Beliefs, understanding and access to male family planning in Timor-Leste

A collaborative qualitative research project

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- Instituto Nacional de Saude Timor-Leste (INS - National Health Institute of Timor-Leste) – Research Ethics and Technical Committee. No. Reference: 1168MS-INS/DE/DEP/V112019
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Conflict of interest:
It is possible some participants in this study will be current or future clients or employees of MSTL. The informed consent process ensured this perceived conflict of interest was identified and discussed before participants freely consented or declined to take part in the study. The field research team worked for Marie Stopes Timor-Leste at the time of data collection. Any possible conflict of interest was monitored carefully and avoided by the management processes in place, as described in our three ethics approvals. The National Health Institute of Timor-Leste provided additional oversight to this research project.

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CPR	Contraceptive prevalence rate
DHS	Demographic health survey
FP	Family planning
HIV	Human immunodeficiency virus
IDI	In-depth interview
INS	Instituto Nacional de Saude (The National Health Institute)
IUD	Intrauterine contraceptive device
KB	Keluarga berencana (family planning)
MoH	Ministry of Health
NGO	Nongovernment organisation
MSIRC	MSI Reproductive Choices (previously known as Marie Stopes International)
MSTL	Marie Stopes Timor-Leste
PGD	Participatory group discussion
SRH	Sexual and reproductive health
SRHR	Sexual and reproductive health and rights
STI	Sexually transmitted infection
TFR	Total fertility rate
UNFPA	United Nations Population Fund
WHO	World Health Organisation

Key concepts and definitions

The following concepts and definitions have been used in this study:

Access to healthcare: The opportunity to: identify healthcare needs; to seek health care services; to reach, to obtain or use health care services; and to actually have the need for services fulfilled [1].

Youth: A fluid definition of youth was used in this research, influenced by how participants defined themselves and the concept of youth. The research activities targeting younger people included participants up to 33 years of age. A minimum age of 18 was required to take part in the research. Sometimes, but not always, participants would use 'young/youth' and 'single' terminology interchangeably.

Male methods of family planning: Methods that require men's direct participation or cooperation, including vasectomy, male condoms, and natural family planning methods.

Modern methods of family planning: Include oral hormonal pills, hormonal implants, hormonal injections, intrauterine devices, male and female condoms, vasectomy and tubal ligation [2].

Natural methods of family planning: Include the withdrawal method (coitus interruptus), and fertility awareness methods that have a defined protocol for use, including abstinence, lactational amenorrhea, calendar or rhythm methods [2] .

Family planning and contraception: The terminology 'family planning' and 'contraception' have different meanings. Contraception refers to the intention of an individual or couple to prevent pregnancy as a reproductive right. Family Planning is the action of planning a family (if children are desired, how many, and when). This difference and the need for rights-based language is acknowledged. However, in reflection of the diversity in language used across leading global organisations and bodies working in this space, and in respect to the language and terminology most often used in Timor-Leste, both family planning and contraception are used interchangeably in this research. However, as discussed within this report, our research findings suggest it may be time to review and update this language practice.

Executive summary

Sexual and reproductive health and rights (SRHR) are recognised as human rights globally. This includes the power and autonomy to choose the number, timing and spacing of children, through access to quality, comprehensive and affordable family planning services.

The majority of family planning users in Timor-Leste are women, as is the case globally. However, while the use of male methods (male condoms, vasectomy, and some natural methods) account for 27.4 percent of all family planning practice worldwide, uptake in Timor-Leste is estimated to be much lower. While more recent and comprehensive national-level data is limited, less than one in ten men aged 15 to 49 years in Timor-Leste report ever using a male method of family planning.

Women in Timor-Leste and around the world currently assume most of the health-related, financial, time and other burdens related to family planning use. Increasing men's uptake of family planning services can help reduce this burden on women, while also increasing men's reproductive autonomy and contributing towards a more gender-equitable and just society.

While previous studies have explored understanding of and influences upon women's uptake of family planning methods in Timor-Leste, limited evidence exists about male methods of family planning. Building on available knowledge and resources, we designed and conducted participatory and collaborative qualitative research investigating beliefs, understanding and access to male family planning methods in Timor-Leste from both a community and health provider perspective. We used an operational and participatory research approach.

We completed 14 participatory group discussions (PGDs) with 175 community members across seven municipalities in Timor-Leste (Ainaro, Baucau, Bobonaro, Dili, Lautem, Manufahi, and Oecusse) between August - December 2019. The community members participating in the PGDs (84 men, 91 women; aged 18 to 72) had diverse socio-cultural and linguistic backgrounds. Conducted in gender-specific groups, the PGD's involved:

1) Body mapping activities about sexual and reproductive health (SRH) organs, contraceptive methods, and contraceptive side-effects;
2) Vignettes (short stories) about a fictional Timorese couple; and
3) Facilitated group discussion about family planning methods.

We also completed in-depth interviews (IDIs) with 24 health care providers (16 women, 8 men; aged 25 to 56 years) working in the same location as the PGDs. IDI's consisted of semi-structured open-ended questions followed by body mapping activities involving male and female body templates. Following prompts and using different coloured pens, participants would draw, write and mark SRH organs, methods of contraception and side-effects from

contraceptive use on the body mapping templates. Participants would then verbally explain their body mapping design.

Data was analysed using thematic and content analysis. The research team used the ethics of reflexivity and solidarity throughout the research process.

We found overall low awareness about male fertility and male family planning methods amongst community members in the PGDs. Misinformation was also widespread, contributing to negative attitudes about male condoms and vasectomy, and potentially risky behaviour regarding natural family planning use.

Health providers participating in the IDIs had varying levels of training and knowledge about male family planning methods. In general, overall experience providing SRH services to men was limited.

Men were identified as playing an important and often leading role in the decision to have children and a woman's ability to access contraception by both PGD and IDI participants. However, men were also discussed as having limited direct interaction with health services and health providers. Family planning and SRH was mostly associated with maternal health services by both PGD and IDI participants, framing conversations about family planning around healthy birth spacing between mothers and midwives.

Health providers participating in the IDIs also had varying levels of awareness and understanding about national policies and guidelines relating to family planning and SRH, resulting in different service provision practices. While some IDI participants reported providing universal access to family planning services, others reported restricting access based on gender, age, civil status, or number of children. Numerous reasons for a provider restricting access to family planning services were identified, including: personal belief; misunderstandings about national health policies and laws; pressure or direction from senior health staff or colleagues; pressure or fear from individuals and groups in the community; and harmful social norms regarding SRHR.

Numerous barriers and enablers to increasing uptake of male family planning methods were found at the client, provider, health system and society levels. While focused on male methods of family planning, these findings are also relevant and insightful to other target groups, including young, single and gender-diverse people.

Our findings suggest very limited work has been done so far around increasing access to male family planning services at a national level. This provides a unique opportunity to design and invest in new initiatives that are evidence and rights-based, and complementary to existing programs.

Access to male family planning services in Timor-Leste is complex and influenced by many personal, historical, socio-cultural, geographical, political, and financial factors. Through identifying and exploring some of these factors in our research, we were able to directly translate some of our research findings into clinical and broader health practices. We hope others working at local or national level can also use our research to direct focus and resources into contextually appropriate and effective health and development initiatives.

Based on our findings, we have developed seven recommendations, detailed at the end of this report. Briefly here, they are:

1	Increase sexual and reproductive health and rights information and services to men and boys, without impacting women's autonomy or access to sexual and reproductive health information and services.
2	Strengthen and expand current family planning programming beyond maternal and child health services, to reach more diverse groups, across the lifespan.
3	Strengthen pre-service and in-service training initiatives for health providers, by including more content on male sexual and reproductive health, male family planning, health policy, gender, and rights.
4	Strengthen alignment and coordination between existing sexual health and reproductive health initiatives.
5	Strengthen and streamline awareness, understanding and implementation of national sexual and reproductive health policies and practices for family planning service provision.
6	Encourage more open, healthy, and rights-based discussion about gender equity and sexual and reproductive health and rights.
7	Include more sexual and reproductive health and rights questions tailored to men in health monitoring and surveys.

Introduction and scope

Introduction

Sexual and reproductive health and rights (SRHR) are recognised as human rights globally. This includes the power and autonomy to choose the number, timing and spacing of children, through access to quality, comprehensive and affordable family planning services [3].

The engagement of men and boys is essential to improving SRHR for everyone [2, 4]. This includes increasing the availability and uptake of male family planning services.

Male methods of family planning require men's direct participation or cooperation, including male sterilisation (vasectomy), male condoms and some natural family planning methods, including the withdrawal method [2, 4]. Each method requires a different level of involvement or cooperation between partners, and has different advantages, disadvantages, and levels of effectiveness for preventing pregnancy and sexually transmitted infection (STIs) [2]. In 2019, the use of male methods of family planning accounted for 27.4 percent of all family planning practice worldwide [5].

The need to increase men's engagement in family planning services was first discussed at a global level during the 1994 International Conference on Population and Development in Cairo [6]. Emphasis was made on the need to decrease the level of inequality around family planning use and the reproductive burden experienced between men and women:

'Special efforts should be made to emphasise men's shared responsibility and promote their active involvement in responsible parenthood, sexual and reproductive behaviour, including family planning, maternal and child health [and] prevention of STIs, including HIV' [7]

Women currently assume most of the health-related, financial, time and other burdens related to family planning use. Increasing men's uptake of family planning services can help reduce this burden on women, while also increasing men's reproductive autonomy.

More recently, the 2018 Guttmacher-Lancet Commission report on SRHR made 12 recommendations to advance SRHR for all. One of these recommendations is:

'**Engage men to support women's health, rights, and autonomy, and address the sexual and reproductive health and rights of men'**.

Moreover,

'...investment should increase in the development and promotion of male contraceptive methods – e.g., condoms, vasectomy, and male hormonal methods – to increase shared responsibility for pregnancy prevention' ([8]).

The demand and uptake of family planning is dependent on many factors including method availability, social and cultural influencers, and individual understanding and beliefs. Legal, policy, social, cultural, and other structural barriers can prevent individuals from accessing and using contraception [8].

While studies have explored understanding of and influences to women's uptake of family planning methods in Timor-Leste [9], limited evidence exists about male methods of family planning. Using an operational, participatory, and collaborative research approach, we aimed to study beliefs, understanding and access to male family planning using qualitative research methods that respect and celebrate indigenous knowledge and language diversity in Timor-Leste.

Sexual and reproductive health and rights in Timor-Leste

Timor-Leste has made remarkable progress in improving SRH outcomes over the last twenty years. Timor-Leste is one of nine countries globally estimated to have had the greatest relative reduction in maternal mortality ratio (MMR) since 1990 [10]. Indeed, between 2010 and 2016, Timor-Leste's MMR more than halved, falling from 557 to 218 deaths per 100,000 live births per year [11].

Timor-Leste has also experienced the highest rate of decline in total fertility rate (TFR)[1] over the last decade of any country globally, falling by approximately 4.6 percent each year between 2003 and 2015 [12]. The most recent TFR was reported to be 4.2 children per woman in 2016 [11].

These successes follow several years of strategic and concerted effort towards improving health outcomes led by the Government of Timor-Leste and their partners in health, including the development of inclusive, evidence-based national strategies and policies.

Challenges remain around several key SRHR indicators however, including access and uptake of comprehensive family planning services. These include:

- Modern contraceptive prevalence rate (CPR) is low, with just 24 percent of married women of reproductive age using a modern method of family planning in 2016 [11].
- One in four Timorese women have an unmet need for modern family planning [11].

[1] TFR is 'The average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given set of age-specific fertility rates. IEA 2014, A dictionary of epidemiology 6th edition, M. Porta ed, page 281, Oxford University Press, Oxford.]

- TFR is higher in rural areas (4.6 children per woman) compared with urban areas (3.5 children per woman), and reduces substantially among women with higher education and wealth [11].
- Only 39 percent of married women have their need for family planning satisfied – representing less than half the Asia-Pacific regional average of 74 percent [11, 13].
- Seven percent of 19-year-olds have already begun childbearing. Less than 1 percent of young women aged 15 to 19 have ever used any method of family planning [11].
- Family planning choice in Timor-Leste has shown improvements but remains skewed towards contraceptive injectables [11].
- 29 percent of currently married women and 26 percent of currently married men aged 15 to 49 report wanting no more children [11].
- Although awareness of at least one family planning method is high amongst both women and men, 46 percent of women cite either personal preference or their partner's opposition as a reason for non-use [14].
- Sexual and gender-based violence is a significant public health issue, with three in five women (60 percent) of reproductive age (15 to 49 years old) having experienced physical and/or sexual violence by a male intimate partner at least once in their lifetime [15]. Research shows younger women are at greater risk of experiencing intimate partner violence, and that women who experience intimate partner violence are more likely to have an unintended pregnancy [15].
- Only 41 percent of currently married women were able to say no to their husbands when negotiating sexual relations, and only 25 percent reported that they could ask their husband to use a condom [11].

Women are the majority of users accessing family planning methods and services in Timor-Leste, as is the case globally. However, available data shows that access and use of male family planning methods in Timor-Leste is significantly lower than global comparisons. Less than one in ten men aged 15 to 49 report to have ever used a male method of family planning [5, 16]. Less than five percent of men have ever used the male condom, and vasectomy was the least reported method ever used at 0.3 percent [16].

While more recent national data about the use of male methods is not available, global data-sets report vasectomy uptake as zero [11, 17]. This is compared to tubal ligation services, for which national data is available, which has increased from 0.8 percent in 2009 to 1.4 percent in 2016. The median age of tubal ligation users in Timor-Leste is 33.8 years old [11].

Knowledge about any method of family planning is reasonably wide-spread across Timor-Leste, with 71 percent of women and 79 percent of men aged 15 to 49 having heard of at least one method. However, knowledge of male methods of family planning among both men and women is reported to be low. For example, only 13.9 percent of women and 17.1 percent of men report knowledge about vasectomy. This is compared to 40.1 percent of women and 36.7 percent of men reporting knowledge about tubal ligation. Knowledge of male condoms is

higher, with 43.9 percent of women and 68.3 percent of men reporting knowledge about male condoms [11].

Moreover, just eight percent of young women and 15 percent of young men (15 to 24 years) have a comprehensive knowledge of human immunodeficiency virus (HIV) [11]. Although Timor-Leste is reported as having a national human immunodeficiency virus (HIV) prevalence of less than one percent in 2015, more current and comprehensive estimates of HIV prevalence are needed [18, 19]. Limited knowledge about HIV prevalence and transmission in the community, coupled with low knowledge and use of male condoms, may exacerbate the risk of sexually transmitted infections - including HIV.

