Received: 24 May 2022 | Accepted: 29 January 2023

DOI: 10.1111/inr.12832

International Nursing Review WILEY

ORIGINAL ARTICLE

Child health nursing in the Solomon Islands: A qualitative evaluation of the impact of the 'Bachelor of nursing - Child health'

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Registration number: Solomon Islands Health Research and Ethics Review Board - certificate HREO13/18.

ABSTRACT

Aim: To explore graduates' perceptions of the impact on nursing practice of a new post-graduate course in child health, developed and implemented in the Solomon Islands in 2016.

Background: The Bachelor of Nursing - Child Health was implemented in 2016 to develop nurses' knowledge and skills in child health and paediatric care with the intent to improve national child health outcomes.

Design: A qualitative exploratory, descriptive design was used to evaluate the impact of the Bachelor of Nursing - Child Health on graduates' nursing practice.

Methods: Fourteen nurses who graduated from the first cohort of students enrolled in the child health course were purposively selected to participate. Participants engaged in individual semi-structured interviews, conducted between August and December 2018. A thematic analysis was undertaken following Braun and Clarke's six-phase process.

Results: Findings from the study demonstrate positive impacts of the course on graduates' nursing practice. These include a perceived enhanced quality of care through their commitment to evidence-based practice, the ability to contribute to capacity building of colleagues, the reinforcement of provincial public health programmes and expanded participation in managerial activities. Following graduation, most alumni took on senior roles and greater responsibilities, felt more confident in managing unwell children, felt there was better access to and quality of child health care at the community and broader country levels and felt recognised by colleagues and communities. Some graduates faced resistance from colleagues to change practice and felt that despite being given greater responsibilities, nursing levels and salaries remained unchanged. This reflected a potential lack of recognition from hospital or provincial managers, the Nursing Council as the regulatory body for the nursing profession, and the Ministry of Health and Medical Services. A lack of human and material resources also impacted quality of care.

Implications for Nursing and Health Policy: Findings from this study underline the need for the Solomon Islands National University, the Nursing Council, the Public Service and the Ministry of Health and Medical Services to concord and delineate formal accreditation standards for child health nurses. Overall, collaborative efforts and commitments at local, regional and global levels are required to support

child health nurses in their ability and ambition to improve national child health outcomes.

Conclusions: Findings from this study demonstrate positive impacts of the course on graduates' nursing practice. The impact of increasing nurses' knowledge and skills on national child health outcomes could be significant. Ongoing implementation and recognition of this course in the Solomon Islands, as well as more broadly across the Pacific region, are recommended.

KEYWORDS

Nursing, child and infant care, education, specialist nursing education, nursing capacity building, health service management, capacity building, education, mentoring

BACKGROUND

Improving child health outcomes is a global priority, and whilst progress has occurred across the globe, it is well recognised that significant inequities in outcomes exist between low-, middle- and high-income countries (World Health Organization, 2020). One region where this is apparent is in the Pacific Island Countries and Territories. Despite improvements in neonatal mortality (0–28 days), infant mortality (under one year of age), and mortality in under-five-year-olds, these countries and territories do not meet the international development goals set for child mortality (United Nations Children's Fund, 2017b). This includes child outcomes in the Solomon Islands, an archipelagic country comprising 997 islands and atolls, situated in the southwest Pacific Ocean, where approximately 50% of the overall population is aged between 0 and 19 years (United Nations Children's Fund, 2017a). Approximate rates of neonatal mortality in the Solomon Islands are 8 per 1000 live births (Knoema, 2021; United Nations Children's Fund, 2020); infant mortality rates are 17 per 1000 live births (Knoema, 2021; The World Bank, 2021) and under-five mortality rates are 19.4 per 1000 live births (Knoema, 2021; United Nations Children's Fund, 2020). Stunting prevalence in the Solomon Islands is estimated to be 33% compared to 18% overall in Pacific Island Countries and Territories. Similarly, 12% of children under-five are underweight compared to 7% overall in that region (United Nations Children's Fund, 2017b).

