



Male circumcision for HIV prevention in Papua New Guinea: a summary of two research projects

Briefing Document prepared by investigator teams

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In 2005, a clinical trial in South Africa found that circumcision of young men could reduce their risk of acquiring HIV infection by over 60%. The following year two more trials in Africa confirmed this finding, leading the World Health Organization to recommend male circumcision as a public health strategy for HIV prevention in high incidence countries.

In order to inform public health policy in Papua New Guinea, two major research projects were initiated with the goals of investigating the status of penile cutting practices, and assessing understandings, acceptability, feasibility and cost-effectiveness of male circumcision for HIV prevention. The two projects involved different methodologies and populations but their teams maintained regular communication.

This briefing report presents a synthesis of the key findings from the two research projects, as well as providing a summary of their methods and main results. More detailed analyses will be made available over the coming 12 months through publications in medical and scientific journals.

KEY FINDINGS

- There is a wide range of traditional and contemporary penile cutting, insert and injection practices in Papua New Guinea
- A substantial proportion of young men have a longitudinal foreskin slit where the foreskin has been cut but not removed (known as split or straight cut) while fewer have a circumferential foreskin cut where the foreskin has been totally removed (known as round cut).
- Cutting practices are more common in men from New Guinea Islands and Momase and less common in men from Highlands and Southern Regions
- Many men with foreskins expressed an interest in having some form of cutting for HIV prevention
- Women expressed views that male circumcision may be good for health, cultural and religious reasons but many were concerned that men may increase their risk behaviour if they felt protected by circumcision
- Health officials expressed concern about providing circumcision services widely if a policy recommendation endorsed the strategy, due to the potential impact on the delivery of other essential services
- Mathematical modelling suggests that male circumcision could have a significant impact on the HIV epidemic in PNG but that scaling-up other interventions could have a greater impact



The Male Circumcision Acceptability and Impact Study (MCAIS)

Implementing Organisations: PNG Institute of Medical Research, University of New South Wales, University of Queensland, PNG National Department of Health, Mt Hagen General Hospital, HOPE WorldWide.

Duration: 2008-2012

Funding: AusAID Australian Development Research Award, AUD699,030

Principal Investigator: Andrew Vallely

The project was conducted in four separate, linked components, using a variety of methods.



1. Qualitative study of male circumcision acceptability

Methods: A qualitative research study in four provinces (Eastern Highlands, East Sepik, West New Britain and National Capital District). A total of 24 focus group discussions and 65 in-depth interviews were carried out among 276 men; and 21 focus groups and 18 interviews conducted among 206 women. Tools adapted from participatory learning and action (PLA) were used to validate key study findings and to engage communities in a participatory research dissemination process.

Results: Most men were in favour of male circumcision for HIV prevention and cited improved genital hygiene, enhanced sexual pleasure and culturally appropriateness as key factors. A minority were against, primarily due to concerns that sexual risk behaviour could increase and that it went against cultural and religious beliefs. The majority of women objected to male circumcision because they considered that it would result in increased sexual risk behaviour; that it was against Christian faith, and was culturally inappropriate. A minority of women supported male circumcision for prevention of HIV and other STIs, penile hygiene and health, and for its role in reducing HIV transmission.

2. Longitudinal clinical cohort study

Methods: A longitudinal clinical cohort study among men and women attending Tininga Sexual Health Clinic, Mt Hagen and Nine-Mile Sexual Health Clinic, Port Moresby.

Results: A total of 138 participants (63 male, 75 female) were enrolled. Penile modifications were common, with one third of men having a dorsal longitudinal foreskin slit; 6% a circumferential foreskin cut; and 3% a penile insert). Acceptability of male circumcision for HIV prevention was high among both men and women. Prevention of HIV and STIs, religious and cultural appropriateness, and concerns regarding sexual risk compensation were key factors influencing acceptability.

3. Health systems research

Methods: A multi-method qualitative research study with community representatives from Eastern Highland, East Sepik, West New Britain and National Capital District, and with key health workers and upper health system officials involved in sexual and reproductive health in PNG. A total of 40 key informant interviews, 21 focus group discussions and 6 clinical audits were carried out. A modified Delphi approach with a panel of 7 sexual health experts was also conducted. Participatory community workshops used PLA tools to validate results and gain further insights.



Results: Participants expressed concern about health facility capacity to conduct male circumcision programs in various parts of PNG due to insufficient medical supplies, limited staff and inadequate clinical space. Review of a comparable national health programs in PNG reveals a history of uneven service delivery, difficulties with securing a workforce and inadequate information systems. Despite these limitations, health workers are already directly or indirectly involved in penile cutting services, through the provision of scalpels, dressings and medications, or performing procedures either in their workplace or community locations with longitudinal dorsal slit being the most popular type of cut. A classification or typology of penile cutting practices in PNG was developed and provides a universal language for health practitioners and policy makers to inform the debate on future public health policy.



