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ORIGINAL RESEARCH OPEN ACCESS

# Barriers and enablers to using contraceptives for family planning at Atoifi Hospital, East Kwaio, Solomon Islands.

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**ABSTRACT:**

**Background**: The use of family planning contraceptives helps improve women's lives and prevent maternal deaths. Globally, maternal mortality has been significantly reduced between 1990 and 2015. However, the gains have not been evenly spread with the majority of deaths still occurring in low- and middle-income countries. Solomon Islands, a low-income nation in the Pacific, faces the continued challenge of low contraceptive use and unmet needs for family planning. There is also still a gap between knowledge about contraceptives and their actual use. This study explores the barriers and enablers to family planning, including contraceptive use at Atoifi Hospital, Solomon Islands and presents strategies that may increase contraceptive use.

**Methods**: In this qualitative study, semi-structured face-to-face interviews were facilitated with family planning nurses, contraceptive users and non-users to explore the barriers and enablers for women and men accessing family planning, including contraceptive use. A total of nine interviews were conducted. Results showed a link between delivery of family planning service with contraceptive use, as represented by four themes: availability and accessibility of contraceptives; knowledge and beliefs; socio-cultural expectation of women; and fear.

**Conclusion**: Context is a key factor to incorporate successful strategies to fulfill unmet family planning needs and increase usage. This small study revealed significant barriers to contraceptive use were linked to where and how family planning service is delivered. The service would benefit from greater attention to the cultural context, gender and privacy issues. Services in Pacific Island countries may also benefit from the lessons learnt in Solomon Islands.

**Key words:** family planning, contraception, Solomon Islands, barriers, enablers

## BACKGROUND

Maternal mortality is a persistent global challenge. Despite a significant reduction in the global maternal mortality rate (MMR) between 1990 and 2015 (from 385 deaths per 100,000 births to 216 deaths per 100,000 births), the maternal health gains have not been evenly spread.[1] According to the World Health Organisation (WHO), the overwhelming majority (99%) of maternal deaths continue to occur in low- and middle-income countries (LMICs).[2] Regionally, in the sustainable development goals (SDGs) country groupings, Oceania has the second highest

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MMR globally (187 deaths per 100,000 live births), second only to Sub-Saharan Africa (546 deaths per 100,000 live births). Amongst the Pacific Island Countries and Territories (PICTS) of Oceania, Papua New Guinea has the highest MMR (215 deaths per 100,000 live births), followed by Tonga (124 deaths per 100,000 live births) and Solomon Islands (114 deaths per 100,000 live births).[2]

Maternal mortality rates are reduced in locations where family planning services are available.[3] However, women in LMICs are often unable to access such services.[3] Family planning can help improve the health of women, which can also directly impact the family's health. Mothers and children are healthier if births are well-spaced, family size does not exceed four and the woman giving birth are between 19 and 36 years old.[4] Evidence provided by WHO shows as many as 70% of pregnancies in LMICs are unplanned at the time of conception, with almost 40% of these women reporting they did not want to be pregnant.[2] In low resource settings such as PICTs, the use of appropriate contraceptives is a cost-effective way to reduce unintended pregnancies and thus maternal mortality.

Reviews of national and regional reproductive health programs also highlighted the relevance of family planning at all levels of healthcare for improving maternal and newborn health outcomes.[2,5] The 2015 report on the millennium development goals (MDGs) reported PICTs did not fully achieve MDG 4 (reduce child mortality), MDG 5a (reduce maternal mortality by three quarters), or MDG 5b (access to reproductive health services). Family planning uptake remains low with high levels of unmet needs. The report also highlighted that MDG 5a could only be achieved if universal access to reproductive health and family planning is made available.[3]

There is now a call to re-position family planning more strongly in health and development. In 2012 a global initiative called Family Planning 2020 (FP2020) was launched to support the rights of women and girls to plan their families and their future. This initiative aims to expand access to family planning information services and contraceptives to an additional 120 million women and girls in 69 FP2020 focus countries.[6] By July 2019, FP2020 had reached 53 million more women and girls in the 69 FP2020 countries since its inception in 2012.[1] Sustainable Development Goal 3.1 continues to focus the efforts catalysed by MDG 5 with a target to reduce maternal deaths to less than 70 deaths per 100,000 live births by the year 2030.[6] However, this may be difficult to achieve if existing barriers to using contraceptives are not explored from perspectives of potential users and health providers.