Aims

This study aims to provide new evidence about male methods of family planning in Timor-Leste and to build a descriptive base that can be used to inform policy and programmatic decision making.

Using an operational participatory and collaborative approach, this qualitative study explores beliefs, understanding and access to male family planning methods from both a community and health care provider perspective.

The five research questions are:

1. How do men and women plan their families in Timor-Leste?

2. What are community beliefs and understanding about male family planning methods in Timor-Leste?

3. What are health care provider beliefs, understanding and experiences of service provision for male family planning methods in Timor-Leste?

4. What are barriers and challenges to the uptake of male family planning methods in Timor-Leste?

5. What are enablers to inform, motivate, inspire and increase uptake of male family planning methods in Timor-Leste?

Ethical considerations

Permission to conduct this research was received from three independent ethics committees:

1. Instituto Nacional de Saude - National Health Institute - Research Ethics and Technical Committee
   Approved: 24th July 2019
   No. Reference: 1168MS-INS/DE/DEP/V112019

2. The University of Melbourne - Medicine and Dentistry Human Ethics Sub-Committee
   Approved: 15th July 2019
   Ethics identification number: 1954731.1

3. MSI Reproductive Choices - Ethics Review Committee
   Approved: 12th August 2019
   MSI Protocol number: 020-19

Members of the National Health Institute - Research Ethics and Technical Committee conducted quality monitoring of the field research in two separate trips, observing three PGDs and two IDIs across two municipalities. Positive and productive feedback was received during and after these monitoring visits.

Written and verbal informed consent was provided by all participants. A plain language information statement was provided to all participants and included contact details for the research team and ethics committees. A minimum age of 18 years and above was required for participation in the research. All data collected was de-identified using participant codes. All research data was securely and safely stored throughout the research process.

The field research team coordinated with the health directors of each municipality selected for the study. The directors were sent formal letters explaining the research, including information on the research locations, implementation dates, ethical approach, and selection criteria for participants.

Verbal permission to conduct the research was also obtained from local community leaders and health facility managers.

Methodology

Our qualitative research study uses an operational, participatory, and collaborative approach, ensuring the people whose lives will be influenced by the research are partners in all research stages - design, implementation, analysis, communication, and action of findings. Collaboration and co-operation occurred throughout the research process. Stakeholders helped determine the research priority areas and study design.

We followed the Médecins Sans Frontières definition for operational research:

‘**the search for knowledge on interventions, strategies and tools that can enhance the quality or performance of programs**’.

Or more simply, ‘**the science of doing better’** [20]

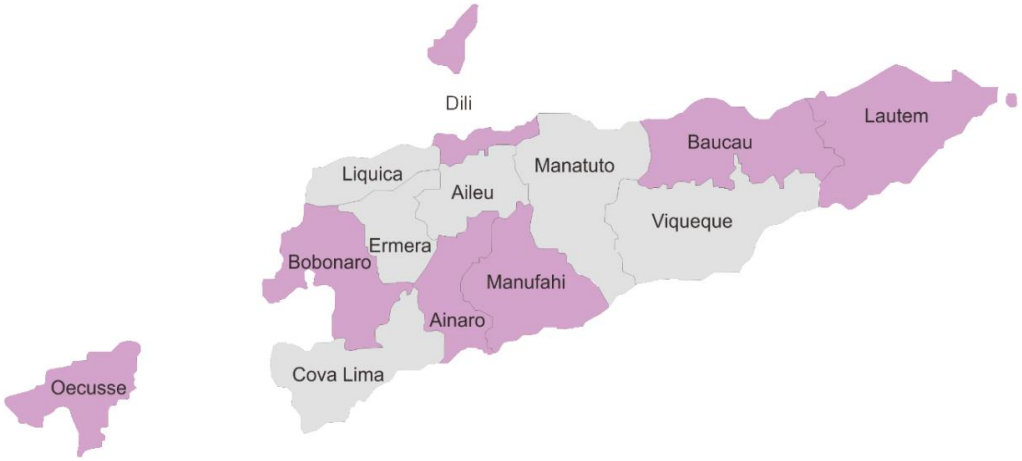
Methods

Methods included individual in-depth interviews (IDIs) with health care providers and participatory group discussions (PGDs) with communities across seven of Timor-Leste’s 13 municipalities.

Setting

The study was undertaken in the municipalities of Ainaro, Bobonaro, Baucau, Dili, Lautem, Manufahi and Oecusse (Figure 1).

Figure 1: Locations selected for this research project (Ainaro, Bobonaro, Baucau, Dili, Lautem, Manufahi and Oecusse)



Study locations were selected based on numerous factors including logistical access, socio-linguistic diversity, recommendations from key stakeholders, and diversity in SRH indicators - including family planning uptake and method-mix (Table 1). Key stakeholders also informed the selection of study sites and the total number of municipalities selected.

In each municipality, research activities were conducted in both urban and rural locations.

Table 1: Key sexual and reproductive health and rights indicators, by municipality [11]

Municipality	Fertility		Contraceptive prevalence rate (any method)	Current use of contraceptives, percent distribution of currently married women aged 15-49 years		
	Total fertility rate	Wanted total fertility rate		Male condom use	Female sterilisation	Any traditional method
Aileu	4.0	3.7	33.3	0.0	0.2	0.5
Ainaro*	5.7	4.1	17.7	0.0	2.1	0.7
Baucau*	4.6	3.8	24.7	0.0	1.8	4.2
Bobonaro*	4.6	3.7	32.0	0.0	2.4	1.6
Covalima	4.2	3.7	32.6	0.0	0.7	0.8
Dili*	3.6	3.1	28.6	0.1	2.8	4.7
Ermera	4.3	3.1	18.5	0.0	0.1	0.3
Lautem*	4.9	4.3	8.2	0.0	0.5	0.0
Liquica	4.4	3.6	28.0	0.0	0.1	0.6
Manatuto	4.6	4.0	21.9	0.0	0.9	0.7
Manufahi*	4.3	3.9	35.9	0.1	0.6	1.8
Oecusse*	4.0	3.7	34.8	0.0	0.9	0.2
Viqueque	4.6	3.6	17.0	0.0	0.2	0.0
National/total	4.2	3.5	26.0	0.0	1.4	1.9

* Locations selected for this research project.

Participatory group discussions with community members

Two PGDs were held in each municipality, in one urban and one rural location. Participants were selected using purposive sampling strategies. This means we carefully selected participant groups based on age, gender and location.

PGD activities were organised by age and gender, to help participants feel comfortable talking about SRH amongst peers of similar age and gender. One of the PGDs (‘Group 1’) in each study municipality focused on having youth participants, aged approximately 18 to 30

years. The second PGD (‘Group 2’) focused on having participants aged approximately 30 years and over.

PGDs involved three key research activities:

1) Body mapping
   This involved participants drawing and making marks about the male and female sexual and reproductive system, family planning methods and side-effects on two blank body templates on A4 sized paper. Body mapping is an effective way to cross language and cultural barriers to gain better insight into participant beliefs and understanding about physiology, reproduction, and family planning methods [21-24]. Please refer to Annex 1 for the body mapping design.

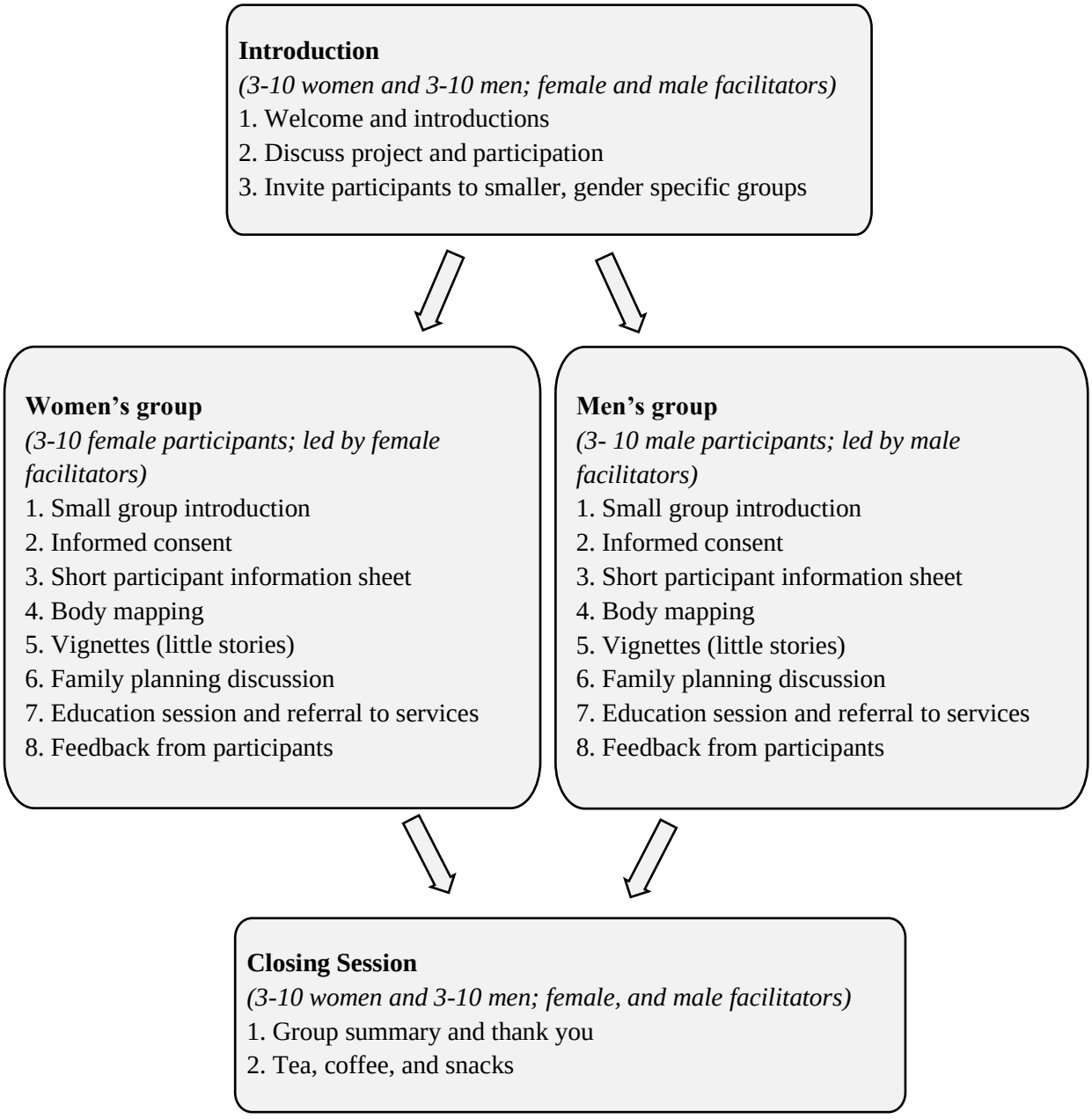
2) Vignettes
   Discussion on culturally appropriate short stories (vignettes) about two fictional couples and their possible use of family planning. One vignette targeted a youth audience (Group 1) and was focused on the prevention of first pregnancy. The second vignette targeted an older audience (Group 2) and was focused on a completed family. Please refer to Annex 2 for details.

3) Facilitated discussion
   Discussion about different family planning methods, using government health promotion resources as prompts. These included a family planning wallchart present at many health facilities, and examples of family planning methods. Please refer to Annex 3 for a copy of the wallchart.

The PGD activities went for between two to four hours each. Participants were encouraged to use the language they felt most comfortable speaking during the PGD activities. The PGD sessions were audio-recorded. The structure of a PGD session is given in Figure 2.

After the PGD research activities were complete, a short education session was offered to all participants in their gender specific groups. Information was provided about SRHR, including a condom demonstration and referrals to access further information and services. Following a standard format, sessions were adapted to suit the needs of each group, directly responding to any myths or misinformation raised during the PGD and any questions asked by participants.

Figure 2: Participatory group discussion structure



In-depth interviews with health care providers

IDIs were held with health care providers working in the same catchment area in which the PGDs were held. Any health care provider who was client-facing and over the age of 18 was eligible to participate. For research purposes, a health care provider was defined as any client-facing public or private provider working at a government health care facility, private or church-run clinic.

IDIs were semi-structured and included elements of open-ended discussion and body mapping activities. The body mapping activities followed the same structure as described for the PGDs above, and also included a second body mapping activity exploring the internal male sexual and reproductive organs. The interviews were mostly conducted in Tetun, Indonesian and English. They lasted between 30 minutes to two hours each, with a median interview time of 65 minutes. They were audio-recorded.

At the end of each interview each participant was provided with national health promotion resources for display at their health facility, including a family planning wall banner, family planning flyers and a copy of the national family planning policy.

Data collection and analysis

Data was collected between August to December 2019. All data collected was de-identified at the point of collection using participant codes. The research data collected in this study included:

- Audio recordings of the 14 PGDs and 24 IDIs;
- Verbatim transcripts of the IDIs;
- Verbatim transcriptions of translated PGDs;
- Completed body mapping images from the PGDs and IDIs; and
- Reflexive field notes taken throughout the research by the field research team.

The PGD audio recordings were verbally translated to English by the multi-lingual field research team. A multilingual panel translation process was conducted to ensure accuracy of translation and meaning. The group translation was audio recorded for future reference. The MSTL professional translator provided support on an as-needs bases. The translated findings were then transcribed verbatim in English.

The IDI audio recordings were transcribed verbatim in Tetun, and then translated into English by a professional translator. The multi-lingual field research team validated the accuracy of translation and discussed the findings as a group.

The research findings were analysed using thematic and content analysis and coded to enable comparison and contrast across IDIs and PGDs. A series of categories and themes were identified by the field research team. Findings were triangulated across sites, methods and available literature. Computer software (NVivo) was used to aid the analysis and organisation of research data collected.

Findings

IDIs were held with 24 health care providers (16 women, 8 men; aged 25 to 56 years) working in our seven study municipalities. A total of 15 midwives, four doctors, three nurses, and two counsellors were involved. All midwives in our study were female. Participants came from diverse cultural and socio-economic backgrounds, as given in Table 2.

Two to seven providers were interviewed from each municipality. The largest number of participants per municipality came from Dili. This is because Dili has the largest population, the largest number of health care facilities, and the highest level of care health facility in the country, the Guido Valadares National Hospital.