The causes of disparities in neonatal, infant and child mortality in the Solomon Islands are complex and include poverty, overcrowding, lack of family planning, poor water, sanitation and hygiene, and inadequate access to maternal and child health services (United Nations Children's Fund, 2017a). Given the high percentage of the population under 19 years of age, it is essential to provide accessible, high-quality child health to improve child health outcomes in this region. One way to achieve this is to build the knowledge, skills and capacity of nursing staff in child health.

In 2016, the Solomon Islands National University developed and implemented the Bachelor of Nursing - Child Health, the country's first nursing specialisation in child health. Registered nurses with a minimum of two years of experience were eligible to apply. The overall goals of the course were to:

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 the Solomon Islands.
3. Build a broad base of clinical teaching skills in child health (Solomon Islands National University, 2017).

This qualitative study aimed to explore the experiences and perceptions of the first cohort of graduates, one year after returning to their workplaces, regarding the impact of the course on nursing practice. This study is part of a wider evaluation that also explored the perceptions of graduates of the Bachelor of Nursing - Child Health in regard to their course experience and perceptions of course delivery, curriculum and teaching methods used.

METHODS

Design

A qualitative, exploratory and descriptive design (Creswell, 2014; Taylor et al., 2016) was used to gain a deep understanding of the lived experiences of graduates from the Bachelor of Nursing - Child Health, upon returning to their own practice context. The study sought to understand graduates' perspectives as they were experiencing the impact of undertaking the course first hand.

Participants and sampling

Fourteen nurses graduated from the first cohort of the Bachelor of Nursing - Child Health and were purposively selected as participants for this study.

When the course was implemented in 2016, the Ministry of Health and Medical Services and their provincial nursing directors attempted to enrol nurses from diverse provinces and levels of health facilities. Four nurses came from the National Referral Hospital in Honiara, the capital city of the Solomon Islands; three came from urban clinics; two from provincial hospitals; three from provincial Area Health Centres; and two from provincial Rural Health Centres.

All participants received a written, and oral explanation of the study and prior to participating in the interview written consent was obtained.

Data collection methods

The 14 graduates of the Bachelor of Nursing - Child Health (11 females and 3 males aged between 34 and 44 years) participated in individual semi-structured interviews between August and December 2018. Interviews were conducted by the principal investigator in Solomon Pidgin language in the location of participants' workplaces. The original interview guide was designed by the principal investigator in English, which was adjusted following consultation with study supervisors and co-investigators. The interview guide was translated from English to Pidgin and was piloted by an experienced child health nurse. This resulted in further adjustments. Each interview lasted between 40 and 75 minutes, was digitally recorded and later transcribed to Pidgin text by the principal investigator.

Data analysis method

Thematic analysis using the Braun and Clarke six-phase process to generate themes and sub-themes from the data was undertaken (Braun et al., 2019; Duke, 2018; Vaismoradi et al., 2013). This process included: becoming familiar with the data, generation of initial codes, generating themes, reviewing themes, defining and renaming themes and producing the report (Braun et al., 2019). The Braun and Clarke approach was selected as it allowed researchers to take a reflexive approach to the thematic analysis, ensuring subjective perspectives of participants were captured within the context of the researchers' own interpretation. It also enabled an inductive, data-driven approach to the analysis. The Consolidated Criteria for Reporting Qualitative Research checklist (Tong et al., 2007) guided the reporting of the study.

To the best of our knowledge, this study is the first assessing the impact of a postgraduate nursing course on clinical practice from an in-depth graduates' perspective in the Solomon Islands. This prompted the researchers to use an inductive approach, where the coded categories were derived directly from the data as opposed to being pre-established (Vaismoradi et al., 2013).

