by canoe or walking. Communication is by high frequency radio, landline, mobile telephone and periodic Internet. Electricity is provided by hydroelectric and diesel generators. Research capacity-strengthening for staff, students and community leaders has focused around local issues of parasitic disease, tuberculosis (TB) and HIV.[11–14]

Documenting specific knowledge and attitudes about a health issue such as HIV across the many divergent cultural groups in Solomon Islands is essential to inform locally targeted public health responses.[15–19] Although Solomon Islands has low HIV prevalence (< 0.01%), there is a concerted effort to prevent HIV from expanding as it has in neighbouring Papua New Guinea (HIV prevalence 0.5%).[3] Voluntary confidential counselling and testing (VCCT) is established in many locations, but as in other countries in the region, VCCT is challenged by limited human and physical resources and a concern about lack of confidentiality.[20]

This study was the HIV component within a larger capacity-strengthening project with health professionals and community leaders.[8–10] The overall aim was to strengthen research capacity at AAH and in surrounding communities using a 'learn-by-doing' process. The specific aims of the HIV study were to: (1) document people's knowledge of HIV transmission; and (2) examine attitudes and practices relevant to HIV transmission.

METHODS

In April 2011, 43 village leaders, other community members, health professionals and researchers from AAH and Australia participated in the capacity-strengthening workshop at AAH.[9] A subsection of eight people from the main group formed a team to investigate HIV. All described HIV as a public health concern. Despite the low prevalence in the country, all team members were concerned that the large HIV epidemic in neighbouring Papua New Guinea heightened the risk of HIV for Solomon Islanders. Many people from the villages of East Kwaio travel throughout Solomon Islands and perceive a risk of local villagers acquiring HIV when travelling. The team designed and implemented a study using two methods to document HIV knowledge, attitudes and practices in East Kwaio. Ethical approval was obtained from James Cook University Human Research Ethics Committee (H4002) and the AAH Research Ethics Committee (AAHREC3).

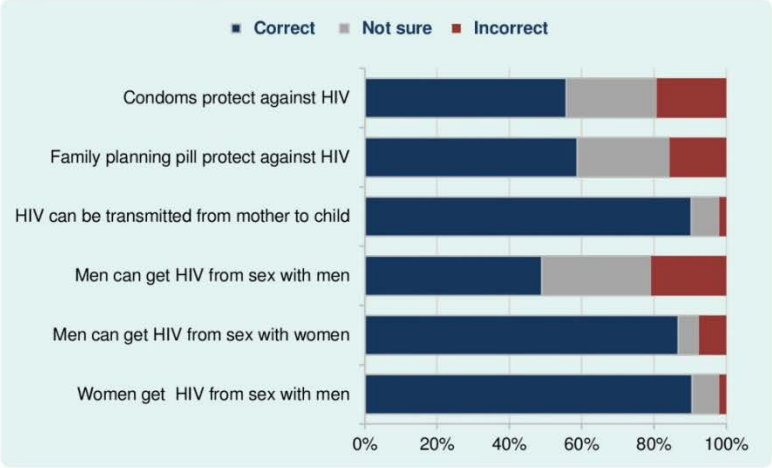
A cross-sectional survey was collaboratively designed based on knowledge, attitude and practice questions used in Papua New Guinea.[21,22] Each question allowed for yes, no or unsure response. Open-ended questions included: "What do people in the community think about someone who has HIV?" and "Would people be willing to have confidential counselling and testing?" Questions about male circumcision for HIV prevention were asked of men. Semi-structured interviews were also conducted with key informants about male circumcision. Australian researchers co-facilitated training in survey design and data collection.

A convenience sampling method was used, with AAH patients or their family members on the hospital campus. An information sheet and consent form was provided to explain the study. If participants had limited or no literacy, the researcher explained the contents of the information sheet and consent form. Participants then signed or placed a thumbprint on the consent form. Researchers orally translated questions from English into Solomon Islands Pijin or Kwaio languages as required. Participant responses were written on forms in English or Pijin. Interviews were transcribed from digital voice recorders.