Table 2: Socio-demographic background of IDI participants

	Ainaro	Baucau	Bobonaro	Dili	Lautem	Manufahi	Oecusse	Total
Number of participants	3	3	3	7	2	3	3	24
Gender								
Female	2	3	2	3	2	1	3	16
Male	1	0	1	4	0	2	0	8
Age range (years)	29 - 56	29 - 36	35 - 47	26 - 48	25 - 28	31 - 46	31 - 45	25 - 56
Median age (years)	38	32	44	36	26.5	37	37	36.5
Location								
Rural	1	2	1	1	1	1	2	9
Urban*	2	1	2	6	1	2	1	15
Profession								
Midwife	2	3	2	3	2	1	2	15
Nurse	1	0	0	2	0	0	0	3
Doctor	0	0	0	1	0	2	1	4
Counsellor	0	0	1	1	0	0	0	2
Years of professional service								
0 – 5	1	0	0	2	2	1	0	6
6 – 10	1	2	1	1	0	1	2	8
11 – 15	0	1	0	2	0	0	0	3
16 +	1	0	2	2	0	1	1	7
Marital status								
Married	3	3	3	5	1	2	3	20
Single	0	0	0	0	1	0	0	1
Divorced	0	0	0	1	0	0	0	1
Living with partner	0	0	0	1	0	1	0	2
Number of living children – median (range)	1 (0 – 6)	4 (2 – 4)	4 (2 – 4)	2 (1 – 5)	1 (0 – 2)	3 (1 – 3)	2 (2 – 5)	2 (0 – 6)
Self-identified kinship system								
Matrilineal	1	1	2	1	0	2	0	7
Patrilineal	2	2	1	5	2	1	3	16
Other	0	0	0	1	0	0	0	1

* Includes mobile health providers working in both rural and urban settings

PGDs involved 175 participants (91 women and 84 men; aged 18 to 72) through 14 separate PGD sessions. Participants came from diverse cultural and socio-demographic backgrounds (Table 3).

Table 3: Socio-demographic background of PGD participants

	Group 1 participants (Younger group)		Group 2 participants (Older group)		Total participants
	Women	Men	Women	Men	
Total number of participants	43	43	48	41	175
Municipality					
Ainaro	5	9	7	8	29
Baucau	5	4	5	5	19
Bobonaro	7	6	10	8	31
Dili	6	4	6	3	19
Lautem	9	6	7	5	27
Manufahi	3	6	7	6	22
Oecusse	8	8	6	6	28
Location – number (percent)					
Rural	13 (30)	19 (44)	29 (60)	23 (56)	84 (48)
Urban	30 (70)	24 (56)	19 (40)	18 (44)	91 (52)
Median age (years)	19	23	33	31	25
Age range (years)	18 – 26	18 – 33	19 – 72	19 – 59	18 – 72
Education - number (percent)					
No formal education	1 (2)	1(2)	0 (0)	3 (7)	5 (3)
Primary school	0 (0)	0 (0)	9 (19)	6 (15)	15 (9)
Secondary school	35 (81)	31 (72)	37 (77)	23 (56)	126 (72)
Vocational	3 (7)	0 (0)	0 (0)	1 (2)	4 (2)
University	4 (9)	11 (26)	2 (4)	8 (20)	25 (14)
Marital status - number (percent)					
Married	2 (5)	6 (14)	36 (75)	34 (83)	78 (45)
Single	39 (90)	37 (86)	2 (4)	7 (17)	85 (48)
Divorced	1 (2.5)	0 (0)	2 (4)	0 (0)	3 (2)
Living with partner	1 (2.5)	0 (0)	8 (17)	0 (0)	9 (5)
Employment - number (percent)					
Student	23 (53)	12 (28)	0 (0)	2 (5)	37 (21)
Unpaid household	4 (9)	0 (0)	29 (65)	0 (0)	33 (19)
Volunteer	14 (33)	18 (42)	11 (23)	12 (29)	55 (31)
Agriculture	0 (0)	5 (12)	0 (0)	19 (46)	24 (14)
Private sector	0 (0)	0 (0)	1 (2)	4 (10)	5 (3)
Government sector	2 (5)	3 (7)	7 (10)	4 (10)	16 (9)
Unemployed	0 (0)	5 (12)	0 (0)	0 (0)	5 (3)
Number of living children – median (range)	0 (0 – 1)	0 (0 – 4)	3 (0 – 8)	2 (0 – 9)	1 (0 – 9)
Self-identified kinship system – number (percentage)					
Matrilineal	10 (23)	7 (16)	17 (35)	10 (24)	27 (25)
Patrilineal	33 (77)	36 (84)	30 (63)	31 (76)	63 (74)
Other	0 (0)	0 (0)	1 (2)	0 (0)	1 (<1)

We present our key findings under the five research questions.

Question one: How do men and women plan their families in Timor-Leste?

- What influences the decision about when to have children and how many
- Understanding and knowledge about fertility
- Sources of information about preventing pregnancy or planning a family

What influences the decision about when to have children and how many

Most PGD participants spoke about having children as an expectation or duty, rather than a choice. This was often framed around the need for having children, referred to by many participants as 'generation'. For example:

> *"Their future is to have a child. The plan is how many children they have. People must have children" (Female Group 2 PGD participant, 29 years old, urban location)*

> *"About our culture, we need to have children to continue our generation" (Male Group 2 PGD participant, 20 years old, urban location)*

The decision about when to have children was discussed as something that ideally happens between a husband and wife, as a joint decision. However, many PGD participants described that in reality this decision was often based on what the husband or man wants. For example:

> *"If he wants to have children, the woman needs to follow" (Female Group 2 PGD participant, 27 years old, urban location)*

> *"When the two have decided not to have another child, it's the man's decision, because me as the man, I make the decision" (Male Group 2 PGD participant, 37 years old, rural location)*

Other factors influencing the decision to have children included the role of the parents' in-law and socio-cultural expectations. This was mostly discussed around the expectation that a woman's role is to produce children and that having many children is preferred. For example:

> *"It's the Timor custom that the Grandma and Grandpa should also be asked [*about having more children*]. They are important, because sometimes when people use family planning, they will get angry. They will say we paid for many children." (Male Group 2 PGD participant, 20 years old, urban location)*

> *"The man has married the woman, so the women should have babies. It's her role to have babies and stay at home" (Female Group 2 PGD participant, 22 years old, rural location)*

Other considerations influencing the decision about how many children to have included:

- Health of the mother;
- Health of the children;

- Maternal age of the woman (not being too young or too old);
- Having sufficient financial income to sustain the family;
- Land ownership and land size;
- Opportunity for the children to attend school; and
- The parents having enough time, love and happiness to look after the family.

Several PGD participants spoke about the need to balance the sexes when making decisions about the number of children, to have an equal number of sons and daughters. These findings support other studies conducted about reproductive health in Timor-Leste, and may be a reflection on traditional practices of Barlake, or bride-price [25]. For example:

> *"If three boys then also need three girls. This is so they can support each other. If one sister has five buffalo, then that's fifteen Buffalo then it's easy to support the brothers" (Male Group 2 PGD participant, 32 years old, rural location)*

However, it was also discussed by many PGD and IDI participants that pregnancy can happen unplanned. These discussions were focused on three types of pregnancies: 1) married couples who had surprise pregnancies; 2) younger people who were not married; and 3) pregnancies resulting from extra-marital affairs. For example:

> *"We have early pregnancy. Young people, high school students. There are young girls in high school who are pregnant and we don't know who the fathers are. We ask for the name, they don't know. We ask where does he live, they don't know. So we don't know what to say" (IDI participant, midwife, 29 years old, urban location)*

Understanding and knowledge about fertility

Overall understanding about fertility was limited within the PGD groups. Most participants who described the ability of a couple to have a pregnancy or not described it being solely influenced by the woman's body. Factors influencing a woman's fertility and ability to have a child were described broadly and generally around a woman's health, body, and maternal age (i.e. not being too old). For example:

> *"Having a child, it's up to the woman. If her body is good or not" (Female Group 2 PGD participant, 36 years old, rural location)*

> *"Fertility, it depends on the woman's genetics. If she is old or has a weak uterus. Men can always have baby" (Female Group 2 PGD participant, 21 years, urban location)*

Very few participants spoke about the role of men's fertility influencing the ability of a couple to become pregnant and have healthy children. When male fertility was discussed, it was mostly in regard to sperm and sperm health.

The age of the man (not being too old), along with social and behavioural influences, such as drinking and smoking, were described by these few participants as having an influence on sperm strength, sperm health and male fertility. Three participants spoke about the importance of blood health and kidney health as influencing fertility for both men and women. Two participants identified the ribs as having an important role in men's fertility. For example:

> *"It's because in younger men, like twenty-eight, the sperm is stronger. Pregnancy can happen. Because older than sixty, they are old already, and the sperm is weak" (Male Group 1 PGD participant, 23 years old, urban location)*

> *"If they don't look after themselves, their sperm will not be good. It's good when they look after themselves. When they eat good food, not drink alcohol, when they have sexual relations, their sperm will be good" (Female Group 1 PGD participant, 22 years old, rural location)*

> *"If no kidneys or bad kidneys, and having sexual relations, no sperm will come and cannot have children. For some men, their kidneys are bad and they cannot have generation [*children*]" (Male Group 2 PGD participant, 45 years old, rural location)*

Several younger participants in Group 1 (less than 25 years of age) were not aware or able to describe how pregnancy happens, and if or how it could be prevented. In these instances, pregnancy was discussed as something that automatically happens after a couple is married and living together.

Understanding and knowledge of fertility was also diverse amongst IDI participants. While some participants could accurately describe factors that influence fertility, this again was mostly focused on female fertility. A few IDI participants described the ability of men to produce sperm across the lifespan but there was limited discussion about sperm quality or health. For example:

> *"Men will continue to produce sperm until he dies, unless he has diseases or an accident. So he can always have baby" (IDI participant, male nurse, 26 years old, urban location)*

Sources of information and support about preventing pregnancy or planning a family

Decisions around preventing pregnancy or planning a family are influenced by access to trusted sources of information and support. PGD participants identified numerous sources of information about preventing pregnancy and planning a family based on their gender and age groups. The male PGD groups identified more sources of information than their female peers.

The younger groups (Group 1) identified more sources of information than the older groups (Group 2). Refer to Table 4.

Table 4. Source of information about preventing pregnancy or planning a family, by PGD participant group

PGD Female Group 1 (younger group)	PGD Male Group 1 (younger group)	PGD Female Group 2 (older group)	PGD Male Group 2 (older group)
Boyfriend	Girlfriend	Husband	Wife
*Female friends**	Male friends	Female friends	Male friends
*Midwife**	Female friends	Midwife	Female friends
*Doctor**	Mother	Doctor	Midwife
Health centre	Father	Health centre	Nurse
Traditional healer	Older brother	Traditional healer	Doctor
*Mother**	Midwife		Health centre
Auntie	Nurse		Pharmacist
Older sister	Doctor		Traditional healer
MSTL youth hotline	Health centre		Health organisation
Health organisations	MSTL youth hotline		
Teacher	Health organisations		
Internet	Teacher		
Social media	Internet		
Television	Social media		
	Television		
	Radio		
	Newspapers		

**Identified by participants as both helpful and possibly harmful sources of information about preventing pregnancy or planning a family*

All the PGD groups described health providers as the first most important source of information, outside the partner relationship. Asking for information from a health provider of the same gender was identified as appropriate and most comfortable by all groups. For example:

> *"It's easier for women to speak with women. Women are more comfortable to talk about their problems with other women. With a male doctor they won't feel free to talk, they might hide something because they feel shy" (Female Group 2 PGD participant, 25 years old, urban location)*

> *"He is a man, so should speak with a male nurse, or a male doctor… because sexual and reproductive health is sensitive. So if a man speaks with a women he will feel shy, so better he speaks with a man'' (Male Group 2 PGD participant, 39 years, rural location)*

However, the ideal or preferred source of information was discussed as not always being possible. For example, the choice or preference of health provider would be limited if there was only one provider available at a health facility.

Participants of all genders and ages also identified general fear and shyness in visiting a health centre. For example:

> *"Not many people will go ask about this, people will feel shy to go to the health facility and ask for this" (Male Group 1 PGD participant, 23 years old, rural location)*

> *"If a woman comes and there is only a male doctor, she will need to come back another day. Or if she is brave, so can meet with a male doctor. He can treat her and give drugs, but she will be shy to talk about her body and maybe there will be problems with the husband, if he doesn't understand" (Male Group 2 PGD participant, 27 years old, rural location)*

Some identified sources of information also posed risks for the individual asking for information about preventing pregnancy or planning a family. For example, while female friends were identified as a source of information for younger women, they were also identified as a possible risk to reputational damage, through gossip or inability to maintain privacy. Additionally, while mothers, midwives and doctors were identified as being supportive and good sources of information for younger women, they were also identified as being inappropriate and possibly harmful information sources. Possible ramifications for a young woman asking midwives and doctors for information about preventing pregnancy or planning a family included shame, discrimination, and lack of privacy. Possible ramifications for a young woman asking her mother for information included shame, isolation, withdrawal of financial support and physical violence from within the family. For example:

> *"It's complicated. Some mothers are supportive, some aren't. Maybe they can kill you. It's especially harder for the girl child. Some brothers will beat up the girl for talking about this. It's the culture of Timor" (Female Group 1 PGD participant, 18 years, rural location)*

Fathers and older male family members were not identified as a possible source of information by any younger female participants.

Fathers were identified as possible sources of information for young men. However, participants discussed that in reality this was difficult and wouldn't often happen due to embarrassment, shyness or lack of information. For example:

> *"Young men, they are not getting information from their fathers and they are too afraid and shy to ask. They won't ask their father or their teachers and neither will young women" (Male Group 1 PGD participant, 23 years, urban location)*

IDI participants identified similar sources of information about preventing pregnancy or planning a family as PGD participants. However, most health providers participating in the IDI's said that they had never shared information about family planning with young people,

because young people had never asked them or visited their health facility. While most said they would share information about contraception and SRH with a young person if asked, two providers (one counsellor, one midwife, both over 35 years) said they would not share that information with a young or unmarried person, even if they were asked.

In contrast, four providers (one midwife and two nurses under 35 years, one nurse over 35 years) discussed regularly providing information about preventing pregnancy or planning a family to young people as part of their health provider duties. These four providers described sharing information at health facilities, in the community, and in their personal circle of friends, family and neighbours.

IDI participants also raised concerns about the quality and accuracy of health information shared online and in the media, as discussed further in question four.

