

Child health nurses in Solomon Islands, piloting the ‘Bachelor of nursing: Child health’

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Abstract

Aim: In 2016, the Solomon Islands National University developed and implemented the country’s first nursing specialisation in child health, the Bachelor of Nursing: Child Health. This qualitative study aimed to explore the experiences of the first cohort of students ($n = 14$) during this course in order to evaluate the programme.

Background: The Bachelor of Nursing: Child Health was implemented in 2016 to develop nurses’ knowledge and skills in child health and improve child health outcomes and so on.

Design: The qualitative evaluation study used an exploratory, descriptive design.

Methods: The 14 nurses who constituted the first cohort of students were selected as study participants. Individual semi-structured interviews were conducted between August and December 2018. Thematic analysis was undertaken following the Braun and Clarke six-phase process to generate themes and sub-themes from the data. The Consolidated Criteria for Reporting Qualitative Research checklist guided the reporting of the study.

Results: Interviews revealed important feedback about the course, including areas to strengthen and avenues to improve it in the future. Four themes emerged: learning during the Bachelor of Nursing: Child Health, support during the course, challenges experienced during the course and suggested course improvements in the future. The study found that theoretical sessions combined with practical and interactive activities were most effective in learning both theoretical concepts and their related clinical applications and skills. Although support was generally available during the course, participants emphasised their responsibility to take the lead in their learning and seek support when required. The lack of mentoring combined with logistical difficulties were perceived as barriers to learning. Participant recommendations support further development of the child health nursing specialisation, with specific strengthening in areas such as teaching and mentoring, logistics, course curriculum and human and material resources.

Implications for nursing and health policy: Given the potential benefits of increasing nurses’ knowledge and skills in child health and paediatric care on reducing neonatal and child mortality and morbidity, ongoing support for the implementation of this course in Solomon Islands and more broadly across the Pacific region is recommended. The provision of such support is a local, regional and a global responsibility. Indeed, Sustainable Development Goal 3c calls for a substantial increase in health financing and in

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the recruitment, development, training and retention of the health workforce in low- and middle-income countries.

Conclusions: Results of the evaluation demonstrate the positive aspects of the course in relation to content and curriculum delivery strategies as well as identifying areas where further refinement and strengthening is required.

KEYWORDS

Capacity building, nursing capacity building, education, mentoring, education, specialist nursing education, health service management

BACKGROUND

The World Health Organization regards strengthening workforce capabilities in child health as a key priority (World Health Organization, 2016). Child health outcomes have improved across the globe in recent decades. However, outcomes in low- and middle-income countries are poorer (Forsyth, 2017). The developing nations in Oceania made less progress than other regions during the Millennium Development Goal era. Sustainable Development Goal 3c calls for a substantial increase in health financing and in the recruitment, development, training and retention of health workers in these countries (United Nations General Assembly, 2015). It is both a local and a global responsibility to develop optimal health-care skills and ensure ongoing educational support and opportunities are available to trainees and trained personnel (Forsyth, 2017).

Solomon Islands is an archipelago in the Southwest Pacific Region. The country comprises nine main islands and over nine hundred mountainous islands and low lying coral atolls (World Health Organization, Regional Office for the Western Pacific, 2014). The total population is around 704,000 with approximately 80% living in rural and remote areas (The World Bank, 2021; United Nations Children's Fund, 2020). The population is young, with a median age of 19.9 years and an estimated 39% below 14 years of age (Knoema, 2021).

Maternal and child health is recognised as a crucial issue in Solomon Islands (Tosif et al., 2020; World Health Organization, 2013a). The neonatal mortality rate is estimated to be 8 per 1000 live births (Knoema, 2021; United Nations Children's Fund, 2020); the infant mortality rate at 17 per 1000 live births (Knoema, 2021; The World Bank, 2021) and the under-five mortality rate at 19.4 per 1000 live births (Knoema, 2021; United Nations Children's Fund, 2020). In 2020, 86% of births were reported as being attended by skilled health personnel (The World Bank, 2021; United Nations Children's Fund, 2020). Health services for adults as well as child welfare clinics are provided in provincial health facilities across the country. These facilities provide regular check-ups, vaccinations, family planning services for women and health education. Childhood immunisation coverage levels vary depending on the year, ranging from 60% to 93% (World Health Organization Regional Office for the Western Pacific, 2015). Nine of the top 17 causes of premature deaths in 2010 relate to communicable, maternal, neonatal and nutritional diseases,

diarrheal diseases, meningitis, malnutrition, neonatal sepsis and syphilis (Institute for Health Metrics & Evaluation, 2010). While rates of pneumonia have slowly decreased overtime, it remains the leading cause of premature death in children, closely followed by neonatal disorders (Institute for Health Metrics & Evaluation, 2018). In 2016, about one in ten children suffered from malnutrition (Ministry of Health & Medical Services, 2016).