Validity strategies

Lincoln and Guba's model of trustworthiness was used throughout the project to enhance the overall rigour of the study (Thomas et al., 2011). This included immersion in the field throughout data collection, listening to the recorded interviews and reading through the transcripts multiple times, regular meetings between the principal investigator and research team throughout all phases of the data analysis, generation of themes and reporting of results.

Ethics

Ethical approval for this study was provided by The Solomon Islands Health Research and Ethics Review Board (Certificate HREO13/18). All efforts were made to maintain participant confidentiality, and no ethical issues occurred at any stage throughout the study.

RESULTS

Five themes provide valuable insights into the nurses' experiences since they graduated from the Bachelor of Nursing - Child Health: impact of child health course on nurses' roles and responsibilities; child health nurses' skills and scope of practice; impact of child health nurses at a health facility, community and country levels; challenges in improving practice; recognition as child health specialists. These themes and their respective sub-themes are summarised in Table 1.

Theme 1: Impact of the child health course on nurses' roles and responsibilities

The first theme describes the participants' roles both prior to and after their attendance at the Bachelor of Nursing - Child Health. Upon graduating with a Diploma of Nursing and successfully completing a probation period, the standard established positions progress from the Registered Nurse to the Clinical Nurse and Clinical Nurse Consultant. At the hospital level, other positions are available such as the Nurse Educator and the Nurse Unit Manager. At the clinic level, the Nurse in Charge is the manager of the health facility, while the Zone Supervisor oversees activities in all clinics within a provincial zone.

Most participants were Clinical Nurses and returned to work in the same position. However, they found that their perceived roles and responsibilities had evolved significantly. Whilst most reported they were not officially assigned new roles, they were informally entrusted with new responsibilities.

> I am not officially in charge yet, but all responsibilities come down to X and myself. We are the most senior nurses. I manage admissions from out-patients to the ward. When the doctor is not around, nurses consult me to take a decision on their behalf. They report to me when they are concerned about a deteriorating wound or a deteriorating patient. I will assess the patient with them and speak with the doctor about the management.

TABLE 1 Overview of themes and sub-themes emerging from the nurses' account of their experiences since graduating as child health specialists

Themes	Sub-themes
Impact of child health course on nurses' roles and responsibilities	• Types of positions held prior to the course and main responsibilities • Nurses with the same position after the course and semi-formal responsibilities • Nurses with a new position after the course and semi-formal responsibilities
Child Health Nurses' skills and scope of practice	• Perceptions of newly acquired skills; of how clinical practice evolved • Confidence in looking after stable patients • Confidence and decreased apprehension in looking after unstable patients • Areas nurses feel they need to improve or feel they need more practice, knowledge or experience • Concerns about losing newly acquired skills • Child Health Nurses' ambitions for the future
Impact of Child Health Nurses at health facility, community and country levels	• Improved provision of health services • Improvement and expansion of clinical practice • Capacity building and teaching, commitment to improve clinical practice • More holistic consideration for the child and family: alternatives to painful injections, child-friendly spaces, socio-economic status • Impact at the community level • Impact at the country level
Challenges in improving practice	• Barriers to the use or implementation of recommended practice • Colleagues' reluctance to adopt new recommended practice, status quo of "routine work" • Equipment and resources constraints • Human resource constraints • Geographical constraints
Recognition as child health specialists	• Demonstration of trust towards child health nurses' skills (from colleagues) • Demonstration of trust towards child health nurses' skills (from the public) • Feeling recognised by managers at the provincial level • Not feeling recognised as a child health specialist. Managers appear indifferent

Two participants who were formally assigned new positions upon returning to work requested different roles in order to use their paediatric skills more effectively. One of them had been posted as Assistant Nurse Unit Manager on a children's ward, but asked to be transferred to the local Area Health Centre 'to work at the front line at the clinic, to see children there and stabilise them before referral to the hospital'. The other nurse was based in an Area Health Centre and had been assigned the Zone Supervisor role.