Data analysis was conducted by the research team at AAH. Quantitative data were entered into MS Excel and analysed using descriptive statistics. Data from open-ended questions were typed into MS Word. These data were analysed for codes and inductive in-vivo themes using a manual technique of printing transcripts, cutting transcripts into sentences or paragraphs and collating into themes. Consensus was reached within the research group before a sentence or paragraph was assigned to a theme or a new theme was created.

At the completion of the April 2011 workshop, results were presented to hospital and village leaders with the intent that they inform local HIV prevention responses. In February 2014, the Director of Nursing at AAH (who is responsible for both hospital and community outreach programmes) and an Australian researcher

Figure 1. **Proportion of correct responses to questions about HIV transmission through sexual and reproductive activities, Solomon Islands, 2011**



discussed two questions to document changes that had occurred at AAH because of the research findings. Questions were:

(1) How would you describe the HIV-related health services being provided at AAH in 2011 and 2014?

(2) What changes have been made to HIV-related health services at AAH in response to results from the HIV study?

Responses were analysed for inductive themes.

RESULTS

Cross-sectional survey

In total, 53 people (27 female [51%]) from 33 villages completed questionnaires. The median age of participants was 26 years (range 18–70 years). The majority of participants (52%) were between 18 and 29 years with 58% currently married. Participants' religions included South Sea Evangelical Church (53%), Catholic (21%), Seventh-Day Adventist (17%), Jehovah's Witness (7%) and Ancestral religion (2%).

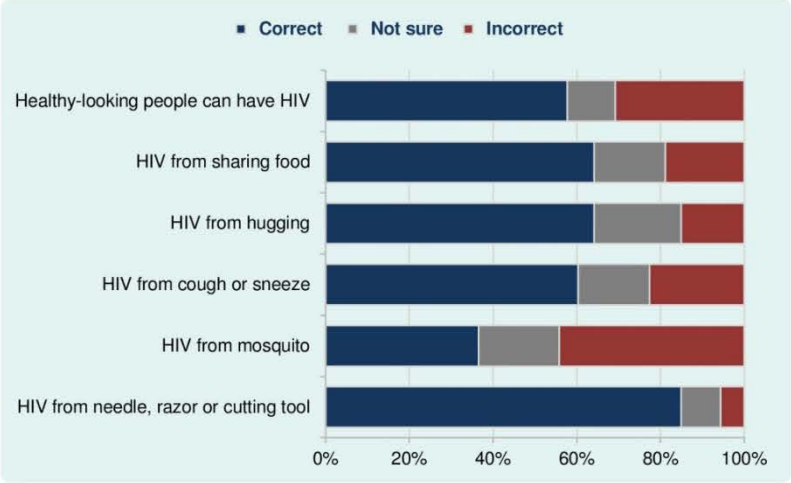
Quantitative data were generated in two major areas: (1) sexual and reproductive health and HIV knowledge, and (2) knowledge of HIV transmission (**Figures 1** and **2**). The majority of participants (89%) knew HIV could be transmitted through heterosexual sex, but only half (49%) knew HIV could be transmitted by men having sex with men. Around 45% thought HIV could be transmitted by mosquitoes and just over 20% by a cough or sneeze. Just over half (56%) thought condoms could protect from HIV, and 16% thought the family planning (oral contraceptive) pill could protect from HIV.

For the open-ended question, "What do people in the community think about someone who has HIV?", three major in-vivo themes were: (1) "send him/her somewhere else"; (2) "not close–might spread to others"; (3) "people may get cross [angry] or hate that infected man [person]". These in-vivo themes all expressed explicit stigma towards people living with HIV.

The first theme "send him/her somewhere else" related to physical and/or geographic proximity as demonstrated in the following response: "*People in my community would not want people who have HIV in the village therefore they are planning to cut* [with a machete] *someone who has HIV in the village because if he lives he might spread it to the members of the community.*"

The second theme "not close–might spread to others" was about the potential of a HIV-positive person to infect others. "*The people really don't want to stay or live with any person who has this sickness (HIV).*

Figure 2. **Proportion of correct responses to questions about other routes of HIV transmission, Solomon Islands, 2011**



People have the feeling of disliking any infected person to share with them in any means." There were also perceptions presented that HIV-positive people would deliberately attempt to infect others. "*Some people will have this idea to pass the disease to others that is why the people will not accept the infected person*."