Solomon Islands, a low income Pacific island nation and partner in the Family Planning 2020 initiative, faces the continued challenge of unmet needs in family planning.[6,7] The Solomon Islands Demographic Health Survey reported very high knowledge of at least one contraceptive method by women (94%) and men (98%), although the report did not specify the type of knowledge people had.[8] Despite this high level of knowledge, prevalence of contraceptive use was only around 27%. This prevalence rate remained constant for a decade, and fell short of the 2015 contraception prevalence target of 55%.[6,8] This low prevalence rate could in fact be even lower than reported as the current prevalence data reporting contraceptive use is measured against the total family planning 'clinical contacts' in a given year, as opposed to individual clients.[9] Therefore, women could be counted more than once if they make return visits for contraceptive supplies. There is currently insufficient data to clearly understand the prevalence of contraceptive use in Solomon Islands and also a significant gap between knowledge about contraceptives and their actual use. In this paper we contribute evidence in response to this knowledge gap. We report findings of a study conducted as part of research capacity training in Solomon Islands, which explored barriers and enablers to family planning, including contraceptive use, at Atoifi Hospital, East Kwaio, Malaita Province. We also present strategies that may increase the prevalence of contraceptive use in Solomon Islands, and PICTs more broadly.

## METHODS

### Study design

A descriptive qualitative study design[10,11] was used to answer the research question: *What are the barriers and enablers for women and men for family planning, including contraceptive use, at Atoifi Hospital?*

**Study setting**

Atoifi Hospital is a 60-bed general hospital located in East Kwaio on the remote eastern coast of Malaita, Solomon Islands. The hospital provides basic medical, surgical and outpatient care. Specialised weekly clinics like Reproductive and Child Health (including family planning), non-communicable diseases, eye care and primary healthcare services were offered once every week. Apart from auxiliary staff, the hospital is staffed with 24 registered nurses (including two nurse-midwives) and one general medical doctor who is able to perform basic surgeries like caesarean section and tubal ligation. The hospital also receives student nurses occasionally during their clinical placements. Atoifi is the only hospital in the region and it serves more than 10,000 people who live in hamlets in the surrounding mountains and in larger coastal villages. Mountain people who live between 4 hours and 2 days walk from the hospital predominantly practice ancestral religion while coastal people are predominantly Christians. Kwaio society, both in the mountains and on the coast, is highly patriarchal, with men seen as more powerful and the dominant decision-maker in the family. It is a well-established tradition in the Kwaio region to exchange shell money and pigs during wedding ceremonies, locally known as Bride Price or settle disputes using payments of shell money and pigs for compensation.[12,13]

This study was conducted at the family planning clinic, Atoifi Hospital in 2018. The clinic opens once a week (Wednesdays) between 8am and 4pm. The same building is used for child welfare, antenatal and family planning clinics on the same day at the same time, all share the same waiting area but use different rooms. Additional outreach primary healthcare services are provided at least twice a week in the hospital catchment area. The annual number of births at Atoifi Hospital ranges from 200 to 300. According to Hospital records, the family planning coverage is approximately 30%, although this coverage could be even lower given the quality of data available.[1] Predominantly, married women attend the clinic and five free contraceptive options are available to choose from: oral contraceptive pills; long acting progesterone injections or implants; condoms; intrauterine contraceptive device (IUCD); and permanent methods, such as tubal ligation and vasectomy. Family planning services are mainly delivered by female nurses at the hospital. For the purpose of this paper, when referring to family planning, the authors mean family planning services or programs, while contraceptives specifically refer to the methods or medicines used to prevent pregnancy. However, participants who were interviewed also used the words 'family planning' or 'injection' to mean contraceptives/medicines.