Another participant moved from being Nurse in Charge in a Rural Health Centre to being in charge of an Area Health Centre as well as a Zone Supervisor. Additionally, they were verbally told they were the Paediatric Nurse for the zone. Their role included supporting and supervising all six clinics and public health activities within the zone, while managing the large influx of both adult and paediatric presentations at their Area Health Centre.

Participants reported how their responsibilities have evolved and testified about the impact the course was having on their careers. The majority returned to work in more senior roles or roles involving a higher level of responsibilities.

Theme 2: Child health nurses' skills and scope of practice

This theme relates to participants' experiences in fulfilling their responsibilities, as well as the skills required to fulfil them. It explores ways the participants' clinical practice evolved, including areas of confidence and lack thereof.

All participants reported the course considerably enhanced their confidence in managing sick neonates, children and adolescents.

> I am confident in looking after stable patients. I used to just take observations all the time, without knowing what ranges were normal. Now I can differentiate between adults and children. This makes me feel confident. From the vital obs, I can tell which patient is very sick and needs more attention, and what sort of care they need. If their saturations are low you will give oxygen, if their BP is low you will administer IV fluids, etc. I used to be scared to give O2 to children, I was unsure. I learned to follow the guidelines, which tells to administer O2 when saturations are below 90. So when needed I am confident. My colleagues ask me how many litres and I try to refer them to the pocketbook.

When discussing feelings about managing unstable or very sick patients, most participants reported they would be able to help the patient by doing what they could with the abilities and the resources they had. If unsure about what to do, nurses felt confident in seeking advice from a doctor over the radio or the phone.

> I am confident with unstable patients because what I can do, I will do. If I do not know, I will seek advice. If I do not do anything, I cannot save the child, so at least I will do what I know. I will try to call the doctor. If they do not answer, you just work with your colleagues, with the equipment that you have.

Participants also reported their overall practice has changed in numerous ways since completing the course. A majority alluded that they now better understand how to follow the

Standard Treatment Manual for Children or other evidence-based practice guidelines such as the Pocketbook of Hospital Care for Children. They reported following these guidelines when possible:

> I was always interested in paediatrics before I attended the course however in regard to drugs, I would most often be scared to start any medication at the clinic, and I would always send the patients to the hospital. I would not even attempt to insert an IV cannula, I could not do it here. But after I completed the course and came back to work at the clinic, as a child health nurse I have to ensure that I give something here before referral. Even if I am unable to speak with a doctor first, I will follow the guidelines and give the first dose and try to call the doctor again. … I feel I can justify my actions and discuss. I feel more confident compared to prior the course.

> Compared to before, I feel that I do things more confidently. I know that what I do is correct. Before our drug dilutions were not correct. We did not focus a lot on standard guidelines. Now we follow the medications' calculations and dilutions according to the Standard Treatment Manual. If we are unsure, we have to refer to the Standard Treatment Manual. These guidelines, like the Pocketbook, they are relevant to our practice on the children's ward.

Whilst most nurses reported feeling well equipped to manage paediatric presentations, two communicated that their skills were 'good' but not sufficient in their daily practice. Another two nurses said they still needed more practice to be confident in some skills, such as the administration of intravenous fluids or the differential diagnosis process. Working in very remote and isolated areas made them feel the need to be more autonomous. One nurse reported feeling unable to provide appropriate and accurate information to parents in regard to the pathophysiology of the presenting conditions, as well as the pharmacology of the medications they provide to treat these conditions.

A few participants expressed concern that they would lose their newly acquired skills as a result of being unable to practice them in their setting. They related this to the lack of essential resources such as oxygen, bag and masks for resuscitation or nasogastric tubes and to the lack of opportunity to practice particular skills.

Demonstrating their ambition for the future, one child health nurse suggested that as the paediatric workforce builds up, they should discuss and write a chart describing the set of duties and responsibilities as well as skills they are supposed to demonstrate. Several nurses also declared they would like to do further study in paediatrics should the opportunity arise.