The third theme "people may be cross [angry] or hate that infected man [person]" was a collection of responses about feelings towards people living with HIV. The feelings expressed by participants included anger, fear, hatred and public humiliation (including mocking and gossip). One participant reported, "*People in the community can talk spoil* [verbally put down] *the person and also even parents of the infected person*." The strongest responses suggested a person should be killed for being HIV-positive: "*They should be killed so they won't spread more HIV/AIDS*" and "*Olketa stap for dae blong olketa nao. Bae iumi kilim olketa nomoa*" (they are going to die so let us just kill them). This was the theme with the most responses.

Despite these responses, the majority of participants reported that they would be willing to have an HIV test at AAH. Of the 53 participants, 64% said they would be willing to have an HIV test, 26% were not willing and 6% were unsure. Participants explained their answers across three major topics: (1) willingness to test for HIV; (2) personal feelings about HIV status and test results; and (3) need for information about HIV.

Reasons given by participants were both individual concerns "*Yes because I want my blood to be checked so that I know I am free from HIV*" and consideration about their relationships/social relations: "*I am not sure whether my husband is still faithful to me. So I would really like to know my status*."

Concern was expressed about how others might treat the person if their HIV status became known: "*Reason is that – they might make fun of me; people would hate me; not talk with me; my name would spread everywhere*." There was also concern expressed about confidentiality with some stating that testing might be more acceptable if provided away from the local area: "*If the service was available in Honiara* (capital city) *then would go because it is far from my community, no one will see me or take note of me*."

Several participants requested more information about HIV:"*I want to get right information so I can keep myself from the disease*," and "*If I might have HIV I will come and get more information*."

Male circumcision for HIV prevention

The final question (for males only) asked about practices of male circumcision. One of the 26 male respondents had his foreskin cut and stated hygiene and Biblical reasons: "*To avoid smell and also since during times of Moses (Jesus) God told them to circumcise*

that is why I must circumcise too. Therefore I cut my foreskin."

Many others also invoked a religious theme, but with a contrasting rationale that since God created us, we should not do anything to our body. Custom and/or cultural beliefs were seen as important in deciding about male circumcision. One male cited the collective decision of men from his tribe not to cut their foreskins: "*I was a heathen guy so not sure what reason I had to cut my foreskin. Such kind of things are bound to all our tribe not to cut our foreskin. If anyone did he will die, therefore all males of our tribe will not cut their foreskin*." Other reasons given for not cutting their foreskin included health, shame and no one to do the procedure. Some said they had no reason and/or no interest in circumcision, "*No interest in it because I do not like to spoil my body*."

Health service response to 2011 study findings

Between April 2011, when the HIV study was conducted and reported, and February 2014 numerous challenges and opportunities emerged in response to HIV at AAH.

The Director of Nursing explained that in 2011, a certified VCCT counsellor provided HIV services from the AAH Outpatients Department. The VCCT counsellor was a female Registered Nurse and provided services to antenatal mothers during routine antenatal screening; testing was conducted using Rapid Test Kits in the AAH laboratory. Patients with positive results were referred to Honiara for confirmation and further testing. Occasionally, members of the general public (mostly women) directly requested VCCT services. The service was not promoted publically and very few village people knew about the service. At the end of 2011, the VCCT counsellor left AAH with no female VCCT counsellor since then. In 2011, the male TB nurse was trained and certified to provide VCCT services. HIV testing is now routinely offered to patients that test positive for TB. There has been no routine HIV screening of antenatal mothers since the end of 2011, and no community-based HIV services operate from AAH.

Information about HIV is included in community health education programmes delivered by the Primary Health Care Outreach team. However, with low HIV prevalence, a need to maintain immunization coverage and escalating diabetes and hypertension, HIV is not prioritized. In addition, there are no specific sexually transmitted infections (STI) services at AAH. This means when village people suspect an STI they seek out hospital nurses they trust will not disclose their STI status to ask for diagnosis and treatment. In this context, there is almost no contact tracing or partner treatment. A lack of STI/HIV services, limited knowledge of STI/HIV policies, staff shortages and competing demands of other diseases all mean there is an ad hoc approach to STI/HIV in East Kwaio.