**Data collection**

Data were generated during semi-structured interviews to explore what people think about the family planning service and reasons they are using and not using family planning contraceptives. The interviews were facilitated by the lead author (RH) who is a midwife and nurse educator from Solomon Islands. Participants were selected using purposive sampling [13] from three groups: i) Family Planning Nurses (FPN); ii) contraceptive users: female users (FU); male users (MU), iii) non-contraceptive users: female non-users (FNU); male non-users (MNU). The FU and MU were identified through the clinic logbook registry. The FNU and MNU were asked a screening question, whether or not they were using any contraceptives, when they came to the hospital. The FNU were identified through their attendance at the antenatal and child health clinics and the MNU were invited to participate when attending the outpatient department. The lead author has been working at this institution for more than 20 years so had knowledge of who lived in the vicinity of the hospital and selected eligible participants based on this. The inclusion criteria included community members aged between 15 to 49 years old, either married or single, male and female currently using or not using contraceptives and living around the hospital. Purposive sampling enabled different groups of people to be interviewed so that a better understanding of what people thought about the family planning service and about contraceptive use, at Atoifi hospital, could be obtained. Participation was voluntary. If the person agreed to be interviewed, information was given to them and a consent form was signed. The interviews were conducted in a secluded room at the Hospital. Males were interviewed separately from females in separate venues. Interviews were audio recorded, with consent, and done in Pijin, a lingua franca in Solomon Islands.

**Data analysis**

Data was transcribed verbatim then analysed using thematic analysis.[15,16] Key words and concepts, emerging from the data during the semi-structured interviews, were identified and then condensed into thematic areas. Interviews, transcribing and analysis were conducted in Pijin then translated to English by the lead author (RH) and checked by co-author (MRM) for consistency.[16]

Ethical approvals to conduct the study were granted from Atoifi Hospital (No: AHREC/019/17) and the Solomon Islands Health Research and Ethics Review Board (SIHRERB No: HRE 054/17).

**RESULTS**

A total of nine interviews were conducted: family planning nurses (n=2 FPN); contraceptive users (n=3 FU, n=1 MU) and non-users of service (n=3 FNU, n=0 MNU). Participants' religion included Christians (n=8) and Ancestral (n=1). Most participants were married (n=8), with only one unmarried participant, and the age of participants ranged from 18-48 years. The interviews took 15-20 minutes. Three additional MNUs initially agreed to be interviewed, but then did not attend the interview. Predominantly married women attended the clinic.

Analysis of the data revealed a link between delivery of family planning service with contraceptive use at Atoifi Hospital, as represented by four main themes: 1) availability and accessibility of contraceptives; 2) knowledge and beliefs; 3) socio-cultural expectation of women; and 4) fear. Each of these themes will be discussed in turn.

**Availability and accessibility of contraceptives**

Despite the low-resource environment, contraceptives were reported as always available by all participants; nurses, women and men. One FNU who lived close to the Hospital explained, "*hem isi for tekem nomoa meresin ia, hem lo hospital, no farawe" (FNU2).* [Translation: It is easy to access medicine (contraceptives), it is at the hospital, not far away.] A male user also thought contraceptives were available at the clinic and the nurses were there to help, if help was sought.

> *mi tink meresin stap and isi fo tekem bikos oketa nurse like for helpem umi fo gud ia, so mi tink oketa lo hospital and clinic bae available nomoa ia. Umi nomoa fo decide, oh mi laek family planning then taem u araev lo dea mi think bae you save go tekem nomoa (MU1).*
>
> [Translation: I think the contraceptives are available and easy to access because the nurses are there and willing to help us at the hospital and clinic. The decision is ours to make if we want family planning. If you go there (clinic), I think you can access and take contraceptives.]

Availability of contraceptives at the clinic did not mean accessibility for everyone. The family planning service was accessed less by men, ancestor worshippers who lived in the mountains or single people. Some barriers to accessing contraceptives included: gender of family planning nurses; religious and/or cultural barriers; and the potential of social stigma. A MU said, "*mifala man shame fo go stori lo ples osem en fo stori wetem woman tu."(MU1)* [Translation: We men, are ashamed to go and meet in such a place, let alone talking to a woman.] Family planning nurses are also aware that men are less likely to go to them for contraceptives or counselling because they are female:

> *lo hia female nurse nomoa hem waka lo clinic ia. Lo tingting blo mi sapos umi garem wanfala male nurse, bae hem save helpem oketa man. Sapos iu female den iu tok aboutim family planning lo oketa man, samfala man bae no laekem den iu female tu bae iu laek fo talem bata bae samfala man ia bae no laekem fo herem iu tu ia.* (FPN2).
>
> [Translation: Only the female nurse works at this clinic. I think if we have a male nurse here, he can help men who seek family planning. Because some men may not want to talk and listen to a female nurse.]

In addition to the health workers being predominantly women, the family planning clinic was not perceived as culturally safe for many people seeking family planning services. The

clinic is located next to a birthing unit, so culturally it is a taboo place for men.