Overall, the combination of environmental, social and economic conditions in Solomon Islands present significant challenges in regard to child health outcomes. The quality of health-care services is impacted by such conditions, particularly by distance and transport, limited resources, inadequate maintenance of health facilities and inconsistency in planning, distribution and training of health personnel. The availability and accessibility of appropriately trained and skilled nurses is important to ensure access to quality health care (De Silva et al., 2020; Forsyth, 2017; Tosif et al., 2020). Indeed, nurses provide more than 90% of the care and management of sick children. They make important decisions about whether to treat or refer patients to hospital independently with limited or no medical support (Colquhoun et al., 2012; Murdoch Children's Research Institute, 2019). However, the country suffers from a shortage of trained nurses to care for the population of over 200 000 children (Colquhoun et al., 2012). Until 2016, nurses could only train through a three-year Diploma of Nursing with limited professional development options (Murdoch Children's Research Institute, 2019). Nurses wanting to specialise in child health had to either relocate to Papua New Guinea for a year or study online using pre-recorded lectures.

The Bachelor of Nursing: Child Health (level 7 on the Pacific Qualifications Framework) was developed and implemented at the Solomon Islands National University in 2016 to support nurses and improve child health outcomes (Auto et al., 2006; Colquhoun et al., 2012; Ministry of Health & Medical Services, 2016). It is accessible to practicing registered nurses who have graduated from a level 6 Diploma of Nursing and have a minimum of two years working experience (Solomon Islands National University, 2021).

The course has three main goals (Solomon Islands National University, 2017):

1. Produce independent child health clinicians able to run children's wards in provinces and/or be coordinators of provincial child health programmes.

2. Teach a holistic approach to child health appropriate to the needs of Solomon Islands.
3. Build a broad base of clinical teaching skills in child health.

The course is competency based and draws on competencies outlined in the World Health Organization guidelines: the *Pocket Book of Hospital Care for Children—Guidelines for the Management of Common Childhood Illnesses* (World Health Organization, 2013b) (for hospital-based paediatric care); and the *Integrated Management of Childhood Illness* (World Health Organization, 2014) (for community-based management of children). It comprises eight units of study totalling 120 credit points, structured over two semesters (please refer to the Appendix for details).

Upon completion of the course, candidates are expected to (Solomon Islands National University, 2017)

- Demonstrate competency in the processes of treating children and managing children's wards.
- Demonstrate an ability to teach others. This includes the abilities to communicate clinical information simply and clearly to other health workers, and the skills to support the professional development of nurses and nurse-aids in their province.
- Have an in-depth knowledge of ongoing public health initiatives, and their roles, as clinical leaders, in managing and directing implementation.

The teaching methods used in the delivery of the course are varied (Solomon Islands National University, 2017). Staff from the School of Nursing, the Ministry of Health and Medical Services and the National Referral Hospital collaborate in the teaching, and each apply their own teaching and learning strategies ranging from didactic through to 'learn by doing' approaches. Most of the teaching takes place at the National Referral Hospital, which facilitates access to the children's ward for bedside tutorials. The theoretical component of the curriculum is delivered via interactive presentations and tutorials and lectures are made available to students on a USB flash drive for self-learning. More recently, students have been able to access resources on a Moodle platform; however, this was not available when this course was first delivered. Teaching also occurs through morning hand-over, interactive ward rounds and departmental presentations. Clinical placements are organised on the children's ward, the neonatal ward (special care nursery) and in the paediatric emergency department. Students are also placed in an urban paediatric health centre where the Integrated Management of Childhood Illness approach is used. During these placements, participants are supervised and mentored by a clinical tutor as well as senior nurses, paediatricians and paediatric registrars on duty. To encourage simultaneous integration of theoretical and clinical concepts, a typical week throughout the semester is structured with three successive placement days and two days of classes.