Following this reflection on the lack of progress since the HIV research study, the Director of Nursing said that steps to prioritize HIV services must be revitalized. *"Everitin slip bek nomoa, hem mus wek up moa"* (everything went back to sleep, it must wake up). AAH management plans to identify an STI nurse to lead the local STI response, including HIV, beyond the current ad hoc response. *"We don't want to wait until there is a crisis."*

DISCUSSION

This study showed that people living in remote East Malaita have a fragmented understanding of HIV transmission. Levels of knowledge about heterosexual transmission and transmission from mother to child were high, but they were low for transmission between men who have sex with men. Levels of knowledge about the ability of condoms to prevent HIV were also low. Levels of knowledge about other routes of perceived transmission were inadequate, particularly transmission by mosquitoes, coughing and hugging. Most participants reported negative attitudes towards people living with HIV. These results are arguably due to the low HIV prevalence and limited HIV education in the area. Most participants would have had little or no experience of, or interaction with, people living with HIV. The findings from this study in East Malaita are consistent with other survey data reported from Solomon Islands showing moderate knowledge and negative attitudes towards people living with HIV.[7,23]

The overall aim of the study was to strengthen research capacity at AAH in partnership with Australian researchers and local communities to systematically conduct locally relevant health research to inform local responses.[24–30] This HIV study has demonstrated that,

similar to neighbouring Papua New Guinea,[19,31] locally responsive studies can be conducted with input from key hospital and community partners and that data can be collected on the sensitive sexual health topic of HIV, including practices of male circumcision.

This study has highlighted many of the challenges of delivering HIV and STI services in remote parts of Solomon Islands. Low HIV prevalence, staff turnover, maintaining technical capacity, social and cultural expectations of patients seeking specific staff and the competing demands of both communicable and noncommunicable diseases all resulted in relatively few of the study results directly informing STI/HIV services.[16,32,33] This is in contrast to the outcome of the TB component of the overall study which informed dramatic and fundamental changes to TB services at AAH,[12,13,25] most likely due to TB having a much higher prevalence. Given the seriousness of the stigma and exclusion against people with HIV highlighted in this study, there is substantial risk for people wishing to have an HIV test at AAH. HIV and STI services need to ensure confidentiality and that stigma is constantly challenged.

Results from small studies can provide evidence to directly inform specific health messages to be delivered locally. The parallel TB study at AAH documented that culturally appropriate health information delivered in the local Kwaio language can reduce the proportion of people who think TB is caused by sorcery.[13] Given many people in East Kwaio have limited literacy and there are very few health information resources, the hospital outreach team regularly delivers oral presentations in open village meetings. It is therefore essential that the hospital outreach team deliver specific presentations to dispel perceived risk of HIV from mosquitoes, coughing and hugging, provide accurate information about men having sex with men and the protective effects of condoms.

When this study commenced in 2011, there were projections of rapidly expanding HIV epidemics in both Solomon Islands and neighbouring Papua New Guinea and a desire for locally informed response at AAH. However, the epidemic did not occur and the health service has since focused on other issues. Had the HIV epidemic projections been realized, HIV testing and treatment services would have needed to be given a greater priority. However, as reported in 2014, the STI response (including HIV) in East Malaita needs improvement, and the results of this study can inform HIV education and testing within antenatal clinics, TB services and a re-designed STI service.

There are several limitations in this study, including the modest number of participants, convenience sampling method and that some of the researchers were learning research skills as they conducted the study. The fact that the structured questionnaires were written in English and orally translated into Pijin or Kwaio by the interviewer may have influenced the results, including the nuances of responses to open-ended questions. However, strengths of the study included that hospital and village leaders identified the topic as a priority and data were successfully collected using a gendered approach relevant to the local context. Data were collectively analysed and highlighted issues of importance to both local and outside members of the study team. This is the first report of HIV knowledge and of people's intentions to access HIV services at AAH in East Malaita.