> ... '*disfala ples ia hem no gud, bikos hem ples oketa save bonem pikinini lo hem, hem tabu fo mifala man go lo hem.'(MU1).*
>
> [Translation: This place is not good because it is a place to give birth, it is taboo, and we men cannot go there.]

Consistent with the belief that the clinic was a taboo place, men and women from the mountains rarely accessed the family planning clinic. Entering the clinic building was described by FPNs as a breach of religious and cultural beliefs for people who practice ancestral religion, and a breach may mean the mountain people have to pay compensation for this breach.

> *Oketa man en woman lo bush had fo kam tu ia bikos hem tabu ples, bae oketa paim compensation sapos eni wan lukim oketa kam lo ples ia (FPN1).*
>
> [Translation: Men and women in the mountains also cannot come to this place because it is against their religious beliefs and culture, they will pay compensation if someone sees them going to that place.]

Social stigma was likely to be experienced if a single person attempted to access contraceptives from the family planning clinic. A single FNU explained:

> *Ma hem oright bae mi save tekem bat mi no marit so mi shame, no gud oketa se…mi tekem fo…kind ia…olobaoti… hem nice for people umi mas tekem, hem safety blo umi but osem mifala nomoa frait*"(FNU3).
>
> [Translation: It is okay for me to take it but I am ashamed because I'm not married. It will be not good if others see and think… that I took it so that… I can have sex outside of marriage… family planning is a good thing for us to take because it protects us but we are just afraid.]

Another FU related her experience when another woman reported to her that a single woman had accessed the family planning clinic.

> *…oh anty blo iu ia hem single bat hem putim samting ia lo hand blo hem… ma mi na lukim hem go insaed lo family planning clinic, hem kam out den mi lukim plasta lo hand blo hem den hem se… "e hem young gele ia hem sud no tekem family planning(FU1).*
>
> [Translation: Oh your aunt is single but she put something on her hand…I saw her going to the family planning clinic and when she came out I saw a bandage on her hand and the woman said "she is not married so should not take family planning".]

**Knowledge and Beliefs**

In this small sample there was no difference in the basic knowledge of available contraceptive methods. All family planning users and non-users had knowledge of 3-5 contraceptives and the benefits of using them. But they needed more awareness on how they work and clear information on expected side-effects. They also wanted to know more about the natural methods. There was a suggestion that nurses should go out to communities to provide more awareness on family planning for those who rarely or never came to the hospital. The community 'talks' must be clear and simple for villagers to understand.

A FNU affirmed family planning benefits as:

> *"oketa meresin blo family planning ia naes samting ia for helpem umi spasim pikinini."(FNU2)*
>
> [Translation: Contraceptives are nice things to help us space our children.]

Another participant wanted nurses to give clear information:

> *"tok clear lo people, so oketa bae save garem gud idia, nurse mas mekem clear stori blo family planning" (FU3).*
>
> [Translation: speak clearly to the people so that they have good and clear information about family planning, the nurse must be clear about what family planning is].

Similarly, another FNU commented:

> *"tinting blo mi oketa nurse shud tokaboutim tu wat taem bae pikinini save kam and wat taem na bae hem nomoa, mi minim osem natural method naia*"(FNU1).
>
> [Translation: I think nurses should talk about the menstrual cycle and the

possible times pregnancy may and may not occur, I mean the natural method.]

Most of the participants believed that using family planning was not good for the body; *"it may disappear in your body", it will make you sick", it will cause cancer" or "the medicines are taken from animals,"* so if they take them they will make them sick. A FPN reported one common belief amongst women about the impact of family planning on sexual pleasure:

> *Bilif blo samfala woman, oketa say taem tekem family planning oketa no enjoym sleep wetem daddy bikos 'everyting' hem weak…. So oketa askim mi and mi explenim go dat oketa meresin ia nating affectim sleep wetem daddy (FPN2)*.
>
> [Translation: Some women believe that when they use family planning they do not enjoy having sex with their husbands because 'everything' (sexual organs) is weak…they asked me and I explain to them that these contraceptives did not affect their sexual activity/pleasure.]

One common religious belief among Christians is that our bodies are created purposely to bear children and that is what God intends it to be, but family planning works to stop this natural cycle. A MU also shared religious beliefs about family planning.