Question two: What are community beliefs and understanding about male family planning methods in Timor-Leste?

- Awareness of family planning methods
- Understanding and knowledge about anatomy and physiology
- Understanding and beliefs about male family planning methods
- Understanding about side-effects of family planning methods

Awareness of family planning methods:

Most PGD participants were able to identify and describe at least one method of family planning during the body mapping exercises. The most common method identified by all participants was the injectable contraception (62 percent), followed closely by the contraceptive implant (61 percent) and male condoms (59 percent).

There was a notable difference in awareness of methods between genders and age groups. The female participants in Group 2 (older group) were able to identify and describe the greatest number of female methods of family planning overall and male condoms. The younger female group, Group 1, had the lowest percentage of participants able to identify and describe male condoms. The two male groups were able to identify and describe vasectomy and withdrawal methods slightly more times than their female peers of similar age.

Abstinence and other fertility awareness methods were identified as both male and female methods by some participants. However, overall, both male and female participants associated these methods predominantly as only a female method of family planning and not associated with men. Refer to Table 5 for details.

Overall awareness of male methods of family planning was low. More than a third of PGD participants weren't aware of any male methods of family planning. For example:

> *"Women use KB [*keluarga berencana; family planning*], men are free" (Male Group 2 PGD participant, 27 years old, rural location)*

> *"I'm confused. I don't think a man can use family planning… can a man use family planning? I think only women use this" (Female Group 2 PGD participant, 50 years old, urban location)*

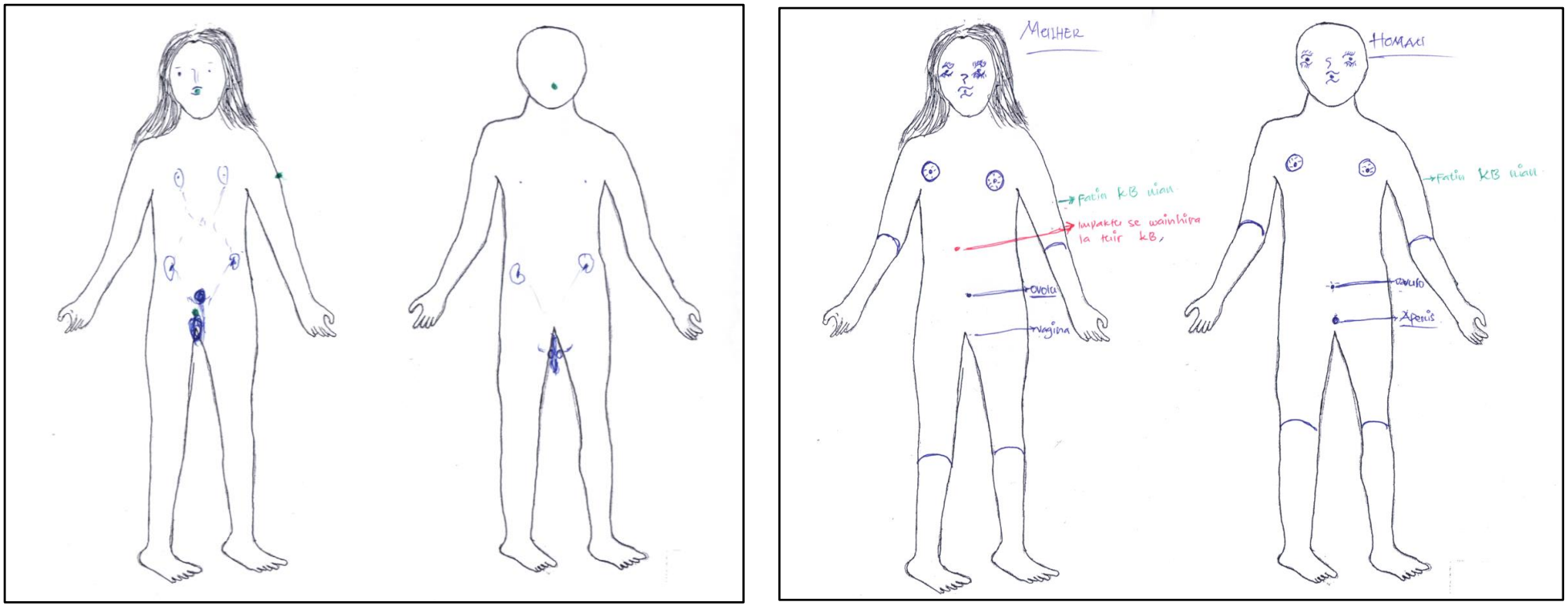
Understanding and knowledge about male and female anatomy and physiology

The body mapping activity conducted within the PGD groups also provided insights about participant's beliefs and understanding about SRH anatomy and physiology.

Some valuable insights gained through this method include:

- Similar to previous studies, the knees were identified by several participants as a site of spermatogenesis [21]. Two participants in this research also identified the elbows as a site for spermatogenesis, working in conjunction with the knees.
- The kidneys were identified by three participants in different PGD groups as important SRH organs. The kidneys were described as playing a primary role in sperm production and maintaining blood health.
- Many participants spoke about individual blood health and blood matching between partners as being important factors for conception to occur.
- The ribs were identified by two participants in separate PGDs as important SRH organs on the male body, playing a role in men's health and men's fertility.
- Numerous female PGD participants described the shape and size of a man's ears as an important indicator of a man's attractiveness and health as a possible partner.
- The navel or belly button was frequently identified and drawn by most participants as an SRH body part without function. Some participants described the shape of the female navel (pointing in or out) being an indicator of having a boy or girl during pregnancy. One male participant described the male navel as playing a role in a man's ability to hold an erection.
- The vagina was described using many different names, in different languages. This included vagina, the woman's sacred place, the woman's part, the woman's flower, the door for the baby, the baby place, goat meat, and derogatory alternatives of vagina. There was no distinction between vulva or vagina in any body maps drawn.
- The function of the vagina was described most frequently as the place of urination, sexual relations and where the baby comes from. About one-fifth of participants, mostly female, also identified it as the place for menstruation. Several men described the vagina as dangerous or dirty, as a place for spreading disease.
- The penis was described using many different names, in different languages. This included penis, stem, bird, man's part, the man's sacred place. Several men described the penis as 'god' or 'god's things'. One female participant called it the 'abuser'.
- The function of the penis was described most frequently as the place for sexual relations.
- Arousal and pleasure was discussed more openly and more frequently in reference to the male body than the female body. The female clitoris was described by four participants.

Figure 3: Examples of PGD body map images



(A) (B)

Description: Two body map images describing the female and male sexual and reproductive organs in blue; types and function of contraceptive methods in green; and perceived side-effects of contraceptive methods in red.

Body map (A) describes the placement and importance of the kidneys and their influence on blood flow and fertility for both men and women. *(Male group 2 PGD participant, 45 years old, rural location)*

Body map (B) identifies the contraceptive injectable as a method of family planning that both women and men can use in the upper arm. *(Female group 1 PGD participant, 19 years old, urban location)*

Table 5. Number and (percent) of PGD participants who identified specific methods of family planning during body mapping activities

	Group 1 Participants (Younger group)_		Group 2 participants (Older group)		Total Participants N = 175
	Male N = 43	Female N = 43	Male N = 41	Female N = 48	
Accurately identified male methods of family planning – number (percent)					
Male condoms	28 (65)	18 (42)	26 (63)	32 (67)	104 (59)
Vasectomy	3 (7)	2 (5)	5 (12)	2 (4)	12 (7)
Withdrawal	15 (35)	8 (19)	11 (27)	3 (6)	37 (21)
Abstinence	0 (0)	1 (2)	3 (7)	1 (2)	5 (3)
Other natural family planning methods*	0 (0)	0 (0)	0 (0)	3 (6)	3 (2)
Inaccurately identified or ambiguously described male methods of family planning – number (percent)					
Oral contraceptive pill	1 (2)	0 (0)	1 (2)	2 (4)	4 (2)
Injectable contraceptive	0 (0)	2 (5)	0 (0)	2 (4)	4 (2)
Contraceptive implant (in arm)	1 (2)	1 (2)	0 (0)	0 (0)	2 (1)
Penile implant	1 (2)	0 (0)	0 (0)	0 (0)	1 (<1)
Masturbation before sexual relations	1 (2)	0 (0)	0 (0)	0 (0)	1(<1)
Accurately identified female methods of family planning – number (percent)					
Contraceptive implant/implant in the arm	16 (37)	26 (60)	28 (68)	37 (77)	107 (61)
Oral contraceptive pill	9 (21)	12 (28)	20 (49)	37 (77)	78 (45)
Intrauterine device (IUD)	8 (19)	15 (35)	16 (39)	32 (67)	71 (41)
Injectable contraceptive/ injectable in the arm or hip	15 (65)	26 (60)	25 (61)	42 (88)	108 (62)
Female condom	3 (7)	4 (9)	3 (7)	3 (6)	13 (7)
Tubal ligation	6 (14)	5 (12)	2 (5)	3 (6)	16 (9)
Abstinence	5 (12)	12 (12)	5 (12)	1 (2)	23 (13)
Lactational Amenorrhea	1 (2)	1 (2)	0 (0)	1 (2)	3 (2)
Other natural family planning	5 (12)	3 (7)	7 (17)	9 (19)	24 (14)
Inaccurately identified or ambiguously described female methods of family planning – number (percent)					
Traditional medicine – flowers, herbs, bark	1 (2)	0 (0)	0 (0)	1 (2)	2 (1)
Saliva on the stomach	0 (0)	0 (0)	1 (2)	0 (0)	1 (<1)
Contraceptive pill in the vagina	1 (2)	0 (0)	0 (0)	0 (0)	1(<1)
Something in the vagina	3 (7)	0 (0)	0 (0)	0 (0)	3 (2)
Injection in the vagina	0 (0)	0 (0)	1 (2)	0 (0)	1(<1)
'AIODI' device swallowed once per month	0 (0)	0 (0)	0 (0)	1 (2)	1(<1)
Can use medicine	0 (0)	0 (0)	0 (0)	1 (2)	1(<1)

*Billings ovulation method, calendar, and other fertility awareness methods

Understanding and beliefs about male family planning methods

Male condom

Many participants (59 percent) could draw, identify and/or talk about the male condom during body mapping activities. The older female PGD groups had the highest percentage of participants able to identify and describe the male condom (67 percent) while the younger female group had the lowest percentage of participants able to identify and describe the male condom (42 percent).

However, of the participants who did identify and describe the male condom, most described it in a way that was separate and different from other methods of family planning. For example:

> *"Men only use a condom. Not KB" (Female Group 2 PGD participant, rural location)*

> *"We can use condom but not family planning. Where would we put it in our body because men can't get pregnant and give birth" (Male Group 2 PGD participant, 42 years old, rural location)*

Further, many participants talked about male condoms as either a way to prevent pregnancy or a way to prevent disease transmission. For example:

> *'Speaking about condoms, I think they only prevent disease. If people want to prevent having a baby, then need to go to Marie Stopes or a health facility to ask about access to KB' (Male Group 2 PGD participant, 27 years old, rural location)*

Only one third of participants who identified the male condom were able to describe the dual function of a condom as both preventing pregnancy and preventing spread of STIs.

Most of the discussion about STIs was focused on HIV and Acquired Immune Deficiency Syndrome (AIDS). Significant misinformation and confusion existed about what STIs are and how they are transmitted. Many participants described STIs as something that can always be seen on an individual. Some disorders and diseases that are not sexually transmitted were also described by some participants as being STIs, for example epilepsy. Further, STIs were most often described by participants as being transmitted from women to men. For example:

> *"In this community many women have disease and they will give it to men who are not careful" (Male Group 2 PGD participant, 30 years old, rural location)*

There was also widespread misinformation about the use of condoms, with PGD participants describing incorrect use of condoms and describing inaccurate efficacy, far greater than real efficacy.

When male condoms were shown to all participants and discussed in the final PGD activity about family planning, the response and reaction by participants was diverse. Some participants spoke openly and positively about the purpose and benefits of condoms. However, many spoke in a way to suggest that condoms were negative and taboo, often describing the people who use them in stigmatising or negative language. Refer to Table 6.

Table 6. PGD participant descriptions about condoms and the people who use condoms.

	Condoms are:	People who use condoms:
Supportive or positive describers	Good Interesting Prevent disease Protect the body Reduce stress Prevents the destruction of a young woman's life	Have knowledge about health Love their partners Respect their partners Respect themselves All men can use condoms
Unsupportive or negative describers	Bad Dirty Spread disease Are against God Unreliable Reduce pleasure Cause stress Kill babies Unnatural	Naughty Are dirty Untrustworthy Cheaters Do not love their partners Have no respect Only single men can use Only married men can use

Vasectomy

Only 12 (eight men and four women) of the 175 community participants had prior awareness about vasectomy, as discussed through their body mapping designs and verbal explanations. Two of these participants referred to it as vasectomy. The rest called it either cut, tie, male tubal ligation or sterilisation.

Among these 12 participants, the understanding and description of vasectomy varied. Some descriptions included regulation of sperm production or movement. For example:

> *"Tie the testicles. Our sperm comes from the testicles, so if we tie in the tube that links to the penis then the sperm cannot leave" (Male Group 1 PGD participant, 26 years old, rural location)*

Others described vasectomy in terms of castration, circumcision, removing the testicles entirely or it being the process of becoming a woman.

The inability to have sexual relations after having a vasectomy was described by more than half of the 12 participants who had prior knowledge of the method. For example:

> *"The penis will no longer function. Even if a woman is naked in front of you, and she wants to have sex, a man will do nothing because it doesn't function, the power is gone. There is no more sperm" (Male Group 2 PGD participant, 45 years old, rural location)*

> *"One of my friends said now he is like a woman because he can't get an erection. Because he did this thing" (Male Group 2 PGD participant, 56 years old, rural location)*

When describing vasectomy to all participants during the final PGD activity - the family planning discussion - participants provided a diverse range of initial responses and comments. This ranged from expressing feelings of surprise, happiness, excitement, fear, anger, confusion and disbelief (Table 7).

The idea of vasectomy being a permanent method was overall not well understood by many participants during this activity, with the assumption that fertility could be returned by eating certain foods or asking a health provider for support.

Table 7: PGD participant reactions to learning about vasectomy.