CONCLUSION

This study in remote East Kwaio, Solomon Islands, showed there was accurate knowledge about heterosexual and mother-to-child HIV transmission but poor knowledge about transmission between men who have sex with men and the role of condoms. These gaps need to be addressed, including the important role of condoms in HIV prevention. Health services have the opportunity to integrate HIV into existing or new health programmes to maximize staff and resources and public health need. Ongoing operational research is required to document the changing nature of HIV services and knowledge required for local health responses in an area with limited resources. This study demonstrates that a modest project undertaken within an ongoing research capacity-strengthening programme can provide locally relevant information to inform local responses to HIV despite the challenges of working and conducting research in remote Pacific island locations.

Conflicts of interest

None declared.

Funding

Funding for research capacity-strengthening at AAH, which included this study, was provided by James Cook University through the Research Infrastructure Block Grant Scheme.

Acknowledgements

Thank you to East Kwaio community members Rex Fo'olego, Wallace Arifanaboo and Silas Laubeu who contributed to the study design, data collection, analysis and reporting of this study. Thank you very much to the East Kwaio community members who generously volunteered to participate in the study. A Research Infrastructure Block Grant funded by James Cook University and in-kind contributions from AAH and Atoifi College of Nursing enabled the research.

References:

1. *Global summary of the AIDS epidemic 2013*. Geneva, World Health Organization, 2014 (http://www.who.int/hiv/data/epi_core_dec2014.png?ua=1, accessed 2 April 2015).
2. *Global Report: UNAIDS report on the global AIDS epidemic 2013*. Geneva, Joint United Nations Programme on HIV/AIDS, 2013.
3. *Papua New Guinea 2013 HIV&AIDS estimations & projections*. Port Moresby, National Department of Health, National AIDS Council Secretariat, and UNAIDS, 2013.
4. *Solomon Islands global AIDS response progress report 2014*. Honiara, Ministry of Health and Medical Services, 2014.
5. *2013 Pocket Statistical Report*. Noumea, Secretariat of the Pacific Community, 2014.
6. Tryon D, Hackman B. *The languages of the Solomon Islands: an internal classification*. Canberra, Pacific Linguistics, 1983.
7. *Bad sickness rubbish sicki: understanding HIV and AIDS risk and vulnerability among Solomon Islands youth*. Suva, UNICEF Pacific, 2011.
8. Redman-Maclaren ML et al. "We can move forward": challenging historical inequity in public health research in Solomon Islands. *International Journal for Equity in Health*, 2010, 9:25. doi:10.1186/1475-9276-9-25 pmid:21050492
9. Redman-MacLaren M et al. Mutual research capacity strengthening: a qualitative study of two-way partnerships in public health research. *International Journal for Equity in Health*, 2012, 11:79. doi:10.1186/1475-9276-11-79 pmid:23249439
10. Redman-Maclaren ML et al. Research workshop to research work: initial steps in establishing health research systems on Malaita, Solomon Islands. *Health Research Policy and Systems*, 2010, 8:33. doi:10.1186/1478-4505-8-33 pmid:21034512
11. Massey PD et al. TB questions, East Kwaio answers: community-based participatory research in a remote area of Solomon Islands. *Rural and Remote Health*, 2012, 12:2139. pmid:23094978
12. Massey PD et al. Progress towards TB control in East Kwaio, Solomon Islands. *Rural and Remote Health*, 2013, 13:2555. pmid:23731167
13. Massey PD et al. Steps on a journey to TB control in Solomon Islands: a cross-sectional, mixed methods pre-post evaluation of a local language DVD. *BMC International Health and Human Rights*, 2015, 15:1. pmid:25644087
14. Harrington HA et al. A practical strategy for responding to a case of lymphatic filariasis post-elimination in Pacific Islands. *Parasites and Vectors*, 2013, 6:213. doi:10.1186/1756-3305-6-218 pmid:23880226
15. MacLaren D, Kekeubata E. Reorienting health services through community health promotion in Kwaio, Solomon Islands. *Promotion & Education*, 2007, 14:78–79. doi:10.1177/10253823070140021701 pmid:17665704
16. MacLaren D et al. Incorporating sociocultural beliefs in mental health services in Kwaio, Solomon Islands. *Australasian Psychiatry*, 2009, 17 Suppl 1;S125–127. doi:10.1080/10398560902948381 pmid:19579125
17. Furusawa T. The roles of western biomedicine and folk medicine in rural Solomon Islands: a quantitative analysis of villagers' response to illness. *Tropical Medicine and Health*, 2006, 34:83–91. doi:10.2149/tmh.34.83
18. Kelly A et al. *The art of living: the social experience of treatments for people living with HIV in Papua New Guinea*. Goroka, Papua New Guinea Institute of Medical Research, 2009.
19. Vallely A et al. Male circumcision for HIV prevention in PNG: A summary of research evidence and recommendations for public health. *Papua New Guinea Medical Journal*, 2011, 54:91–108. pmid:24494506
20. Butt L. Can you keep a secret? Pretences of confidentiality in HIV/AIDS counseling and treatment in Eastern Indonesia. *Medical Anthropology*, 2011, 30:319–338. doi:10.1080/01459740.2011.560585 pmid:21590584
21. MacLaren D et al. Foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea. *BMC Public Health*, 2013, 13:818. doi:10.1186/1471-2458-13-818 pmid:24015786
22. Buchanan H et al. *Behavioural surveillance research in rural development enclaves in Papua New Guinea: a study with the Oil Search Limited workforce – Presentation*. Port Moresby, National Research Institute, 2010.
23. National Statistics Office. *Solomon Islands Demographic and Health Survey*. Noumea, Secretariat of the Pacific Community, 2009.
24. Kekeubata E et al. *Community-based research for improved TB services*. East Kwaio, Atoifi Adventist Hospital, Atoifi Health Research Symposium, 2015 (http://www.atoifiresearch.org.sb/node/92, accessed 27 April 2015).
25. Asugeni R et al. *Community and health service responses to culturally safe tuberculosis ward at Atoifi Adventist Hospital, Solomon Islands*. East Kwaio, Atoifi Adventist Hospital, Atoifi Health Research Symposium, 2015 (http://www.atoifiresearch.org.sb/node/92, accessed 27 April 2015).
26. Oloifana-Polosovai H et al. A marked decline in the incidence of malaria in a remote region of Malaita, Solomon Islands, 2008 to 2013. *Western Pacific Surveillance and Response Journal*, 2014, 5:30–39. doi:10.5365/wpsar.2014.5.3.002 pmid:25320674
27. Harrington H et al. *Is lymphatic filariasis still in Shortland Islands?* Noumea, Atoifi Adventist Hospital, Atoifi Health Research Symposium, 2015 (http://www.atoifiresearch.org.sb/node/92, accessed 27 April 2015).