Theme 3: Impact of child health nurses at health facility, community and country levels

Participants reported their initiatives to influence the quality of health services provided and described interventions they perceive may have long-term positive impacts on communities and the country as a whole. Table 2 summarises participants' perceptions.

Child health nurses described ways in which their practice had improved since completing the Bachelor of Nursing - Child Health:

> I made a strong commitment to follow my plan in order to improve our clinic's program and reduce problems within the communities. Since I have started my regular satellite visits, I noticed an improvement in our immunisation coverage. I monitor my immunisation record book on a monthly basis and track down all the children who are supposed to take measles. If a child has missed their measles injection, I will follow them to ensure they receive their injection. This involves walking up the mountain with the equipment, sometimes in bad weather, sometimes for two or three days.

They also discussed ways in which they worked to build the capacity of their colleagues.

> We usually organise a meeting with the nurses. The zone supervisor will talk about his responsibilities, then I will speak as child health nurse. I will ask what sort of learning needs they have. For example, about cases they encounter and are not sure how to manage. Otherwise, I will always talk about immunisation and nutrition, as areas we continuously work on. If we identify any knowledge gap, we work on that. We will also teach them about the new Standard Treatment Manual and do drug calculations. Our provincial office did not tell us to do this, we discussed it among ourselves and decided to go ahead to fill the gaps within our zone. If this format works, we will suggest implementing a similar system in other zones.

There were perceptions that the overall efficiency of practice had also improved.

> The course benefited our work at the clinic, it improved the way we treat our children. We used to give a lot of unnecessary antibiotics. This is demonstrated in our monthly report. We used to have given away all our Septrim stock within the end of the month. Now we still have stock after two months.

TABLE 2 Summary of CH Nurses' perceptions, interventions, commitments and perceived impact

At health facility level	At community level	At country level
• **Commitment to guidelines**: implementation of Integrated Management of Childhood Illness management; use of Standard Treatment Manual and Pocketbook • **Quality of care**: age appropriate; improved monitoring and supportive care of admitted patients; implementation and promotion of Kangaroo Mother Care for neonates; advocacy for breastfeeding; infection control via improved staff and visitors' hand hygiene, asepsis and improved management of intravenous administrations (medications and fluids) • **Role model**: practice comprehensive oral and written hand-over; demonstrate problem-solving attitude; be a person of reference in regard to child health and paediatric care • **Capacity building** of colleagues through: teaching the use of practice guidelines; teaching drug calculations according to weight; teaching management of paediatric patients and building staff's autonomy in assessing patients; enhance theoretical understanding; teaching according to staff's learning needs; promote greater staff autonomy; build consistency in practice • **Encourage training** from external facilitators (e.g., emergency simulations by the National Referral Hospital emergency team) • **Commitment to** improve the clinic's **Child Welfare and Expanded Program of Immunisation** programmes • Improve management of equipment; ensure emergency equipment is always ready • **Support managerial activities**: facilitate team approach and discussions; manage colleague's over/under dosages of medications; improve data recording	• Implementation of **monthly satellite visits** covering a zone, planned over a full year. Suggestion to implement similar system in other zones • **Empower community** to better look after their children at home through health promotion activities and follow-up; long-term follow-up of malnourished children • Support children's health from early days to ensure healthier life in the future • **Improve referral system** between Rural Health Centres and Area Health Centres; improve support to and communication with Rural Health Centres within the zone; CH Nurses feel better equipped to help people in the community, especially when referral is not possible • Organise for key emergency equipment to be ready in key health facilities • Community demonstrate their satisfaction with services provided • Child Health Nurses feel they help their home communities when they visit on holidays, through help promotion or using what is available at the clinic to support people. Relatives and people aware of their specialisation bring their sick children and seek their advice • Management at community level **decreases financial burden for families**	• **Increased access to health care; improved quality of care; increased immunisation coverage** • 'The more specialised nurses throughout the country, the better the health services provided will be. The more skilled staff, the more we will be able to focus on child health' • Focus on prevention, especially in regard to nutrition • Reduce national health cost through **improved management at the community / provincial levels**, including improved management of medications • Improved referral processes to the NRH • **Improved child health outcomes**: reduce child mortality and morbidity and other national health indicators, improved national health survey through improved records, strengthen national child health initiatives • Resilience in the face of challenges, use of alternatives to formal support pathways • Suggestion to work in partnership with the national health promotion team