	Example of participant reactions
Disbelief or surprise	*"KB is to give spacing, not to stop having children. There is no way to stop totally" (Male Group 2 PGD participant, 32 years old, rural location)*
Supportive or positive reactions	*"I think if a man ties this, it's good. I never knew about this. This is good. A woman can rest, because having children is not easy" (Female Group 2 PGD participant, 29 years, urban location)*
Unsupportive or negative reactions	*"It's my first time to hear about this and I don't feel happy about it. Why destroy our things? If we take the engine out, how will the car go? It's better for the woman to use KB" (Male Group 2 PGD participant, 49 years old, rural location)*

Withdrawal

21 percent of PGD participants identified withdrawal as a male method of family planning during body mapping activities. Twice as many male participants were able to describe it compared to female participants.

The majority of participants referred to withdrawal as fakar sai (spill out). There were many other terms and language used including coitus interruptus, spill outside, exit outside, shoot out, cannot enter, and shoot the wall. Kompriende malu (understand each other) and kontrola aan (control yourself) were also terms used by some participants to describe withdrawal.

These terms were also used to describe abstinence and other fertility awareness methods, highlighting the need for specific and clarifying language when discussing natural methods of family planning.

Of the participants who spoke about the withdrawal method, most spoke in a positive way, describing it as an easy method that people of all ages can use independently, without needing to go to a health facility. However, several female participants did describe the method as having side-effects on men's pleasure, health, and sleep. For example:

> *"My male friends have told me that if they have sexual relations, if they always take it out, they spill outside, it will have an impact on their body. Their body will not be good if they use withdrawal, they will lose weight and feel sick" (Female Group 1 PGD participant, 18 years old, rural location)*

Importantly, while some participants could accurately describe the efficacy and risks involved in using the withdrawal method, most could not. Many younger participants incorrectly described it as being highly effective or even guaranteed to prevent pregnancy.

Abstinence

Abstinence was talked about more often as a female method of family planning than a male method. During body mapping activities, 13 percent of participants identified abstinence as a female method of family planning, while only three percent of participants identified it as a male method of family planning.

During the vignette activity, participants mostly spoke about abstinence as being led or controlled by women. While some participants spoke about men playing a supporting or understanding role in practising abstinence, most described men as lacking control or ability to practice abstinence and the need for women to be responsible for ensuring it happens. For example:

> *"Carlos is a man, so like a dog. If you are hanging meat low, it is easy to eat. If hanging high then it's hard to eat. He thinks to move on" (Male Group 1 PGD participant, 18 years, urban location)*

While most participants discussed abstinence as a good method, especially appropriate for young people, they also acknowledged that it wasn't always possible in practice. The difference between having an 'ideal plan' for abstinence versus 'reality' was described by participants of all genders and ages across the PGD activities. Reasons about why abstinence couldn't always be followed included: uncontrollable desire between a couple; the perceived high sexual needs of men; and the inability of women to negotiate or decline sexual relations with their partners, especially if a man had been drinking alcohol. For example:

> *"For me, I think it's good for people who know how to control themselves. But for many people, most people, when desire comes they will lose control. For those people natural methods are dangerous" (Female Group 1 PGD participant, 18 years, rural location)*

*"Men have more desire because they have… when their reproduction [*penis*] is up, what men want always comes first. Some just force it. If wanting it or not, it's the woman's obligation follow the man" (Female Group 2 PGD participant, 35 years old, rural location)*

"If men are drunk they cannot follow the path. Women have no choice, they cannot say no" (Male Group 2 PGD participant, 37 years old, rural location)

Other natural family planning methods

Participants described other natural family planning methods, including fertility awareness methods based around the menstrual cycle. These were usually described in the context of female methods of family planning, that women had to manage or teach their male partners about. However, correct knowledge and understanding of fertility and the menstrual cycle was limited and mostly inaccurate amongst both male and female participants of all ages.

Further, when discussing natural family planning methods more broadly, many participants described it as a way to help having children rather than a method for prevention. For example:

*"It [*natural family planning*] is about how to get a child. When somebody wants to hear about family planning, they are curious to learn about natural family planning. To have a baby" (Male Group 1 PGD participant, 22 years old, urban location)*

Other methods of male family planning

Several participants identified and spoke about methods of family planning for a man to use that currently do not exist or are not available, including male oral contraceptive pills, male implants and male injectables.

Several participants also spoke about traditional methods of family planning, although this was more focused on female use:

"For what I think they can speak with others who already know about KB. In Timor, I think some mothers know about how to spit or put saliva on the stomach so that they can have sexual relations and not get a child. It's better to speak with the mothers" (Male Group 2 participant, 42 years old, rural location)

Understanding about side-effects of family planning methods

Participants had diverse awareness and understanding of real and perceived side-effects from using contraception. These side-effects were described as influencing which method might be appropriate or not for a person to use. These are described in Table 8.

Table 8. Real and perceived side-effects from use of different family planning methods, as described by PGD participants

	Accurately identified or described side-effects	Inaccurately identified or described side-effect
Male condoms	○ Risk of allergic reaction ○ Risk of pregnancy when used incorrectly	○ Causes disease ○ Spreads disease ○ Kills babies ○ Causes promiscuity ○ Causes cheating ○ Less pleasurable for men^
Vasectomy	○ Possible infection ○ Risk of pregnancy	○ Erectile dysfunction/impotence ○ Loss of physical strength ○ Mental health problems ○ Loss of masculinity ○ Death ○ Easily reversed ○ 100 percent efficacy
Withdrawal	○ Risk of pregnancy	○ Less pleasurable for men ^ ○ Impacts male sleep ^ ○ Waste of sperm ○ Kills babies ○ 100 percent efficacy
Abstinence	○ Can be difficult to follow, especially long-term.	○ Impacts male sleep ^
Natural family planning	○ Risk of pregnancy	○ 100 percent efficacy
Family planning - general	○ Risk of pregnancy	○ Promiscuity ○ Cheating ○ Getting disease ○ Divorce/separation ○ Weakens male sperm ○ Death of unborn child
Female methods of family planning (IUD, implant, injectable, female condom, oral contraceptive pill, sterilisation)	○ Changes in weight, skin, menstrual cycle, or mood of female users. ○ Women will experience side-effects differently. ○ Cancer*	○ Children born with disability ○ Death of female user ○ Miscarriage ○ Infertility ○ Cancer*

^ We acknowledge these side-effects are subjective and could be considered as accurate by some.

* Research about combined oral contraceptives can be difficult to interpret. While it is possible that some users may be at slightly higher risk of certain cancers, users also have long-term protection from other types of cancer [2]. However, participants in this study identified cancer as a side-effect of numerous methods of female contraceptive methods, including those in which no association to cancer has been found.

Question three: What are health care provider beliefs, understanding and experiences of service provision for male family planning methods in Timor-Leste?

- Motivation to become a health care provider
- Training and experience in family planning service provision
- Knowledge and beliefs about physiology and family planning methods
- Knowledge and understanding about side-effects of family planning methods
- Understanding about health policies, guidelines and laws related to SRHR

Motivation to become a health care provider

IDI participants had diverse motivations for training to become health providers, including altruistic, financial, and logistical.

Several participants pursued careers in health to support their family, community and country achieve better health outcomes. For example:

> *"I decided to become a midwife when I was young, because I saw my mum giving birth by herself. She was all alone, and very strong, but it was then I decided I wanted to help women while they give birth. So I studied and worked hard to become a midwife" (IDI participant, midwife, 36 years old, rural location)*

The impact of Indonesian occupation[2] was an important influence for several participants, with many recalling the loss of family members and friends due to lack of access to quality and appropriate medical care. For example:

> *"My father died at home. He wasn't well but it was during Indonesian times so we didn't take him to the hospital because we were afraid they would torture him. So he died at home. That's why the family said one of us had to become a nurse, had to become a health provider, so we could look after our family. That's why I became a health provider" (IDI participant, midwife, 39 years old, rural location)*

Most midwives participating in the IDI's spoke passionately about becoming a midwife to help mothers and babies during pregnancy and birth. For example:

> *"I was motivated to become a midwife to help mothers and children" (IDI participant, midwife, 29 years old, urban location)*

The availability of student scholarships and stable work was a motivator for several providers.

[2] Timor-Leste was occupied by Indonesia from 1975-1999. Details on the history of Timor-Leste can be found on the Government of Timor-Leste's website: http://timor-leste.gov.tl/?p=29&lang=en

Training and experience in family planning service provision

Health providers participating in the IDI's had various levels of training in SRH, ranging from short courses and diplomas, to post-graduate specialist training. Their training was completed in Timor-Leste and overseas (Cuba, Indonesia, Malaysia, Australia, and some other pacific island nations).

In-service clinical training completed within Timor-Leste was also diverse, with participants participating in training led or organised by national and international trainers and programs.

All participants had experience providing family planning services. Most participants interviewed were focal points for family planning at their health facility. Six participants directly provided family planning services as well as leading or supporting family planning training initiatives to other health providers in Timor-Leste.

While some participants had experience providing family planning services to women, men and couples, most participants described attending mostly or only female patients. Some female participants had never provided SRH services to any male patients.

Some participants had never provided family planning services to a young person (described loosely by participants as people under 20, 25 or 30 years) or single people. Only one provider discussed providing family planning and SRH services to transgender people.

Just one participant had direct experience providing vasectomy services, while completing medical training overseas. Two participants had indirect experience and exposure to vasectomy services provided in Timor-Leste, through the female partner of the vasectomy user. For example:

> *"Yeah, I know about this vasectomy because his wife was my patient" (IDI participant, midwife, 47 years old, urban location)*

Knowledge and beliefs about physiology and family planning methods

Twenty IDI participants completed body mapping activities. Most participants were able to identify many female methods of family planning currently available in Timor-Leste. However, no one participant could identify and describe all the female methods currently available.

During body mapping activities, only five IDI participants identified abstinence, billings ovulation method, and other fertility awareness methods as methods of family planning. Similar to PGD participants, IDI participants identified these methods more frequently as female methods of family planning (25 percent), compared to male methods of family planning (five percent).

The withdrawal method of family planning was identified and discussed by two participants in the external body mapping activities, and by only one health care provider during the internal body mapping activities. Most IDI participants identified the male condom and vasectomy as male methods of family planning during the external body mapping activities. All IDI participants identified male condoms and vasectomy during the internal body mapping activities (refer to Table 8).

However, except for three participants, most health care providers participating in the IDIs could not accurately describe male anatomy or the process of vasectomy.

Most participants identified and explained their lack of knowledge about male physiology and male family planning methods as being due to their clinical training and experience being focused on women. For example:

> *"In midwifery we study the woman's body not the man's… I don't know about the man's body. I'm a midwife." (IDI participant, midwife, 52 years old, rural location)*

> *"The function of the testicles? No, I don't know the function of the testicles… we don't really study about the man's body. We attend women" (IDI participant, midwife 47 years old, urban location)*

> *"For men… I'm not so experienced in this one actually. I mentioned vasectomy but in reality I don't know so much about it yet. I don't know if it has side-effects or not" (IDI participant, male health counsellor, 35 years old, urban location)*

Knowledge and understanding about side-effects of family planning methods

IDI participants also had diverse knowledge and understanding about the side-effects from family planning use.

While some participants could comfortably identify and describe method-specific side-effects, more than a third of participants could not. This was found for both female and male family planning methods.

All participants reported having a knowledge gap about the possible side-effects of vasectomy use. Most had not learnt about vasectomy side-effects during their clinical training or while working in family planning service provision. Two male health care providers participating in the IDI's were able to accurately describe possible side-effects of vasectomy services, including risk of infection at the incision site and expected method failure rates.

Several health care providers participating in the IDI's spoke about reduced sexual pleasure being a side-effect of male condom use. For example:

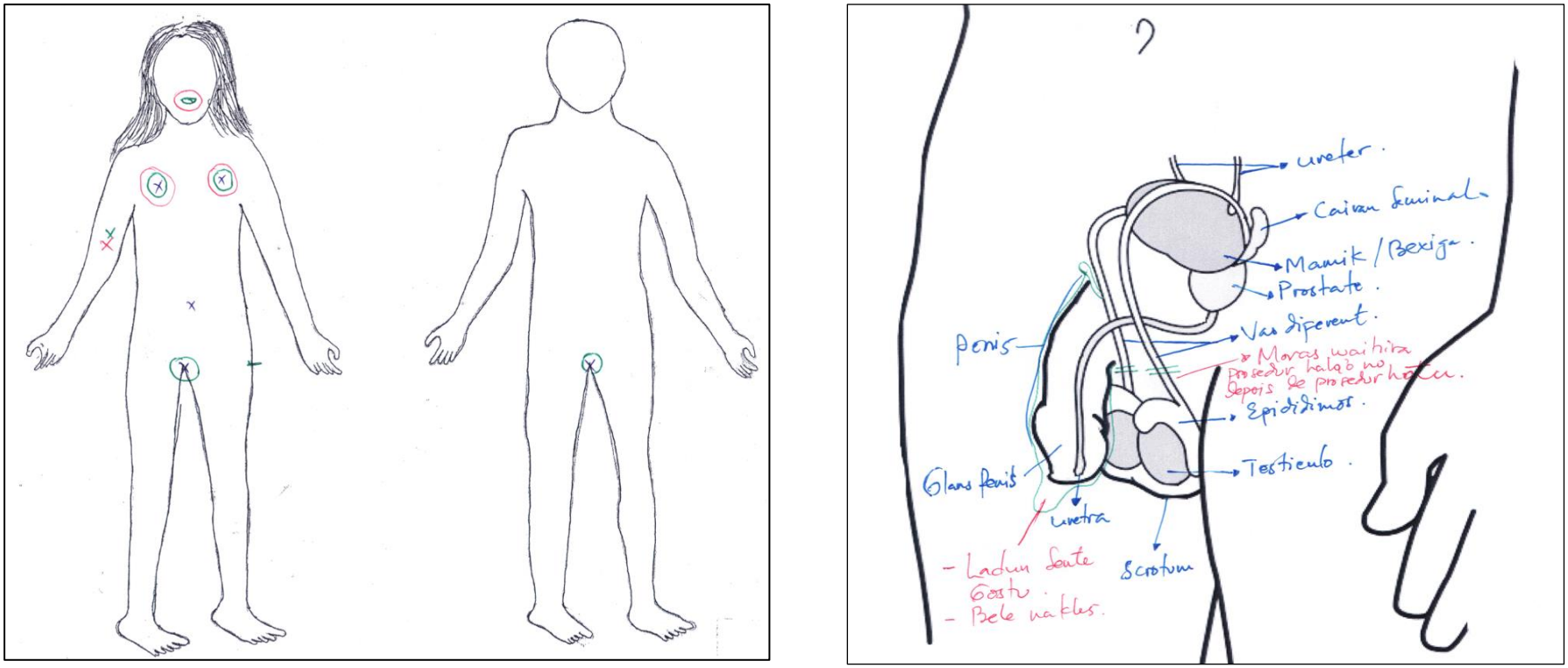
> *"It decreases pleasure. I always say condoms are not good because when having sex, two bodies should touch each other" (IDI participant, male health counsellor, 43 years old, urban location)*

Table 9. Number and (percent) of IDI participants who identified specific methods of family planning during body mapping activities

	IDI participants who identified specific methods of family planning during body mapping activities – number (percentage) N = 20	
	Full male and female body maps	Internal male body map
Male methods of family planning		
Male condoms	18 (90)	20 (100)
Vasectomy	17 (85)	20 (100)
Withdrawal	2 (10)	1 (5)
Other natural methods*	1 (5)	0 (0)
Female methods of family planning		
Contraceptive implant	19 (95)	n/a
Oral contraceptive pill	19 (95)	n/a
Intrauterine contraceptive device (IUD)	20 (100)	n/a
Injectable contraceptive	19 (95)	n/a
Female condom	6 (30)	n/a
Emergency contraceptive pill	3 (15)	n/a
Tubal ligation	15 (75)	n/a
Lactational amenorrhea	1 (5)	n/a
Other natural family planning*	5 (25)	n/a

* Abstinence, Billings ovulation method, and other fertility awareness methods

Figure 4: Examples of IDI body map images



(A) (B)

Body map images describing the sexual and reproductive organs in blue; types and function of contraceptive methods in green; and side-effects of contraceptive methods in red.