28. Harrington H. *Elimination of soil transmitted helminths: one village at a time*. East Kwaio, Atoifi Adventist Hospital, Atoifi Health Research Symposium, 2015 (http://www.atoifiresearch.org.sb/node/92, accessed 27 April 2015).

29. Jimuru C et al. *Infection control at Atoifi Adventist Hospital: responding to the measles epidemic*. East Kwaio, Atoifi Adventist Hospital, Atoifi Health Research Symposium, 2015 (http://www.atoifiresearch.org.sb/node/92, accessed 27 April 2015).

30. Fa'anuabae C. *Investigating an outbreak of bloody diarrhoea - Sinalagu, Kwaio Region*. East Kwaio, Atoifi Adventist Hospital, Atoifi Health Research Symposium, 2015 (http://www.atoifiresearch.org.sb/node/92, accessed 27 April 2015).

31. Tommbe R et al. Researching male circumcision for HIV prevention in Papua New Guinea: a process that incorporates science, faith and culture. *Health Research Policy and Systems/BioMed Central*, 2013, 11(1):1–8.

32. Harrington H, Asugeni R, MacLaren D. Comment: Inter-Island referrals in Solomon Islands: a remote hospital perspective. *Rural and Remote Health*, 2013, 13:2415. pmid:23600912

33. Harrington H, Taolo L, MacLaren D. Triathlon in the Tropics – South Pacific Style. In: Edwards A, Leicht A, editors. *Science of sport, exercise and physical activity in the tropics*. New York, Nova Science Publishers, Inc, 2014, pp 83–90.