Theme 4: Challenges in improving practice

This theme portrays the numerous challenges participants face in their daily practice, making positive change more laborious to achieve. While some hindrances relate to resources, others tie in with established habits in the workplace, or personal and 'cultural' attitudes.

Participants reported some recommended treatments are not available in their setting, forcing them to improvise. Copies of the Standard Treatment Manual or Pocketbook were not always available in all clinics, making it difficult to guide colleagues in other clinics over the radio. It was also felt that many colleagues did not know how to use the guidelines. One nurse from a provincial Area Health Centre reported that when they prescribe medications for patients to pick up at the pharmacy, the officer refuses at times to deliver them, saying these should be prescribed by a doctor. In regard to the Integrated Management of Childhood Illness guidelines, a few nurses stated they found them limiting, as they only focus on selected diagnoses. They refer to the Pocketbook instead, if they have time. They also perceive the heavy workload as a barrier, saying that consulting guidelines takes time.

Some nurses found it difficult to encourage evidence-based practice because existing practices are strongly established. For instance, one of the participants was openly told by a colleague that there was no need to dilute a particular medication, despite it being recommended in the Standard Treatment Manual. The child health nurse expressed feeling undermined, and said it affected their confidence in changing and improving the 'status quo'. Another two nurses experienced similar challenges with their provincial managers:

> In my experience, some of the older managers are slow to adapt to new things. The mentality is like: "You just completed your training, what else do you want to do now? These things, we do them this way, and that's it." This mentality does not help; we have to follow the changes and improve our work to offer better services to the people.

Constraints related to limited material or human resources were often magnified by the geographical isolation in rural and remote parts of the country:

> We are very isolated, and in terms of equipment at the clinic, it is really not good enough. It does not match what we need to manage and admit children. Our setting should have a minimum standard of equipment because we are far away. This would enable us to stabilise children here before we travel to the hospital.

Excessive workload constraints were also raised as a challenge for some child health nurses:

> Sometimes, I am so busy that I cannot comprehensively assess all the children. I have to select the very sick ones only for a full assessment. … We are only two nurses here, which is a problem. If my colleague is out, I am alone to see everyone. This is very challenging. As a result, when I see children who are not too sick, I take short cuts. But for those I think are really sick or need urgent attention I will focus and do a full assessment. I will do everything I can do for them.

Theme 5: Recognition as child health specialists

This last theme maps the participants' perceptions of recognition as child health specialists by colleagues and managers as well as the broader public. Child health nurses also depicted reasons why they do not feel recognised at times, and what they wished was in place for such recognition to occur.

In general, nurses reported feeling trusted as specialists when colleagues seek their support. They may be asked for advice or to assess complex children. Some reported that their colleagues refer to them as child health nurses. Most participants reported feeling recognised by their relatives and immediate community. Regarding the broader public, some nurses expressed that people do not necessarily know about their specialisation. People go to the clinic and expect to be seen by a general nurse and do not make a difference between skill levels. Other nurses felt the public did recognise them as the person specifically managing children.

Some participants discussed the recognition of their unique skills they received from managers. One example was a manager inviting them to participate in child health-related workshops, at times with senior programme officers.