Body map (A) is a template of a male and female body. The male condom and vasectomy are identified as male methods of contraception, with no known side-effects. Lactational amenorrhea, tubal ligation, IUD, oral contraceptive pills, injectables and implants are identified as female methods, with side-effects including menstrual cycle and weight changes, headaches, and cramping. (IDI participant, midwife, 29 years old, urban location)

Body map (B) provides detailed physiological function of male sexual and reproductive organs. Vasectomy, male condoms and natural methods are identified and verbally discussed. Contraceptive side-effects are described as including risk of infection after vasectomy and that the male condom reduces male sexual pleasure. (IDI participant, male nurse, 26 years old, urban location)

Understanding about health policies, guidelines and laws related to SRHR

There were significant differences in awareness and understanding about national health policies, guidelines, and laws amongst IDI participants.

Several participants reported not knowing if national health policies and guidelines existed about family planning or SRH, or where such documents could be found. Some participants believed that national family planning policy documents did exist, but that they were confidential and high-level documents, only accessible to health directors and health facility managers.

About a third of participants were aware of national health policies related to family planning and SRH. However, their understanding about what the policy allowed varied significantly, and was often believed to be highly restrictive. Perceived restrictions in access to family planning services were based on gender, age, civil status, and number of children. These restrictions were often described in regard to the law. For example:

> *"The thing is… the thing is that providers are afraid to attend young people because of the law. They don't attend young people because the law doesn't allow it, the church doesn't allow it. Even if she needs it and she asks for it, they can't give it to her. The government should think about creating a law so that women of reproductive age can get this information and use FP so they can prevent, they can prevent pregnancy and then babies won't be thrown away" (IDI participant, male nurse, 56 years, rural location)*

Participants with awareness and correct knowledge of national family planning policies described with frustration the inability to follow the policy due to restrictions or misunderstandings enforced within the health facilities or local areas in which they work. For example:

> *"We have so many difficulties about this. Health professionals often talk about religion and culture, they don't follow the standard of a health professional. So nobody thinks the same. We all have different opinions and thoughts about young people. Sometimes I don't know what to do because if we don't provide services, a young women's life can be destroyed, babies thrown-away. So I will always attend young people because it's my duty as a midwife, but in some facilities it's not allowed, the other midwives will ban it. So we all think differently about this, it's a big challenge" (IDI participant, midwife, 29 years, urban location)*

Several examples of key differences in understanding of policy and health service provision practice are described in Table 10.

Table 10. Differences in IDI participant understanding and delivery of family planning services

	Participant understanding and practice	Examples of participant viewpoints
Understanding of national family planning policy and/or law	Family planning services can be provided to anybody who needs it	*"The policies from the ministry say we can provide it to everybody, to anybody that needs it" (IDI participant, midwife, 29 years, urban location)*
	Family planning services are restricted to only certain people, in certain circumstances.	*"The law doesn't give permission to young people, like university students, to access contraception'' (IDI participant, male nurse, 56 years, rural location)* *"If she says she wants FP (*family planning*) then I need to ask if her husband agrees. The husband must agree. Only then can I attend her" ((IDI participant, midwife, 48 years, urban location)*
Male condom distribution	The provider can decide who can access condoms	*"If the husband comes alone and asks for condoms, I will not give it" (IDI participant, midwife, 29 years, rural location)*
	People can decide if they need access to condoms	*"When they ask for it, we just give them out. We give condoms to anybody that asks'' (IDI participant, midwife, 29 years, rural location)*
Access to female sterilisation (tubal ligation)	Access to tubal ligation is restricted and regulated	*"A normal woman, she can't get this [tubal ligation]. Only if there are complications with her pregnancy or delivery" (IDI participant, midwife, 29 years, rural location)*
	Women can decide to access tubal ligation	*"I explain everything to her. After they have heard they are the ones that decide to use tubal ligation or not. If they want this, that's when I refer to the doctor (IDI participant, midwife, 45 years, urban location)*
Youth access to family planning services	Family planning services can be provided to young people	*"Yes, because I am a health provider. I feel that heath providers with good education, a good vision for Timor, they will attend the young person" (IDI participant, male nurse, 36 years, urban location)*
	Family planning services cannot be provided to young people	*"Young women in Timor cannot use this. In my opinion they can't use this, no" (IDI participant, midwife, 29 years, rural location)*

Question four: What are barriers and challenges to the uptake of male family planning methods in Timor-Leste?

Numerous barriers and challenges to the access of male family planning methods were identified. These are described in Table 11 and below, as explained in four sub-categories:

1) Client context;
2) Provider context;
3) Health system context; and
4) Political and social context.

It is important to note that some barriers were also identified as enablers to the access of male family planning methods, which are described in question five below.

Table 11: Barriers and challenges to accessing male family planning methods in Timor-Leste

	Barrier and/or challenge
Client context	• Limited health literacy • Men not visiting health facilities • Concerns around confidentiality • Stigma and discrimination • Concerns about trust, respect, and commitment
Provider context	• Insufficient training and support • Varied understanding and implementation of policies, guidelines, and laws related to sexual and reproductive health and rights • Provider-client relationship • Fear of damage to professional or personal reputation
Health system context	• Contraception viewed only as a maternal and child health service • Disconnect between sexual health and reproductive health services • Geographical barriers • Resource barriers to service provision
Political and social context	• Limited community awareness • Harmful social norms about gender and sexual and reproductive health and rights • Influence of religion and the church

Client context

This sub-category identifies and discusses client-level barriers and challenges to accessing male family planning methods in Timor-Leste.

- **Limited health literacy**

Health literacy refers to how people access, understand and use health information in ways that benefit their health [26]. There was overall low awareness and knowledge about male family planning methods, male fertility and SRHR in general amongst study participants, as described in the findings for questions one to three.

This includes low awareness and understanding of commonly used terms in the health service sector, which has implications for how individuals and communities engage with health information and health promotion initiatives. For example, despite being a preferred term within the health service sector, planeamentu familiar (family planning) was a term not understood by many PGD participants. Of those familiar with the term, understanding of what it means was varied. This was similar to other commonly used words and phrases, as shown in Table 12.

Misinformation about the side-effects of family planning, what methods are available or who can access these methods may also negatively influence individual decision-making about contraceptive uptake and use.

Table 12: Participant understanding of SRH terminology commonly used in health initiatives and the media

Words or phrases used by participants (Tetun)	Translation and meaning, as identified by a multilingual panel translation
Planeamentu familiar (family planning)	Planning if and when to have children Forming a family Living together Getting married Having sexual relations Managing finances within the family
Sexu livre (free sex)	Sexual relations: - before marriage - outside of marriage (cheating) - with more than one person - with many people - with a condom - with contraception - without contraception - that do not result in pregnancy
Kontrola aan (control yourself)	Control yourself Abstinence Withdrawal method of family planning

- **Men not visiting health facilities**

All participants described women being more likely than men to interact with the health care system about any type of health care, especially for SRH. Men were described as only rarely going to a health facility, for serious illness or to take their wives for a consultation. For example:

> *"We mostly attend women and their children here. Men rarely come here, only if they are severely sick. If not severely sick, men don't come" (IDI participant, male nurse, 35 years, urban location)*

Participant identified reasons about why men do not routinely visit health care facilities included:

- Men not having time or ability to visit a health facility during opening hours due to work or other commitments.
- Belief that men do not require medical support or have any SRH needs.
- Belief that men visiting a health facility is a sign of weakness or loss of masculinity.
- Men being afraid, shy or lazy to visit a health facility.
- Belief that only women require any type of routine or preventative health checks.
- Belief that SRH services are only for women.

Many female PGD participants described the contrast between male and female health seeking behavior around choice; with men having a choice to visit health services while women do not. For example:

> *"No, because many men are shy. They [*men*] are not brave to go [*to the health facility*]. Women are always brave to go but for men they can go or not. They can just stay at home. Some men are lazy. They are interested only to have children and are not brave to go to the health facility. For a women we have to be brave because if we don't go we will die" (Female Group 2 PGD participant, 34 years, rural location)*

Age and civil status were also identified and discussed as important factors in an individual's ability or decision to visit a health care facility for SRH services.

Young people and single people were described as rarely or never attending a health care facility for SRH services by most PGD and IDI participants. Numerous factors were identified to influence this, including the belief that young people or single people are not able to access SRH services, or that their confidentiality won't be respected (Figure 5).

Limited interaction with health services may be understood as a challenge to service uptake at a client-level context, due to an individual not having the information, ability, or confidence to visit a health facility or engage with the health care system. As we describe below, certain groups having limited interaction with the health care system can also be understood as a challenge at the health service provider, health care system and social context levels.

Figure 5: Factors influencing a young or single person's decision to visit a health facility for SRH services

- **Concerns around confidentiality**

Lack of confidentiality when accessing family planning information and services was described as a concern for most PGD and some IDI participants.

Concerns involved partners, parents or other family or community members finding out about the use of contraceptive methods through lack of client-provider confidentiality, and the ramifications that might result for the individual - including shame, discrimination, mistrust, disownment, and violence.

- **Stigma and discrimination**

Stigma and discrimination were identified and described as being significant barriers to an individual's ability to access and use contraceptive methods. Stigma and discrimination associated with the use of contraceptive methods were described in numerous ways, including:

- Within personal relationships
- From health care providers
- From family and friends
- From the wider community
- From key stakeholders, including the church.

For example:

> *"If a man meets with a woman [*provider*] she will feel like we are harassing her. This is a problem. Some women providers will explain truthfully to us about sexual and reproductive health but she will also think it's sexual harassment and judge us" (Male Group 2 PGD participant, 39 years old, rural location)*

> *"For those that don't have enough information about condoms, people will think that person is a bad person, or that they are a prostitute. They will think the person is having sex with anybody, that they are just sleeping around" (Male Group 2 PGD participant, 31 years old, urban location)*

- **Concerns about trust, respect, and commitment**

Trust and respect were prominent themes discussed throughout the research, both within personal relationships and with health care providers.

Within personal relationships, concerns about infidelity and sexually promiscuous behaviour were strongly associated with both male and female contraceptive use by many PGD and IDI participants, especially for use of male condoms. For example:

> *"If dating, for our girlfriends I think it's not good to use a condom because you love and trust each other. You need to ask each other if you have disease or not before doing it, and then you won't get disease. So it's not for dating but it [*condom*] can be used when with other women, bad women" (Male Group 1 PGD participant, 28 years old, rural location)*

The idea that a male partner could cheat without the consequences of a pregnancy was raised as a significant barrier in the acceptability of vasectomy by numerous participants. However, some participants also acknowledged that sexual relations and infidelity occur regardless of access to contraceptives.

A concern for many PGD and IDI participants was about what would happen if the female partner of a man who had a vasectomy became pregnant. The implication was that the woman would have become pregnant to another man through infidelity, resulting in possible separation of the couple and shame on both the female and male partner. Threat of violence against the woman was also discussed. For example:

> *"In today's world, if she is pregnant but her husband uses KB, then we will have a big problem" (Male Group 2 PGD participant, 39 years old, rural location)*

Two IDI participants recalled separate cases in which the female partners of men who had vasectomies became pregnant years later. Both participants described the challenges these women faced in their personal relationships and within the community, being accused of infidelity. These two participants also questioned the female partner's faithfulness and did not acknowledge the efficacy or failure rate of vasectomy services.

Many male and female PGD and IDI participants also expressed concern for the man's future when deciding to use vasectomy services. This was framed around a man's ability to have biological children with other women, if his current relationship ended. The need to father biological children was discussed as an essential component of a male being able to have a new relationship and therefore not something he should give up lightly. This suggests that commitment within an existing relationship is a concern for many. For example:

> *"If in the future Pedro wants another women, it will be difficult for him. Some women won't want Pedro, because he has used a permanent method so he can't have another child" (Female Group 2 PGD participant, 30 years old, urban location)*

PGD and IDI participants of all genders and ages also discussed concerns about decision-making regret around vasectomy uptake. This was sometimes framed around concern that a couple could change their mind about not wanting children after the operation had been done, resulting in a couple experiencing feelings of sadness and regret, especially if an existing child passed away. In these instances, numerous participants suggested that the female partner may leave to find a new partner who could give her more children or have sexual relations with other men in order to get pregnant.

Provider context

This sub-category identifies and discusses health service provider-level barriers and challenges to accessing male methods of family planning in Timor-Leste.

- **Insufficient training and support**

Most IDI participants had limited knowledge and understanding about male physiology and male family planning methods, as described in question 3. The limited clinical training and practical experience health care providers had in SRH were focused on women and female

methods of family planning. Many providers had no formal training or experience about providing SRH services for men.

Further, most IDI participants described family planning services as being the domain of midwives, with little in-service training or support provided to non-midwife providers about any type of family planning method, male or female.