There is limited literature about nursing postgraduate course evaluations in low- and middle-income countries. Additionally, a child health nursing curriculum integrating

World Health Organization global standards as core components is unique in its genre. To our knowledge, such an approach has not been trialled or evaluated elsewhere. This study is a first step in that direction and contributes to the body of knowledge about the processes and impacts of a specialised nursing course in a low-income country from the graduates' perspective. Whilst our findings are specific to the Bachelor of Nursing: Child Health and the context of Solomon Islands, they are also relevant to other nursing specialisations offered in the country, and potentially to the nursing population of similar nations in the Pacific region.

This evaluation aimed to explore the perceptions of graduates of the Bachelor of Nursing: Child Health in regard to their course experience. It specifically explored which of the teaching methods and approaches were perceived as enabling students to best learn practical skills and knowledge in child health and paediatric care.

METHODS

Design

This qualitative evaluation study used an exploratory and descriptive design (Creswell, 2014; Taylor et al., 2016). It sought an understanding of a particular phenomenon from the perspectives of those experiencing it (Vaismoradi et al., 2013). As such, it looked closely into the lived experiences of graduates during the course.

Participants and sampling

The 14 nurses who constituted the first cohort of students from the Bachelor of Nursing: Child Health were selected as study participants. They constituted a rich source of information and provided valuable insights about the programme. Purposeful sampling is widely used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest (Palinkas et al., 2015). Participants were informed orally and provided with written information about the study and the investigators' details for further reference. Consent was obtained and opportunities to ask questions throughout the data collection given. All efforts have been made to maintain confidentiality.

Data collection methods

Individual semi-structured interviews were undertaken between August and December 2018, at the participants' workplaces. All interviews were conducted in Solomon Pidgin language by the principal investigator. The principal investigator designed the original interview in English, which was adjusted in consultation with study supervisors, co-investigators and assistant investigators. The principal investigator then translated the interview guide from English



to Pidgin with the assistance of a local colleague with translating experience. The interview questions were piloted with an experienced child health nurse who was also the clinical tutor for this first cohort of students. Further adjustments were made according to their feedback and the investigator's observations in the piloting process. Interviews lasted between 40 and 75 minutes, were digitally recorded and later transcribed to Pidgin text by the principal investigator.

Data analysis method

A thematic analysis guided by the Braun and Clarke six phase process was used to generate themes and sub-themes from the data: familiarisation with the data, generating initial codes, generating themes, reviewing themes, refining, defining and renaming themes and producing the report (Braun et al., 2019; Duke, 2018; Vaismoradi et al., 2013). The Consolidated Criteria for Reporting Qualitative Research checklist (Tong et al., 2007) guided the reporting of the study.

To reinforce the rigour of our qualitative findings, the model of trustworthiness proposed by Lincoln and Guba (Thomas & Magilvy, 2011) was used throughout the project. This model addresses four components of trustworthiness relevant to qualitative research: the truth-value (credibility), the applicability (transferability), the consistency (dependability) and the neutrality (confirmability). Validity strategies included immersion in the field during the data collection phase; immersion in the data by listening to the interviews and reading through the text data multiple times (Thomas et al. 2011); debriefing with supervisors in person, over the phone and via emails on a regular basis; debriefing with assistant investigators via emails at key phases of the data analysis and reporting, such as when reviewing the derived themes during the thematic analysis. These strategies ensured a consensus was reached when needed and enhanced the rigour of the study (Thomas et al. 2011).

Ethics

Ethical approval for this study was provided by The Solomon Islands Health Research and Ethics Review Board (Certificate HREO13/18). All efforts have been made to protect participants. To the best of our knowledge, nil ethical issues arose during the study.

RESULTS

Participants

Eleven females and three males aged between 34 and 44 years completed the child health specialisation in 2017. Participants had between 7 and 19 years of working experience prior to entering the course. Six participants had solely looked after a neonatal or paediatric population in a hospital set-

ting for most of their working experience. Six participants had cared for both a paediatric and an adult population in Area or Rural Health Centres and had moved between different facilities. The remaining two participants had worked in a hospital setting; one looking after both an adult and a paediatric population on a general ward; the other caring for an adult population only until they completed the child health course.

Major themes

Thematic analysis generated four themes and their respective sub-themes, providing valuable insights on the graduates' experiences during the course. These are summarised in Table 1.