4. Mathematical modelling

Methods: An age-structured mathematical model was developed based on available research findings and calibrated to represent the HIV epidemic in PNG

Results: The model predicted that the population-level impacts of male circumcision are highly dependent on the current proportion of men with longitudinal dorsal slits or other forms of penile cutting and its efficacy for HIV prevention. For example, if 20% of men with no foreskin cut in PNG received a circumferential cut (complete

removal) in the next 5 years, assuming 5% of males already have a circumferential cut and 45% already have a longitudinal cut (with an assumed preventive efficacy of 20%), then 6% of HIV infections will be averted by 2020. Prioritising circumcision uptake to men aged between 15 and 35 years will result in a greater cost-benefit ratio. Other interventions, including increasing condom use and the early initiation of antiretroviral therapy will have a much greater impact than male circumcision.



Acceptability of Male Circumcision for HIV Prevention in Papua New Guinea Study

Implementing Organisations: James Cook University, Pacific Adventist University, Divine Word University, NDoH/ADB Rural Enclaves Project, University of New South Wales, Higaturu Oil Palms, Porgera Joint Venture.

Duration: 2010-2012

Funding: PNG National AIDS Council (pilot phase), PGK 22,000 and Australian National Health and Medical Research Council Global Health Initiative, AUD 605,500

Principal Investigator: David MacLaren

The project was conducted through a pilot phase, followed by a cross-sectional survey.

1. Pilot Study

Methods: A multi-method study was conducted with staff and students of the Koiari Park Campus of Pacific Adventist University. Questionnaires from acceptability studies in Africa were adapted to suit the PNG context. A total of 59 male and 37 female self-administered questionnaires, 4 male and 4 female semi-structured interviews and 2 male and 1 female focus group discussions were conducted with staff and students. Clinical examination was used to verify self-reported genital cutting status for 13 men.

Results: A total of 45 men reported on their foreskin status: 25% had no penile cutting, 61% had a longitudinal cut (foreskin cut but not removed) and 14% a circumferential cut (complete removal of foreskin). Reported names of penile cuts included: banana cut, butterfly cut, cobra cut, dorsal slit, long cut, round cut, Sepik way, straight

cut, V cut, helmet cut. Most men had their foreskin cut between the ages of 15-19, in a bush or village setting and by a friend or family member. Foreskin cutting was done for reasons of hygiene, peer influence, cultural practice, to avoid sexually transmitted infections, to increase sexual pleasure and to release maternal blood. Of men with penile cutting 86% reported no regrets. Of the men with no penile cutting 85% reported a desire for circumcision with most wishing the procedure to occur in a health facility. All men who self reported foreskin cutting were confirmed to have a penile cut at clinical examination. Women had varying views on the acceptability of circumcision for the prevention of HIV including that it improved health, hygiene, sexual pleasure and masculinity but also had concerns about increased sexual arousal and risk behavior.



2. Multi-site cross sectional study

Methods: Cross-sectional survey with people resident at four sites: Pacific Adventist University (National Capital District), Divine Word University (Madang Province), Porgera Joint Venture (Enga Province), and Higaturu Oil Palms (Oro Province). Questionnaires were adapted from African studies, the pilot study and PNG National Research Institute Behavioural Surveillance Survey tools to incorporate specifics of penile cutting in PNG. A total of 869 males and 519 females completed questionnaires, 40 male and 24 female participated in semi-structured interviews and there were 36 male and 10 female focus group discussions. Clinical examination was conducted with 309 males.

Results: A total of 857 men reported foreskin status: 43% no cut; 47% longitudinal cut; 10% circumferential cut. Average age at longitudinal cut was 17.0 years and circumferential cut 14.8 years.

Most men had their foreskin cut by a friend or family member in a village or bush setting with a razor blade from a store or scalpel blade sourced from a health facility. Injecting the penis with oil or other substances was reported by 7.3% of men, with much higher rates from the Higaturu site (18.5%). Condom use at last sex was reported by around one third of men, and did not vary by cutting status. Reasons for men having their foreskin cut included: culture, health, sexual, biblical, peer influence, partner's influence and parent decision. A willingness to fully remove the foreskin if it reduced the risk of HIV was reported by 71% of men with no cut (additional 13% stating maybe) and 84% of men with a longitudinal cut. The willingness to remove the foreskin of a child was reported by 73.8% of women and 86.8%, 93.4% and 91.4% of men with no foreskin cut, a longitudinal cut and circumferential cut respectively.

Women described the positive aspects of MC as health, sexual pleasure, religion, cultural, masculinity/maturity and sense of happiness / satisfaction / safety. They expressed concerns that circumcision may lead to men being more sexually aroused/active, wanting sex with many women, unsafe cutting practices outside health facilities, pain and healing difficulties and the potential of increasing STIs and domestic violence. Health practitioners and senior leaders reported the health system including staff, facilities, procurement, training, information systems are all currently challenged to provide existing programs and circumcision would be an additional burden on the health system. Some questioned the appropriateness of circumcision for HIV prevention in PNG and that resources may be better used in other areas of HIV prevention programs. Other practitioners supported MC for HIV prevention but recommended a comprehensive awareness program.



Contact details:

A/Professor Andrew Vallely, PNGIMR / UNSW
avalley@kirby.unsw.edu.au

Dr David MacLaren, James Cook University
david.maclaren@jcu.edu.au