> *"Oketa se; family planning hemi nogud bikos umi stopem nomoa pikinini 'big man' na givim oketa pikinini ia, umi no ken shuttim and stopem…kind osem nomoa* ia" (MU1).
>
> [Translation: Others say, family planning is not good because it stops us having children that God gives us, so we should not stop people from having children.]

**Socio-cultural expectations of women and power relationships**

Some women reported that the decision to use contraceptives rests with the husband and mother-in-law. Culturally, women are expected to fulfil domestic duties as well as childbearing because of obligations like bride price. This cultural expectation made some women who really wanted contraceptives, covertly seek contraceptives. This is where women wanted privacy when they access the family planning clinic.

> *"Samfala bikos lo culture, oketa say mi peim iu so you mas bonem staka pikinini for mi. Den if mami bonem everi gele nomoa, ma u mas bonebone fo at least boy mas born or if evri boy den mas bonebone for garem gele moa" (FPN1*).
>
> [Translation: Because of culture (bride price practice), some people said, because I bought you, you must give birth to many children for me. If the mother gives birth to only girls, then the woman must continue to have children until a baby boy is born or if the mother gives birth to only boys, then she must continue to have children until a baby girl is born.]

A FNU was happy with the clinic but its location is too public:

> "*Family planning clinic lo Atoifi hem naes bat ples hem stap, hem public tumas fo oketa wea like kam hide, bae people lukim oketa taem go and bae story lo husband and in-law" (FNU2)*.
>
> [Translation: The family planning clinic is nice but the location is too public for those who don't want to be seen by other people. Others might report them to their husbands or in-laws.]

Despite these socio-cultural challenges, some women said they could visit the family planning clinic if the clinic was located somewhere others could not see them.

> *"Hem mas stap private mekem oketa pipol no lukim taem mifala go inside. Taem umi stap private go from oketa pipol bae oketa woman kam ia, bikos samfala woman save hide from in-law and husband blo oketa" (FU2)*.
>
> [Translation: The family planning clinic must be located in a place where people cannot see us going inside the clinic. When privacy is ensured, women will come because some of them came without the knowledge of their husbands or mothers-in-law.]

A FNU further added:

> "*…lo hia taem you wokabout kam, everiwan lukim you and save naia and bae oketa go stori lo vilej" (FNU3).*

[Translation: When you walk in here, everyone sees you and they will gossip about you in the village.]

**Fear**

Most female participants expressed fear of beliefs, side-effects, social stigma, relatives, in-laws/husbands, and church leaders as reasons for not using contraceptives. These fears became the main barriers to accessing and using available family planning services.

Perceived side-effects, beliefs and assumptions about contraceptives were the main cause of fear in women. A FNU expressed her belief as:

> *"tingting blo mi osem…eh samfala hormone inside lo family planning ia nogud bae mi nogud lo hem. Osem bat mi garem family history blo cancer so mi bat frait tu nogud bae mi garem cancer lo hem" (FNU1).*
>
> [Translation: This is what I think, some hormones used in family planning are not good for my body. Because already I have family history of cancer, so I am afraid I might also develop cancer.]

Some women became afraid when they heard stories from others:

> "*Samfala ating ota fraitim taem herem story nomoa dat family planning hem save mekem woman sick, and side-effect blo hem na samafala save fraitim*".(FU2).
>
> [Translation: I think some feared, when they heard stories that family planning can make a woman sick. They are frightened of the side-effects.]

A FU commented that even though she enjoyed using contraceptives she still fears the side-effects:

> "*no mata mi tekem hem gud bat mi fearim na menstruation blo mi, no save strong gud osem taem mi no save tekem nila ia. So osem mi lelebet fraitim, no mata mi enjoym tu ia" (FU1)*.
>
> [Translation: The family planning I took is good but I still fear the changes it makes to my menstruation which was not like the times when I did not take injections so this is what I feared even though I enjoyed it.]

Running the family planning clinic simultaneously in the same building with other reproductive health clinics was perceived as a barrier to potential users.

> *"Distaem ia oketa baby lo hia fo scale, babule woman lo hia moa, so mifala fo family planning ia lelebet frait fo go inside lo clinic tu" (FU2).*
>
> [Translation: The clinic is now used for child welfare, antenatal and family planning as well, so we are afraid to go inside the clinic building.]

An unmarried woman acknowledged that family planning is a good thing but she feared being stigmatised because of her marital status.