Theme 1. Learning during the Bachelor of Nursing: Child Health

Participants highlighted the course content they found most useful and relevant to their work, as well as the teaching methods that best enabled them to learn clinical skills and acquire theoretical knowledge in child health and paediatric care.

Most useful course components

The most commonly reported course component participants described as being useful was the Hospital Care unit. One of the modules in this unit includes a series of lectures using the World Health Organization *Pocketbook of Hospital Care for Children* as a reference and guide to assess, diagnose, monitor, treat and follow-up presenting patients at a first referral level facility, and this was specifically identified as being very useful.

Regarding theory, I learned a lot from the Hospital Care component. Especially in regard to differential diagnosis, how to narrow the clinical presentation down to a precise diagnosis. I did not know about this before.

Community-based participants also found that learning the hospital care approach helped them manage children at the clinic. Similarly, these participants reported that the Integrated Management of Childhood Illness learning module was valuable.

As part of their Community Child Health Nursing Unit, participants prepared and conducted a health-promoting activity in a community setting of their choice. Participants described the preparation process, as well as the required oral presentation, to have significantly contributed to their confidence in public speaking and providing adapted health promoting information to a targeted audience. Likewise, the Leadership and Management for Nurses Unit increased their confidence in managerial activities, particularly the management of human resources in their facility.

**TABLE 1** Themes and sub-themes emerging from the nurses' account of their experiences during the Bachelor of Nursing: Child Health.

Themes	Sub-themes
Learning during the Bachelor of Nursing: Child Health	<ul style="list-style-type: none"> • Components nurses most particularly learned from • Enablers of clinical skill learning • Enablers of theoretical learning
Support during the Bachelor of Nursing: Child Health	
Challenges during the Bachelor of Nursing: Child Health	<ul style="list-style-type: none"> • Lack of support during placements • Cultural barrier to mentoring during placements and impact of 'seniority' • Logistical challenges • Weekly course structure
Improving the Bachelor of Nursing: Child Health in the future	<ul style="list-style-type: none"> • Human and material resources • Curriculum • Teaching and mentoring • Logistics

The World Health Organization module *Early Essential Newborn Care*, which most nurses use when attending deliveries at the clinic or looking after neonates in neonatal and special care nursery wards, was also identified as being particularly valuable.

Most effective teaching methods

Participants reported that theoretical sessions combined with practical and interactive activities were most effective in learning both theoretical concepts and their related clinical applications and skills. Participants found bedside teaching as one of the best ways to learn, as they would see 'with their eyes' the theory previously discussed in class. Similarly, the benefits of involvement in interactive ward rounds, when doctors take the opportunity to ask questions and teach about patients' conditions and management, were viewed as highly valuable. Participants felt that further exposure to interactive ward rounds would have been beneficial and felt that greater participation of senior nurses, to share their knowledge and clinical experience, would be useful.

Where PowerPoint presentations were used in classroom teaching, participants consistently emphasised that these needed to be illustrative, and most importantly should reflect clinical practice. Group work and group discussions were viewed as being highly effective. These methods provided an opportunity to share and highlight among students their existing knowledge but also highlight gaps in knowledge on a particular topic, to discuss differences in opinions and come up with consensus under the guidance of teaching staff. Reporting back to their lecturer and classmates on these discussions further sparked interesting discussions and constituted a favourable moment to obtain complementary information and feedback from the lecturer.

Students were required to maintain a logbook while on clinical placements. While participants reported that they initially found it challenging to write their own learning objectives and strategies to achieve them, they described it being very helpful

to keep track of their learning achievements, the patients they looked after and to be able to look back into their recorded information as they progressed through the course.

Participants discussed clinical case studies, where groups of two to three participants were assigned a patient to manage, according to the Pocketbook guidelines. As part of this process, participants took patient histories at the bedside, planned their management and presented it to the class. Participants enjoyed being able to discuss the cases and have reviewed the theories they had about conditions and their management. Students highly valued this interactive method and found it comprehensive, addressing both practical aspects and theoretical concepts.

... Practical Pocketbook case studies. When we went and assessed a patient, and then came to report and discuss in class. We had to decide what our management was, what kind of investigations we would do, what the follow-up would consist of. We had to make a real plan. Then we would learn about the condition and compare with what we saw. We would compare the management from the pocketbook and what was actually done on the ward.