Almost all the health care providers interviewed expressed a need to receive more training and support in the delivery of SRH services. This included specific training requests such as how to provide HIV counselling and testing, how to counsel for vasectomy services, and how to provide long-acting methods of family planning (IUD and contraceptive implants). For example:

> *"I do have some recommendations, maybe on behalf of my colleagues too, because we have been working here for nearly five years but we haven't had any training opportunities on family planning and our only knowledge about family planning is from when we were studying at school. So what we offer here is limited, so limited. So I really want to ask the government to help us by proving trainings on FP, especially for IUD and implants" (IDI participant, midwife, 29 years, urban location)*

Further, while most health care providers participating in the IDIs were able to identify the technical gaps in their clinical knowledge and experience, few were able to discuss the important client-centred skills that are required for providing quality SRH services. For example, family planning use was mostly discussed as a biomedical, asexual need. However, the ability to provide comprehensive and non-judgmental family planning counselling based on individual client needs and lifestyle is also essential to providing quality services. Our study indicates there is a need for increased support and focus on the ability and skill of health providers to deliver quality family planning services to any person that requires support, regardless of gender, age, sexuality, number of children or civil status.

Sexual pleasure was discussed by several IDI participants, but only in regard to reduced pleasure as a side-effect of condom use. Pleasure is a subjective measure and while some people may experience less pleasure when using condoms, others may not. For some people, knowing that condom use provides protection from pregnancy and STIs can even improve pleasure [27]. It is inaccurate and harmful for health care providers to only discuss a possible reduction in pleasure as a negative side-effect from condom use, as a disincentive to condom uptake.

While improved counselling and service provision skills are needed at the health provider level context, it is also important to increase effective demand-generation activities at a community level context. This is because the ability of a health care provider to train and practice in any health skill is also dependent on how many people come forward for that service.

- **Varied understanding and implementation of policies, guidelines, and laws related to SRHR**

IDI participants described inconsistent clinical practices, resulting from varied understanding and ability to implement national SRH policies, guidelines, and laws within the health system, as described in question 3.

These inconsistencies were explained by some health care providers as being based on the personal beliefs or values of a provider, and not necessarily aligning with national approaches or a universal health perspective. For example:

> *"I don't know if many health providers, especially midwives, I don't know if they are ready to give out condoms or not... some of the midwives here, they have morals that are different to health… it's like… I don't understand. They are responsible for family planning services here but they don't provide" (IDI participant, male doctor, 35 years, urban location)*

The implications of inconsistent understanding and application of SRH service provision practices are a significant barrier to the effective promotion and uptake of any family planning service. The challenges of this were articulately described by one IDI participant:

> *"It's dangerous. You can speak with a client one day [*about family planning methods*] and maybe they will go and make a decision. They will come back and speak to somebody else who tells them something different. If we all say different things, why would they trust health providers? How will they know who is right?" (IDI participant, male nurse, 56 years, rural location)*

PGD participants reinforced the idea of inconsistent SRH service provision practices within the health care sector, with most describing the ability to receive a family planning service being dependent on the personal belief and decision of the health care provider. For example:

> *"I think if a young person went to ask a doctor or midwife for a condom… I think it depends… if they know each other, maybe [*the provider*] will give. If they don't know each other I don't think they will give" (Male group 1 PGD participant, 30 years old, urban location)*

- **Provider-client relationship**

The advice and information provided by health professionals plays an important role in influencing the decisions an individual and couples make about using methods of family planning.

Limited health care provider knowledge and understanding about male methods of family planning has direct impacts on a provider's ability to provide comprehensive counselling, and therefore limits the opportunity for people to learn about and select a male method of family planning to use. If not provided with correct and comprehensive information by health care

providers, men and couples may be more likely to choose certain family planning methods over others.

Inconsistent SRH service delivery practices by health care providers also create barriers to building trusting and respectful provider-client relationships, especially with young people. This can make it challenging for clients to engage with and/or continue with a health care service. For example:

> *"Education is important and letting young people know health [*workers*] are here to help them, but you need to be careful. If you tell young people they can go to a health facility and then the midwife doesn't attend them? So it's hard because then they will feel shame and not trust you. So it's difficult" (IDI participant, male nurse, 56 years old, urban location)*

Further, although meaning well, some health care providers confused personal and professional values in the description of their service delivery practices, which could damage provider-client relationships and the likelihood that a person would access a family planning services. For example:

> *"I would say to young people to be moral and not have random relations, don't be with many partners but be with only one partner forever. If you are sick, don't be afraid to go to a health centre, you can speak with a midwife, nurse or doctor, you can ask us questions and we will help you and it will be private just between us" (IDI participant, midwife, 31 years old, rural location)*

- **Fear of professional or personal repercussions**

Numerous IDI participants described health care providers in Timor-Leste limiting their provision of comprehensive family planning information and services due to personal or professional fears about doing so.

Fears included professional repercussions from senior managers or peers about their ability to work as a health care provider, and social stigma from their communities and church. These fears were mostly described in the context of providing tubal ligation services, male condoms, or any family planning service to young or unmarried people. For example:

> *"I think most health providers want to talk about condoms with young people but because of the barriers, barriers regarding the church or feeling embarrassed or scared, they won't explain it. They won't give condoms… It's a real problem because it means they can't do their job properly and because of this, because they are afraid, people will suffer" (IDI participant, male doctor, 35 years, urban location)*

Health system context

This sub-category identifies and discusses barriers and challenges to accessing male family planning methods in Timor-Leste at the health care system level.

- **Contraception viewed only as a maternal and child health service**

Almost all PGD and IDI participants associated comprehensive family planning service provision with midwives and birth spacing. Further, most PGD and IDI participants described the role of the midwife to provide maternal and child health services, including family planning services, with the objective of keeping mothers and babies healthy. For example:

"For this, they can only go to the midwife, because there are lots of midwives, with different jobs. For example in a facility, there are six midwives. Of these midwives only one will know KB. If you go to anybody else, they won't know" (IDI participant, male nurse, 26 years, urban location)

Other health care providers were described as playing a supporting role in the provision of contraceptive counselling, and a limited selection of contraceptive services based on role. For example, a specialist doctor can provide permanent methods of contraception; some nurses who have been trained can provide short-term methods of contraception.

Throughout the IDI and PGD activities, participants frequently used the terminology 'mother/s' for people who use contraceptive services.

While maternal and child health is a pivotal and essential component of SRH services, it is not the only component. Comprehensive SRH services are much wider in clinical scope, and include the SRH of all genders and ages, across the lifecycle. Limiting the association of contraceptive services to the domain of midwives and maternal and child health creates access barriers for people who may not relate to this field, including men, young people, gender diverse groups, and people who do not have or do not want children.

- **Disconnect between sexual health and reproductive health services**

A significant disconnect between sexual health services and reproductive health services was identified in this study. For example, many PGD participants identified condoms as being exclusively for STI prevention or the prevention of pregnancy, as described in question two above.

The disconnect between sexual health services and reproductive health services was reinforced during the IDI. Many health care providers participating in the IDI's described contraceptive care and STI care as being separate domains of health, provided by different health workers, sometimes on different days, and often in different locations within a health facility. For example, three midwives participating in the study reported not being able to

conduct HIV counselling and testing, despite being the primary SRH service provider at their facility.

Separating sexual health services and reproductive health services in this way creates barriers to service access for clients and missed opportunities to provide care within the health care system.

- **Geographical barriers**

Access to family planning information and health care services varied by location. PGD and IDI participants of all genders and ages described people living in rural and remote locations having less access to SRH information and education opportunities.

Health facilities in rural and remote locations were also described by all PGD and IDI participants as having limited numbers of health care providers and fewer types of health care providers. Lack of stock, equipment and testing facilities at rural health facilities was also discussed as a challenge for access to family planning services. One IDI participant described being the only doctor at a health post and was therefore unable to provide comprehensive family planning services due to lack of time and qualification (this participant described that only a midwife could provide most family planning services).

Moreover, while many PGD and IDI participants identified pharmacies as locations in which to find or purchase condoms, this was not the case for rural locations. Participants from a few rural locations identified that a pharmacy existed nearby but that because it was so small, did not stock condoms.

- **Resource barriers to service provision**

Having insufficient contraceptive stock and health care service provision equipment was described as a significant challenge to service provision by many IDI participants. For example:

> *"Yes, I can provide IUD, implants. I was there [at training], I got a certificate…but I cannot provide these services even with a certificate because we don't have any of the instruments or stock" (IDI participant, midwife 29 years, urban location)*

Some IDI participants reported not having condom stock at their health facilities for several months to three years. For example:

> *"We haven't had condom stock for approximately a year now… I don't know why… I don't know, maybe we request condom stock and people don't want to give it or maybe they don't have any stock in Dili? I don't know, but patients here ask for it and we can't give it… A lot of the time, men came here a lot and ask us 'Are there condoms or not?'. There are a lot of people asking this but no stock" (IDI participant, male doctor, 35 years, urban location)*

Most health care providers participating in IDIs described the lack of consistent condom stock as a significant barrier and challenge to the provision of SRH services. However, not all providers considered lack of condom stock a concern or a priority in their work. For example:

> *"About condoms in our work place, recently the government had a stockout so we only have pills and depo* [Depo-Provera; a contraceptive injectable] *at the moment. No condoms because there aren't any. If we have condoms we provide. If we don't have any, we don't give. It's not a priority" (IDI participant, midwife, 29 years, urban location)*

Three health care providers went further to describe condom stock-outs as a purposeful decision. The decision to not have condoms available at their health facility was influenced by several factors, including not wanting to waste condoms before they expired; due to perceived or actual lack of demand; and the health care providers not wanting to provide condoms to their community. For example:

> *"Some people who don't know how to use it, they will use it [*condoms*] to destroy other people's daughters. I'm afraid about this actually and don't want to get into trouble, so I don't ask for condoms. Because now, people's husbands can get junior high school girls and high school girls pregnant. This happens a lot here so I'm afraid to have condoms here… because we give them out in hopes to prevent diseases, but these people go home, they don't use it for this purpose but for other purposes. So, to be honest, we are not brave to have condoms here. Honestly there are no condoms here, there's no stock" (IDI participant, midwife, 29 years, rural location)*

Only one IDI participant reported having condom lubricant in stock at the time of interview. Most participants did not acknowledge or discuss the role of lubricant in health care service provision or condom use. Some health care providers commented that the male condom stock available in Timor-Leste are already lubricated. Three IDI participants commented about the lack of knowledge and access to lubricant. For example:

> *"I don't think many people know about lubricant yet because we mostly talk about condoms… I don't see lubricant available here, we never have stock… so maybe that's a problem too" (IDI participant, midwife, 29 years, urban location)*

Although three health care providers based at higher level health facilities (hospitals) described the facilities as being equipped and ready to provide vasectomy services if there was client demand, there were concerns about ensuring adequate post-vasectomy follow-up. This included the limited ability to conduct a semen analysis approximately three months after the procedure.

Political and social context

This sub-category identifies and discusses barriers and challenges to accessing male family planning methods in Timor-Leste at the political and social level.

- **Limited community awareness**

Lack of awareness or understanding about family planning and SRH at a community level has direct implications for individuals and couples. When not being discussed or acknowledged at a community level, it can make it very difficult for individuals to learn about or even ask questions about family planning. For example:

> *"For vasectomy, I don't know much. If I don't know much as a midwife, then I think the community will know less. They probably have no knowledge about vasectomy" (IDI participant, midwife, 39 years old, rural location)*

Limited awareness, discussion, or exposure to family planning information at the community level also creates additional challenges for health care service delivery sites, which must ensure all individuals have comprehensive knowledge before being able to make an informed decision about their health. For example:

> *"There's a lot I want to recommend about family planning. We explain a lot, nurses, midwives and doctors, we explain a lot to people about FP and they can approach us and ask us and we will help, but why is their knowledge so limited? I don't think any of this is being discussed at school or in the home, there isn't community education, so when they come to us they don't know and we have to start with the basics, basic biology, and it takes time to explain. I am a midwife but I feel sometimes like I am also a teacher'' (IDI participant, midwife, 29 years old, rural location)*

- **Harmful social norms about gender and SRHR**

Harmful and limiting social norms about gender and SRHR were identified across all areas of our research.

The burden of contraceptive use, fertility control, and general SRH was almost always considered to be a woman's responsibility. However, while women were deemed responsible for these domains, women also faced significant challenges and risks in accessing SRH information and services or making independent decisions about their SRH. Ramifications included judgement and discrimination in personal relationships, from the health care system and wider community. Violence against women from male partners and extended family was also identified by participants as a serious yet frequent ramification for women.

Almost all participants spoke about the significant power imbalances within female-male relationships and the difficulties women have in negotiating sexual relations and contraceptive use. Physical, sexual, financial, and psychological violence were frequently

described as consequences for women who did not agree with their male partner or parents-in-law, or who made SRH care decisions independently. This was raised as a significant barrier for the correct and consistent use of any natural family planning methods, as well as women's access to modern methods of family planning.

Social norms also have a negative impact on the SRHR of men. Described predominantly as a type of women's health care service, men are less likely to visit a health care facility for SRH services. At a health facility, providers are less equipped to provide quality, comprehensive SRH services for men. This results in less reproductive autonomy and quality of care for men. It can also delay access to medical care when needed (for example, STI testing and treatment; fertility testing and treatment) resulting in worse health outcomes for men, their partner/s and possible children.

The identified social impacts of men using family planning services was diverse but overall skewed towards negative responses. Some participants described and even celebrated a man accessing contraceptive services as being responsible, loving, and respectful. Many more participants associated male uptake of family planning services with loss of masculinity, power, or respect within a relationship or within a community. Men, similar to women, also faced the stereotype of being considered promiscuous or irresponsible when using contraceptive services.

- **Influence of religion and the church**

Many PGD and IDI participants described religion and the role of the church as a significant barrier in access to SRH information and services.

Some PGD and IDI participants expressed this opinion in relation to their own personal beliefs and/or interpretation of religion and the church. For example:

> *"No, single men cannot use condoms. It will destroy somebody's' daughter and give sickness to people's daughters. Cannot. God says no. To use a condom, need to wait until married" (Male group 2 PGD participant, 32 years old, urban location)*

Many PGD and IDI participants discussed an anti-family planning sentiment as something being explicitly communicated by religious or church leaders. For example:

> *"Babies are thrown away here, you hear it on the news and in social media and everybody talks about it and often the priests blame that on NGO's that provide condoms and information about condoms. They put blame on the young girl and the health workers" (IDI participant, midwife, 36 years old, urban location)*

> *"For unmarried people, we are a little bit… I mean we can't give condoms to them because it is against Timorese culture and religion" (IDI participant, male counsellor, 35 years old, urban location)*

Question five: What are enablers to inform, motivate, inspire, and increase uptake of male family planning methods in Timor-Leste?