However, a majority of participants felt concerned by the lack of recognition from hospital or provincial managers, the Public Service as overall employer, the Nursing Council as regulatory body for the nursing profession, and the Ministry of Health and Medical Services. They described that despite being given greater responsibilities, they remain with the same nursing level and salary:

> Since we completed the Bachelor of Nursing - Child Health, we were given more responsibilities. But the authorities do not do anything to improve our conditions, our salaries. With the current system, it appears that unless the Public Service creates a paediatric nurse position, there is no way for us to improve our conditions. The current appraisal system does not seem to be effective as nothing has changed over the last two years. …

> Staff at provincial level do not really demonstrate recognition towards us. I would like the Public Service to recognise child health nurses, as well as other bachelor levels. Many of us have returned after study and taken up managerial roles, yet our levels have remained the same.

DISCUSSION

This study explored nurses' experiences upon returning to their workplaces across the country after completion of a newly established child health specialisation in the Solomon Islands.

Participants described their experiences since graduating and considered impacts at health service, community and country levels, perceived challenges in improving clinical practice and how recognised they felt as child health specialists. Overall, participants demonstrated how their roles and responsibilities have evolved since completing the course.

The majority of child health nurses interviewed now fulfil vital senior roles. They engage in a variety of both clinical and managerial activities in their respective workplaces and are involved in the training and capacity building of junior staff. Colquhoun et al. (2012) similarly investigated the roles of nurses with advanced overseas training in paediatrics in the Solomon Islands, and the importance of these roles to child health. They reported that the 16 Papua New Guinea/New Zealand–trained nurses were currently employed in senior roles as either nurses in charge of paediatric wards in the referral or provincial hospitals, sole clinicians working in remote and very remote clinics, in education delivery, or as provincial child health officers. While this is positive, they concluded that the number of specially trained nurses was low and constitutes a limiting factor for improving the quality of child health services in the country, further reinforcing the need for in-country training. Indeed, the Bachelor of Nursing - Child Health aims to produce independent child health clinicians able to run children's wards in provinces and/or be coordinators of provincial child health; to teach a holistic approach to child health appropriate to the needs of the Solomon Islands; and to build a broad base of clinical teaching skills in child health (Solomon Islands National University, 2017). Study participants invariably reported that the course has considerably enhanced their confidence in managing sick neonates, children and adolescents and triggered a positive change in their clinical practice. Most participants felt well equipped and skilled to fulfil their responsibilities and attested to their own initiatives to improve the care they

provide. Undeniably, some initiatives such as their commitment to standard practice guidelines or the capacity building of colleagues have a direct benefit to health outcomes in surrounding communities, and potentially enhance the country's outcomes in child health. These findings reflect those from other studies conducted in low- and middle-income countries evaluating the impact of short courses among nurses. Evaluating the educational impact and effectiveness of the World Health Organization Essential Newborn Care course in Zambia, McClure et al. (2007) found significant improvements in knowledge and skills among the nurses and midwives following the course. Additionally, 98% of their respondents perceived improvement in their knowledge and skills as a result of the training at a six-month evaluation, suggesting training remained beneficial after they returned to their work and had an opportunity to implement what they learned. More research is required in the Solomon Islands to further demonstrate whether the Bachelor of Nursing - Child Health has similar longer-term impacts on child health nurses' skills and knowledge.

Participants in this study also identified numerous barriers to improving clinical practice. To apply knowledge and skills acquired in the Bachelor of Nursing - Child Health, and to follow recommended guidelines, nurses need to be assisted by adequate infrastructure including sufficient human and material resources. Participants working in remote locations stated that such limitations had substantial consequences, as the isolation prevents them from easily communicating with their support network and easily referring patients. Many studies in low-income contexts document the lack of human and material resources as a barrier to best practice (Martinez et al., 2012; Uwajeneza et al., 2015).