Theme 2. Support during the BNCH

Although participants reported they were aware of the support that was available to them from staff at the School of Nursing, as well as the National Referral Hospital and the Ministry of Health and Medical Services, they felt it was not often spontaneously offered and required them to proactively seek support when needed.

Participants also reported relying on each other for support, and organised dedicated meetings to discuss challenging course requirements or any arising difficulties. They reported strongly bonding as classmates. Likewise, family members were reported as a reliable source of encouragement throughout the course.

TABLE 2 Perceived challenges and barriers to learning.

Whilst on placements	Logistical and availability of resources	Course structure and delivery
<ul style="list-style-type: none"> Lack of mentoring from some nurses, lack of clinical teaching—particularly on the children's ward Lack of nursing support during medical ward rounds; many people—medical interns, nursing students, consultants—making it hard to follow and concentrate Felt they were considered like a member of staff and expected to work, and not like a student who was learning Assumption from staff that Bachelor of Nursing Child Health students had better existing knowledge Only one paediatric nurse manning the paediatric emergency department: very busy, unable to provide much support. Students felt isolated, overwhelmed at times Clinical tutor involved in many activities outside the course, not present enough 	<ul style="list-style-type: none"> Unreliable transport to and from National Referral Hospital Limited access to internet: Solomon Islands National University library and computer lab often full and noisy; only one computer at National Referral Hospital library Limited access to child health-related textbooks: small coordinator's library; many books at the Solomon Islands National University library were outdated Some recommended books do not have e-copies: difficult to access; some books were given but only at the very end of the semester Financial concerns: different allowances according to the sponsors; salaries were ceased for some students; some book allowances did not come until the course was over Teachers were often late for class: unreliable timetable as a result 	<ul style="list-style-type: none"> Very tiring over time to have both theoretical classes and practicum within one week Challenging to settle and focus into either theory or practice Difficult to focus on placements when lots of assignments to write; very challenging theoretical components

Participants would also seek supportive information from their class notes, such as the presentations and digital resources provided on their USB drive. They would search additional information on the internet when possible, and in textbooks from the coordinator's small library. Access to such resources was very challenging and limited at times.

Participants reported feeling well supported in all clinical placement locations. They reported that staff provided the relevant support needed in their specialty area and would accompany students at the bedside when they were practicing procedures, enabling them to feel confident. One of the participants described nurses and doctors as always being helpful when asked for support, although they again emphasised the need for students to take the lead in their learning and ask for mentoring when required. Generally, participants felt more comprehensively supported in Special Care Nursery and at the Pikinini Clinic (urban health centre), and less so in Accident and Emergency and Children's Ward.

When we were on the ward, the doctors were really supportive. And so were the nurse in charge and the senior staff. They were really helpful when we asked. But you must seek their advice; you must have the courage to ask them.

Theme 3. Challenges during the BNCH

Whilst participants spoke favourably about the support that was available, they also reported a lack of support at times. The main challenges and barriers to learning related to issues whilst on placement, issues concerning the logistical organisation and availability of resources, and structure and delivery of the course. Participants described relationships with clinical staff, and how assumptions from both parties may have constituted barriers to learning. Perceived challenges and barriers to learning are summarised in Table 2.

Theme 4. Improving the BNCH in the future

Participants provided specific suggestions to improve the course in the future and these are summarised in Table 3. These suggestions relate to human resources, the curriculum, teaching and mentoring, the logistics of the course as well as material resources. These are to be considered in congruence with the barriers to learning described above.

DISCUSSION

Careful evaluation of new course programmes implemented in low- and middle-income countries is important to ensure quality of delivery and assess that course objectives and student expectations are being met. This qualitative descriptive study specifically explored the experiences of graduates from a newly established Bachelor of Nursing: Child Health course that was implemented in the Solomon Islands.

Nurses who participated in this study highlighted the most useful components of the course as well as the most effective teaching methods. They discussed the challenges experienced during their study, the support received, as well as the areas where they felt they lacked support. Ultimately, this resulted in recommendations from participants to improve the child health course.

While the literature offers examples of short nursing course evaluations, to the best of our knowledge, there are no qualitative assessments of postgraduate courses such as the Bachelor of Nursing: Child Health in low- and middle-income countries. This qualitative evaluation provides some evidence that the application of global standards into a local child health course curriculum is relevant to nurses' practice in both hospital and community settings in an island nation in the Pacific region. Graduates highlighted that course components such as *Hospital Care*, using the World Health Organization Pocketbook of Hospital Care for Children and its learning module


TABLE 3 Suggestions for improvement of the Bachelor of Nursing: Child Health.