> *"Hem naes bat osem mi frait nomoa bikos mi no marit, bae oketa say mi olobaoti" (FNU3).*
>
> [Translation: It is a nice thing but I am afraid because I am not married, people will think I am promiscuous.]

While some women are not using contraceptives because they fear church leaders, one family planning user said the decision still comes back to the family after all.

> *…samfala church, oketa save stopem oketa woman fo tekem family planning. Oketa se no eni woman fo tekem nila bat lo iumi hem samting deal wetem decision blo family, hem had for church hem duim any comment lo hem (FU1)*.
>
> [Translation: Some churches did not allow women to take family planning. They said, women must not have injections, but after all it comes back to the family's decision and the church cannot do much about it.]

**DISCUSSION**

All participants commented that contraceptives are always available at the clinic and it is their choice to use it. Themes emerging from the data suggested that whilst available, the family planning service is not easily accessed by men, women and unmarried young people from various social and cultural groups. The reasons for not using contraceptives at Atoifi Hospital were linked to the current location of the family planning clinic, lack of knowledge and beliefs

about contraceptives, fears relating to side-effects, religious and socio-cultural stigma.

In the Solomon Islands, contraceptives are free; the government pays. In some remote areas the cost is access-related such as costs to travel to health centres, childcare or time lost in productivity to visit the clinic. Free and readily available contraceptives can be potential enablers to using contraceptives.[17] Consistent with the data reported in the results, **Table 1** lists common barriers to contraceptive use and associated strategies that could enable or enhance contraceptive use.

**Table 1:** Barriers to using contraceptives and suggested strategies to enable use.

| Barriers to Contraceptive use | Suggested Strategies to enable use |
|---|---|
| **Accessibility issues** | |
| - **Location of FP clinic** | ▪ Men need a separate clinic from women.<br>▪ Clinic building must not attach to the hospital and birthing unit for people practicing ancestral religion, preferably separate building.<br>▪ Need separate room from other reproductive health services to ensure privacy for singles and young people and other women who need privacy. |
| - **Gender of FPN** | ▪ Female and male nurses to attend to respective gender of their clients. |
| **Lack of Knowledge** | ▪ Education will reduce stigma and fear to enable informed choice for contraceptives.<br>▪ Approach must be sensitive, providing privacy and assuring confidentiality. |
| **Fear relating to:** | |
| - **Socio-cultural/religious expectations**<br>- **Beliefs**<br>- **Side-effects** | ▪ More community education and awareness that permeates to all levels of the community including family unit.<br>▪ Community 'talks' must be clear and in lay terms for villagers to understand and to address related fears.<br>▪ Nurses, individuals, husbands and wives to communicate openly about contraceptives in the community in order to reach those who rarely go to the hospital for information. |

Evidence from interviews showed men were less likely to access family planning service due to gender of service providers and the clinic's location. Traditionally, cultural reasons have been assumed to be barriers for men because of the association of family planning with childbirth and birthing facilities, which are considered as taboo.[11,12] However, the data suggested the barriers centred on how and where the service is delivered. Males may be more willing and comfortable to go somewhere away from where women give birth and be seen by male service providers. The Male Involvement in Reproductive Health (MIRH) initiative was piloted in Solomon

Islands and Fiji in 2005, anticipating that greater involvement from men would result in benefits for maternal and child health.[18] The initiative was broadly accepted and has shown benefits to men's participation in Solomon Islands because male nurses are advocating, promoting and delivering the service to men. However, there are perceived challenges to sustaining the program including sociocultural norms and the physical layout of clinics.[19] Solomon Islands government is also committed to prioritising men as partners in voluntary family planning to accelerate actions for the FP2020.[8,20] An evaluation by the United Nations Populations' Fund[18,19] concluded that MIRH is highly relevant to the Pacific context and can make significant contributions to gender negotiations in the workforce and beyond. However, context-appropriate strategies are needed to engage men, and to identify acceptable approaches in different cultural contexts to reach the educated as well as amongst the less educated groups.