Participants stated that ingrained habits in the workplace were a barrier to enhancing paediatric care. Personal and 'cultural' attitudes sometimes got in the way of initiatives to establish consistency in practice. Salmond states that 'one of the barriers in implementing evidence-based practice in nursing is the practitioners' lack of knowledge base for asking questions and challenging assumptions in clinical practice' (Salmond, 2007). This suggests that a transfer of knowledge is the key to an effective implementation of evidence-based practice (Salmond, 2007). In the Solomon Islands' context, this can be achieved through regular continuing education sessions. Such sessions have the capacity to motivate nurses and improve their knowledge, skills and attitudes. As leaders in their discipline, child health nurses have the responsibility to engage in clinical teaching and capacity building of their colleagues. This will contribute to slowly building an overall culture, encouraging continuing professional development, and will positively impact children's outcomes.

Concomitantly, it is of utmost importance for child health nurses to feel supported and recognised in their specialty. A majority of graduates reported feeling concerned by the lack of recognition from upper-level managers. None was able to successfully go through the current appraisal process and therefore all remain at the same nursing level, with the same salary. In Mark Rale's study, it was found that regular staff appraisals or incentives, alongside professional development opportunities, coaching and mentoring have the power to boost workforce morale (Mark Rale, 2016). They stated that inconsistent appraisal, lack of support and limited professional development opportunities were the source of demotivation and job dissatisfaction, resulting in 'negative work attitudes' such as underperformance, lateness or absenteeism (Mark Rale, 2016).

IMPLICATIONS FOR NURSING AND HEALTH POLICY

This qualitative evaluation highlighted participants' experiences and perceived positive impacts on nursing practice and child health outcomes at health service, community and country levels. It described some of the barriers experienced by child health nurses in improving their clinical practice and being recognised for their roles and responsibilities as child health specialists. Findings from this study highlight the need for the Solomon Islands National University, the Nursing Council, the Public Service and the Ministry of Health and Medical Services to concord and delineate formal accreditation standards for child health nurses. Overall, collaborative efforts and commitments at the local, regional and global levels are required to support child health nurses in their ability and ambition to improve national child health outcomes.

STRENGTHS AND LIMITATIONS

Exploring the experiences of every graduate from the first cohort of the Bachelor of Nursing - Child Health was valuable in providing insight into the perceived impact of such a course on practice.

However, this study reports only on the first cohort that completed the course, and while there is consistency in the experiences reported, further follow-up of these graduates as well as graduates in the following years is required to assess ongoing experiences and whether there is the sustainability of changes in practice.

CONCLUSION

Findings from this study demonstrate positive impacts of the course on the graduate nurses, including enhanced quality of care through commitment to evidence-based practice, capacity building of colleagues and reinforcement of provincial public health programmes as well as expanded participation in managerial activities. 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 the 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 potential longer-term impacts on child health outcomes in the 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.

ACKNOWLEDGEMENTS

We would like to warmly thank and acknowledge all the Solomon Islanders who enabled the realisation of this study. This includes the first cohort of students enrolled in the Bachelor of Nursing - Child Health, staff at the Solomon Islands National University–School of Nursing and Allied Health Sciences, as well as staff from the Solomon Islands' Ministry of Health and Medical Services–Division of Reproductive, Maternal, Neonatal, Child and Adolescent Health. We would like to thank the Centre for International Child Health in Melbourne for their overall support, and the Department of Public Health and Tropical Medicine at James Cook University for their support in the data analysis and production of the report.

Open access publishing facilitated by James Cook University, as part of the Wiley - James Cook University agreement via the Council of Australian University Librarians.

FUNDING

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

CONFLICT 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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How to cite this article: Burhin, M., Isom, V., Ogaoga, D., Devine, S., Duke, T., Bugoro, H. et al. (2023) Child health nursing in the Solomon Islands: A qualitative evaluation of the impact of the 'Bachelor of nursing - Child health'. *International Nursing Review*, 1–9. https://doi.org/10.1111/inr.12832