Human resources

- Increase the number of lecturers—so that the coordinator does not often have to fill-in
- Each ward to have a designated clinical mentor—to improve mentoring during clinical placements
- Course coordinator to look after child health programme only—to ensure they have enough time to manage course and students
- Clinical tutor to be employed full-time—to increase quality and quantity of contacts with students

Curriculum

- Theoretical component to be delivered over a block of a few weeks at a time, before students go out for their placements—to enable students to settle and focus on each component
- Increase focus on pathophysiology and pharmacology
- Implement course over three or four semesters—for the lectures to be taught more comprehensively, to provide more time to integrate knowledge and gain required clinical experience
- Theoretical component to cover every paediatric problem, for nurses in remote areas to be more competent to manage a variety of presentations
- Include placement in orthopaedics, include topic in theoretical component
- Placements to be organised in provincial hospitals
- Vary assignments' format, ensure they relate to specific theoretical concepts

Teaching and mentoring

- Teachers to know their topic well, provide notes, have a clear teaching method to achieve specific learning objectives
- Increase bedside teaching and interactive ward rounds
- Improve paediatric handovers: presenters to speak clearly and loud enough for everybody to hear

Logistics

- Improve transport to and from Solomon Islands National University
- Decrease students' movements, organise lectures in one location
- Child health students to have their own classroom

Material resources

- School of Nursing to have their own specialised library

as main reference; *Community Child Health Nursing*, using the World Health Organization/United Nations Children's Fund Integrated Management of Childhood Illness and other learning modules; or the *Neonatal Care component*, using among other resources the World Health Organization Early Essential Newborn Care learning module, were all relevant and enabled nurses to gain specific knowledge and clinical skills directly supporting their clinical practice. Whilst the evidence-based nature and effectiveness of these World Health Organization approaches has been well documented (Gray et al., 2015; Mupara & Lubbe, 2016; Perez et al., 2018), participants in this study confirmed that their application in the Solomon Islands' context is practically relevant and culturally appropriate.

Regarding the delivery of the course, this evaluation appraised the most effective teaching methods used. Given the lack of published literature reporting preferred teaching methods in nursing education in low- and middle-income countries, this study provides valuable insights on a feasible teaching methodology in nursing education in the Pacific context. Graduates described the most effective teaching methods used during the course were bedside teaching, interactive ward rounds with the medical team, the use of illustrative PowerPoint presentations clearly reflecting clinical practice, group work and group discussions including oral presentations, the maintenance of a clinical logbook and interactive clinical case studies. They emphasised the need for interactive learning as well as 'learn by doing' with adequate clinical mentoring. These findings are in line with the broader literature on clinical nursing education. For example, Herrman (2008,

p.158) stresses that 'clinical experience is one of the most valuable tools we have for teaching nurses' and highlights the need for 'strategies fostering learning in a tense environment; safe simulations outside of actual client care; and group exercises in which students learn vicariously through each other's experiences'.

Participants considered the challenges experienced during the course and identified five areas needing specific strengthening: human and material resources, elements of the curriculum, teaching and mentoring, and logistics. Regarding human resources and mentoring, participants advocated for a full-time clinical tutor. They perceived that clinical mentoring was at times lacking in quantity and quality. The School of Nursing has identified this issue in the past, which triggered the implementation of a mentoring support programme for staff supervising nursing students on clinical placements. This is a great initiative to build mentoring capacity among experienced nurses. As Baxley explains, formal mentoring programmes work when they are part of the organisation's culture and receive leadership support (Baxley et al., 2014). Baxley states 'the culture of a health-care organisation is formed at the organisational level, at the unit level among nursing staff, and at the individual level, with mentoring relationships influencing the culture at all levels. Everyone benefits from mentoring relationships ..., as future nursing leaders are developed and supported in an environment of commitment, teamwork, and retention'. This study endorses continuing support to the existing mentoring programme to further develop the mentoring culture and leadership, and the appointment of a full-time



clinical tutor to spearhead mentoring within the child health course.