Kwaio people (both male and female) who live in the mountains and practice ancestral religion, rarely access buildings that are physically connected to the hospital's birthing unit. Although no males from the mountains were interviewed, a female participant from the mountains confirmed this is the case. The participant's account is consistent with evidence reported in other studies from Kwaio.[11,12,21] At Atoifi, the family planning clinic is connected to the birthing unit. Entering the building is akin to entering a birthing area and was described as a breach of religious and cultural beliefs, and may mean that mountain people have to pay compensation for this.[12,21] A compensation payment is a means of resolving the breach and involves payment of shell money or pigs by the person who breached these cultural beliefs.[11,12] This breach has implications for the family's welfare and is a costly action that most people cannot afford. Participants said that access to the family planning clinic can be possible if the clinic is a separate building and not connected to the hospital. This response reiterates findings from a previous study done in Kwaio by MacLaren and Kekeubata where building a culturally appropriate healthcare facility enabled access to services for women and men from the mountains.[22]

Women and young people from various social and cultural groups were likely to experience social stigma and shame if attempting to access contraceptives from the family planning clinic. A socially accepted belief in Solomon Islands is that only married people should be permitted to use contraceptives. Using contraceptives when not yet married often results in women being considered as promiscuous, although this same judgement is not levelled against young men who use contraceptives. This is consistent with the highly cultural context of Solomon Islands.[11,23] Young people may have good basic knowledge about contraceptives but can be influenced by beliefs about contraceptives, concerns about social stigma, attitudes of their elders and healthcare providers, religious commitments and socio-cultural expectations. These influences have caused fear to become a dominant barrier for contraceptive use. In neighboring Papua New Guinea, continued awareness campaigns have been necessary to address key knowledge gaps and alleviate fears about contraceptives.[24] In the low resource setting of Kenya, open and public dialogue about gender, sexuality, and family planning increases use of contraceptives among couples in settings where prevalence of contraceptive use is relatively low.[25]

The findings in this small study are consistent with the objectives of ending preventable maternal mortality, where emphasis on program planning must be driven by people's aspiration, experiences, choice and perceptions of quality as well as other human rights such as participation, information, and accountability ensured through the cultivation of enabling environments.[26] The greatest progress made by the Southern and Eastern Asia regions in reducing maternal deaths has been attributed to using unique strategies tailored to local needs and contexts.[4] This means women receive basic contextual preventive and primary reproductive care services like preconception care, comprehensive sexuality education, family planning and contraception as well as adequate skilled care during pregnancy, childbirth and postpartum period. Contraceptive use has shown to contribute to reduction of fertility rates, unmet needs and eventually maternal mortality.[5,25] Recent analysis using maternal mortality estimates on contraceptive prevalence suggested that maternal mortality would have been two times higher in 172 countries without contraceptive use.[7,27] This data shows how significantly the use of contraceptives can impact maternal health.

While there may be limitations to the consistency of contraceptive use data from Solomon Islands, this study does surface one of many issues that still needs to be contextually explored. With the estimated trend of increase in the number of potential contraceptive users,[3] investment is necessary to meet demand for contraceptives and improvement of family planning services. Therefore, further research is required to determine the basis for low contraceptive usage by both users and non-users and tailored to their individual needs.

The next phase of this research agenda will explore reasons for low contraceptive use with more people, in different cultural and health settings in Solomon Islands to better understand the situation. This will inform family planning programs so that services can be targeted from the user's perspectives and increase potential usage of contraceptives for better health outcomes.

### Limitations

There are some limitations to this study: data was collected from only one location; there were a small number of subjects interviewed; there were small numbers of male participants, we assume due to their discomfort with speaking to a female interviewer; and the sampling criteria may not reflect barriers for people who live outside of the catchment area. Furthermore, the lead researcher was a midwife and educator, and this position of power may have resulted in some women being uncomfortable and not sharing openly. However, with the role as an Atoifi health care professional and resident, the researcher was likely viewed as a trusted person to talk to with a deep understanding of the context assisted in accurate interpretations of participant's responses.

## CONCLUSIONS

Context plays a major role in barriers and enablers of successful strategies to fulfill unmet family planning needs and increase usage. There is a sizeable gap between knowing about contraception and actually using it. This study at Atoifi Hospital revealed that the significant barriers to contraceptive use were linked to where and how family planning service is delivered. The service uses the traditional women-centred approach despite this being shown to be less appropriate to the cultural context and less sensitive to gender and privacy issues by providers, users and non-users of the service. Like Solomon Islands, the broad PICTs may also face similar challenges. Therefore, to facilitate contraceptive use that can contribute to reducing maternal deaths by 2030, relevant approaches to family planning service, education and strategies to involve and engage men must be explored and implemented in the context of people who will be using the service.

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