Regarding the course curriculum, several participants reported the need to include more pathophysiology and pharmacology. Most candidates completed undergraduate studies many years prior to attending the Bachelor of Nursing: Child Health, and therefore required review of this theory. While the course booklet includes these in the learning objectives (Solomon Islands National University, 2017), these findings highlight the need to either strengthen pathophysiology and pharmacology within relevant lectures, or to add these components in dedicated learning units or modules. Although these subjects are taught in the Diploma of Nursing, it is important for nurses to revisit fundamentals over time. As stated by Marzlin, 'nurses cannot engage in critical thinking if they lack a physiological understanding of the basis of disease and therapy. By revisiting foundational concepts, the nurse is able to more effectively connect these principles to clinical examples and expand the capacity to engage in clinical reasoning' (Marzlin, 2011).

As in many low- and middle-income countries, access to some resources is limited in Solomon Islands. Undeniably, this has detrimental effects on the smooth functioning of the course, as reported by participants. Logistical challenges relating to the transport of students or their access to a well-equipped library with digital resources and internet depend on the university's finances and their management. This study calls for further financial support and long-term investment in the national university to enhance quality education. Indeed, local education—as opposed to education overseas—is more economical and favours the retention of trained personnel (Colquhoun et al., 2012). University leaders have the difficult task to optimise the management of available resources while providing adequate staff support. With relevant institutional support, staff and lecturers can be expected to demonstrate a high level of professionalism to meet their responsibilities.

IMPLICATIONS FOR NURSING AND HEALTH POLICY

This qualitative evaluation provides some evidence that the application of global standards into a local child health course curriculum is relevant to nurses' practice in both hospital and community settings in an island nation in the Pacific region. Whilst the evidence-based nature and effectiveness of the World Health Organization approaches used have been well documented (Gray et al., 2015; Mupara et al., 2016; Perez et al., 2018), participants in this study confirmed that their application in the Solomon Islands' context is practically relevant and culturally appropriate. Additionally, this study provides valuable insights on a feasible teaching methodology in nursing education in the Pacific context. Overall, these findings support ongoing implementation of the Bachelor of Nursing: Child Health in Solomon Islands. However, as highlighted by

participants, efforts and support from local stakeholders are required to further improve the course.

Globally, the World Health Organization regards strengthening workforce capabilities in child health as a key priority (World Health Organization, 2016). Assuredly, access to quality health-care demands the availability and accessibility of appropriately trained and skilled nurses (Forsyth, 2017). As highlighted by Sustainable Development Goal 3c, there is a need for substantially more health financing and the recruitment, development, training and retention of health workers in low- and middle-income countries (United Nations General Assembly, 2015). The commitment required to achieve this goal and ensure optimum health-care skills is a local, regional and global responsibility.

STRENGTHS AND LIMITATIONS

To our knowledge, this study is the first qualitative evaluation of a dedicated child health nursing specialisation in a low-income country. This study explored the nurses' experiences during the course and contributes to the body of knowledge in that area.

Whilst this study reports only on the small cohort that completed the course, there is consistency in the experiences reported. Ideally, it would have added further rigour if member checking could have been conducted. Due to logistical challenges, this was not possible, and constitutes a limitation of this study.

CONCLUSION

Findings from this study support further development of the newly established Bachelor of Nursing: Child Health in Solomon Islands, with particular strengthening in areas such as teaching and mentoring, logistics, some aspects of course curriculum and human and material resources required. The potential impacts of increasing nurses' knowledge and skills in child health and paediatric care on neonatal and child mortality and morbidity could be significant. Ongoing implementation and recognition of this course in Solomon Islands, as well as more broadly across the Pacific region, are recommended. Further research and follow-up of participants are required to ascertain the longer-term impacts of child health outcomes in Solomon Islands.

AUTHOR CONTRIBUTIONS

Study design: BM, IV, OD, DS, DT, BH, TM, MC, PN; data collection: BM, TM; data analysis: BM, IV, OD, DS, DT, BH, TM, MC, PN; study supervision: IV, DS, DT; manuscript writing: MB; critical revisions for important intellectual content: IV, BH, DS, DT.

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CONFLICTS OF INTEREST

The corresponding author coordinated the implementation of the Bachelor of Nursing: Child Health in 2016. While this was a strength during interviews, enabling participants and investigator to develop mutual and deeper understanding of the topic and specific context, it also constituted a risk of bias. Rigorous validity strategies were used to mitigate this risk. Otherwise, the authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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