Enablers to increase the uptake of male family planning methods were also identified in our study. These enablers are explained in four sub-categories, as described in Table 13 and the text below:

1) Client context;
2) Provider context;
3) Health system context; and
4) Political and social context.

It is important to note that some enablers were also identified as barriers or challenges to the access of male family planning methods, which are described in question four above.

Table 13: Enablers to increase uptake of male family planning methods in Timor-Leste

	Enabler
Client context	• Interest to learn more • Numerous sources of information identified • Positive status of men using male methods of contraception • A small but already existing demand for vasectomy service
Provider context	• Provider interest and motivation • Provider commitment and professionalism • Exposure and experience of some providers to vasectomy services • Experience of and attitudes towards positive changes
Health system context	• Health system structure • Established family planning program
Political and social context	• Enabling national policies and laws[3] • The potential for influence from testimonials and role models • Promising impacts from existing health and social norms initiatives • Support from religious and community leaders

[3] At the time of the research. A new national family planning policy was approved in early 2022 but is not yet publicly available.

Client Context

- **Interest to learn more**

The interest and behaviour demonstrated by PGD participants throughout our study indicates that people want to discuss and learn more about SRHR.

Most participants were open and enthusiastic during PGD activities, sharing their opinions and thoughts during different research activities and asking many questions. During some PGDs we had to actively manage time to ensure that there was enough time for the education session after research activities had finished, and that the research didn't run into participant's lunch or evening schedules. This enthusiasm and interest to talk and learn may be due to the safe and respectful way in which PGDs were organised based on age, gender, and the use of third person examples to explore concepts.

Although SRHR is often considered a sensitive or taboo topic, our research demonstrates that there is community demand to actively discuss and engage on this topic when done in a culturally and contextually appropriate way.

- **Numerous sources of information identified**

The varied sources of SRHR information identified by PGD groups (Table 4) can be used to strategically reach target groups with quality SRHR information and service referrals.

Care needs to be taken about the differences in information sources identified across gender and age groups, to ensure some groups aren't being left behind. For example, older women were identified by PGD participants to having the least diverse sources of SRH information available to them. Identifying and incorporating specific SRH information and service referrals for such groups is important.

Moreover, the ability to discuss SRH issues between parents and their children was identified by some PGD participants as sometimes possible for young men and challenging or even impossible for young women. Providing knowledge, skills, and support to parents or older family members to effectively speak with their children about SRHR may provide opportunities to improve SRH across generations.

Several existing SRH programs were also identified as being good sources of SRH information by many PGD participants. For example, PGD participants in urban Ainaro spoke about the work of Cooperativa Café Timor in learning about types of family planning, including male methods of family planning. Numerous PGD participants across all study locations also spoke about the importance of MSTL and Red Cross Timor-Leste (Cruz Vermelha de Timor-Leste) teams in sharing information and services referrals about SRHR in their communities. Further building upon and leveraging these existing resources may be worthwhile.

- **Positive status of men using male methods of contraception.**

Some IDI and PGD participants described men who use male family planning methods as an example of men being responsible, caring and loving for their partners and family. This was often framed around women taking most of the burden of responsibility in SRH, with uptake of condoms or vasectomy by men helping to ease or relieve that burden. For example:

> *"If a man thinks about doing this [*vasectomy*], making this decision, it means he loves his wife, he really loves his wife. He is using family planning instead of this wife because he doesn't want to put his wife at risk. It means he really loves his wife" (IDI participant, midwife, 39 years old, urban location)*

> *"I think if a man really wants to be with a woman, if he really loves her, he will work hard to find a condom" (Female group 1 PGD participant, 18 years old, rural location)*

Messages that present men who get a vasectomy or use condoms as being responsible, caring, and loving partners may help increase demand and uptake for SRH services by men.

However, it is important that any health promotion messaging that praises or promotes men regarding SRH should be implemented in conjunction with other initiatives that promote gender equality and more equitable changes in social norms.

- **A small but already existing demand for vasectomy services**

Available data in Timor-Leste indicates low or even no uptake of vasectomy services. However, whilst the findings in our study of low awareness and knowledge about vasectomy amongst our participants supports this data, the number of experiences disclosed by our participants regarding vasectomy services was more than we anticipated.

This suggests that there may be more users of vasectomy services in Timor-Leste than available data indicates. Given the limited health promotion and SRH service resources invested into access to vasectomy services to date, this may be a promising indication that a small demand for this service already exists.

Provider context

- **Provider interest and motivation**

While not all health care providers considered male SRH part of their core clinical responsibilities, all IDI participants requested the opportunity to learn and complete more training about male SRH and male family planning services.

Throughout our research study, several specific training requests were repeatedly asked for by IDI participants, including training on:

- Male physiology and anatomy
- Male fertility
- Infertility
- Male family planning counselling and services (general)
- Vasectomy services
- STI testing and treatment, especially for HIV
- Implant and IUD services

- **Provider commitment and professionalism**

Several providers in our research study spoke about their oath and responsibility as health care providers to provide universal access to quality, comprehensive SRH and family planning services. Many health care providers expressed their opinions strongly and described going above and beyond their duty of care to ensure they were serving the SRH needs of their communities.

This professional commitment was even expressed by some participations who had conflicting personal values and/or understanding in regard to universal access to SRH services. For example:

*"For some young people… I don't want to give it [*condoms*] to them because they will have sexual relations randomly, promiscuously, but these young people, these are also the people I need to give condoms too to prevent them from giving diseases to women, or early pregnancy. I would prefer not to give, but it's my responsibility as a health provider to give these. I have to give, I'm a midwife" (IDI participant, midwife, 31 years old, rural location)*

- **Exposure and experience of some providers to vasectomy services**

One IDI participant had experience in providing vasectomy services as part of general training completed overseas. It is possible that other providers in Timor-Leste may have had similar professional experiences. This demonstrates that Timor-Leste already has a clinical provider starting point in which to build a successful vasectomy service program.

- **Experience of and attitudes towards positive changes**

A number of IDI participants spoke positively about changes they have experienced and seen in regard to improved SRH in Timor-Leste. This positive perspective was discussed in terms of hope, perseverance and knowing that challenges and barriers can be addressed.

One health care provider in particular who participated in the IDIs reflected on the significant response from stakeholders and communities during a proposed new family planning policy

in 2017. The proposed policy was deemed highly restrictive and was not approved at the time. For example:

> *"Civil society is growing, it's still young but it's growing, and people are starting to understand their rights, they are expecting more. The response to the new policy… they are not afraid to speak up, especially young people. We have a difficult history in Timor and to see people expect more from our leaders is a good thing. It's a good thing when young people can speak up for their rights'' (IDI participant, male nurse, 26 years old, urban location)*

Health system context

- **Established family planning program**

Timor-Leste has an established national family planning program, run through the MoH and with support from health partners including MSTL, Cooperativa Café Timor and other private clinics and pharmacies.

IDI participants identified and spoke about the success that the national family planning program has had in reducing maternal mortality, through the promotion of healthy birth spacing. PGD participants with knowledge and awareness about the program also described it as a positive service for mothers, to promote post-partum family planning practice and healthy birth spacing.

This established and functioning program provides a good base on which to expand access to family planning services, through increased integration into broader primary health services.

- **Health system structure**

The government of Timor-Leste strives to provide free universal health care through a decentralised public health care system, as enshrined in the Constitution.

The network of health posts, community health centres, regional hospitals, and a major referral hospital already exist and are staffed by a wide range of health care professionals. Building on this strong health service base, it is possible to expand and build services to offer male family planning programs.

Although not a focus in our study, there is the possibility that pharmacies may play an increasing role in access to SRH information and short-term family planning methods, including the provision of information about, and the supply of male condoms.

Political and social context

- **Enabling national policies and laws**

The awareness, understanding, and implementation of national policies and laws related to SRHR in Timor-Leste were described as diverse and inconsistent. However, the currently available national frameworks are inclusive, evidence-based, and rights-based.

If national SRHR policies - including family planning - and laws are made more easily available and understood within the broader community and health sector, there is potential for large and positive changes across all health facilities, with consistent and evidence-based health service delivery.

We are aware at the time of writing this report (early 2022) that a new national family planning policy is currently being considered by the Timor-Leste Government. When finalised, it is important that the policy be widely communicated and shared in a language and way that health staff and the wider community can understand.

- **The potential for influence from testimonials and role models**

Knowing people or hearing positive stories about people who have experienced vasectomy is an enabler to increase awareness and acceptance in the community. This is well described in the literature and was suggested by many of our study participants.

Much can be done by identifying and supporting men and couples who use male condoms and natural family planning methods to share their experience with others. This can provide an opportunity to remove stigma and raise awareness and acceptance of these methods.

Our study findings suggest there are more users of vasectomy in Timor-Leste than available datasets indicate, but due to the current social context these users may not be willing or able to speak up publicly about their experience. The use of testimonials from men using male contraception in other countries was suggested by participants as appropriate and helpful.

- **Promising impacts from existing health and social norms initiatives**

PGD participants in urban Manufahi spoke about rights and gender equality more often and more positively than other PGD groups. Participants spoke about gender diversity, sexual and gender-based violence, consent to sexual relations, and the right to access healthcare, including family planning. While not all participants shared the same knowledge, opinion or attitudes, many participants were able to articulate their viewpoints respectfully and confidently, often referring to training they had received or been exposed to through community events. In particular, PGD participants spoke about the KOKOSA! program in

their community, coordinated by The Asia Foundation. KOKOSA! is adapted from the community mobilisation approach to changing social norms, SASA!, about preventing violence against women.

This is a promising example of how carefully designed and adapted social norms change initiatives implemented at a community level may positively influence the social context and contribute to improved gender equality and SRHR.

- **Support from religious leaders**

While the influencing role of religion and the church was usually discussed by IDI and PGD participants as being a challenge or barrier to accessing family planning services, a small number of participants also spoke about the enabling role that religion and the church plays. For example:

> *"In my experience some priests are supportive, really supportive, and understand a condom can prevent early pregnancy and disease, they understand it can save lives, the young women's life and the baby's life. Some priests are not supportive and say that condoms are against religion, against culture in Timor. So it's really hard. It depends on the priest and the location, you never know. I think it is important for the church and government to sit together and talk about this, have a consistent plan to help the health of people in Timor, because honestly at the moment, it's hard" (IDI participant, midwife, 36 years old, urban location)*

The varied experiences and opinions about how religious leaders engage with SRH supports previous research conducted about the role of the Catholic Church and reproductive decision-making and rights in Timor-Leste [28].

Discussion

Timor-Leste has had remarkable improvements to SRH outcomes since independence. The reductions in maternal mortality and total fertility rate are significant and have been possible due to a strong and strategic response by the MoH and their health partners. It is within this wider context that our study must be understood.

The current focus on the promotion of healthy birth spacing has been highly successful in improving reproductive and maternal health outcomes. Indeed, the investment and messaging around healthy birth spacing and access to post-partum family planning needs to continue and increase to further improve maternal and child health outcomes.

Our research indicates there is also an important need to improve how family planning programming is delivered within the broader primary health care system, to better serve other groups of people in the community, including men, young and single people, and those who do not have or do not want children.

Ensuring quality and comprehensive access to SRH services for young people is especially important in the Timor-Leste context. The United Nations estimated the population of Timor-Leste in 2020 to be 1.318 million, with a median age of 20.8 years, making it the 29th youngest population in the world [29]. Ensuring young people are equipped with comprehensive SRH knowledge and access to services is vital for ensuring their future and a healthy future for Timor-Leste.

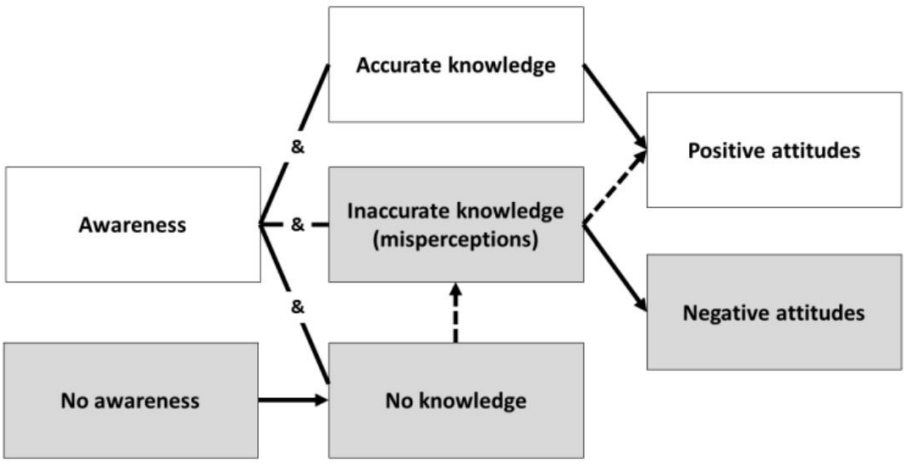
The following discussion is framed around three key areas: 1) demand generation; 2) service delivery; and 3) enabling environment.

Demand generation

In general, we found low awareness and understanding about male physiology, male fertility, and male family planning methods amongst most PGD participants, and health care providers participating in the IDIs. Misinformation or inaccurate knowledge about male family planning methods were also highlighted across our study.

Lack of awareness and lack of accurate knowledge contributes to negative attitudes towards male methods of family planning, as demonstrated in Figure 6 [30]. In turn, this negatively influences the acceptability and access to these methods. Access to comprehensive, accurate and consistent information about male methods of family planning is therefore required to build positive attitudes and demand for these services.

Figure 6: Awareness, knowledge, and attitudes of male family planning (adapted from Perry et al, 2016)



Indeed, our study indicates that there is a need to increase awareness about men's SRH in general. This includes targeting men to take a more active role in their own SRH, including fertility health and the prevention, testing and treatment for STIs [31].

Numerous opportunities and promising initiatives are identified and discussed in the findings section of this report. Having a range of initiatives is important, covering targeted and community level initiatives.

Service delivery

Primary health care plays a vital role in achieving universal access to SRH services and ultimately, health equity. Primary health care providers are often the first point of contact for people seeking SRH information and services, and play an important role in referring them to specialist care when needed. The desirable core competencies to 'protect, promote and provide' SRH services include health care provider attitudes, tasks, knowledge and skills [32].

Understanding the attitudes, knowledge, and practice of a health provider towards SRH can provide unique and valuable insights about how a primary health care system is functioning, and if it's meeting the SRH needs of its population.

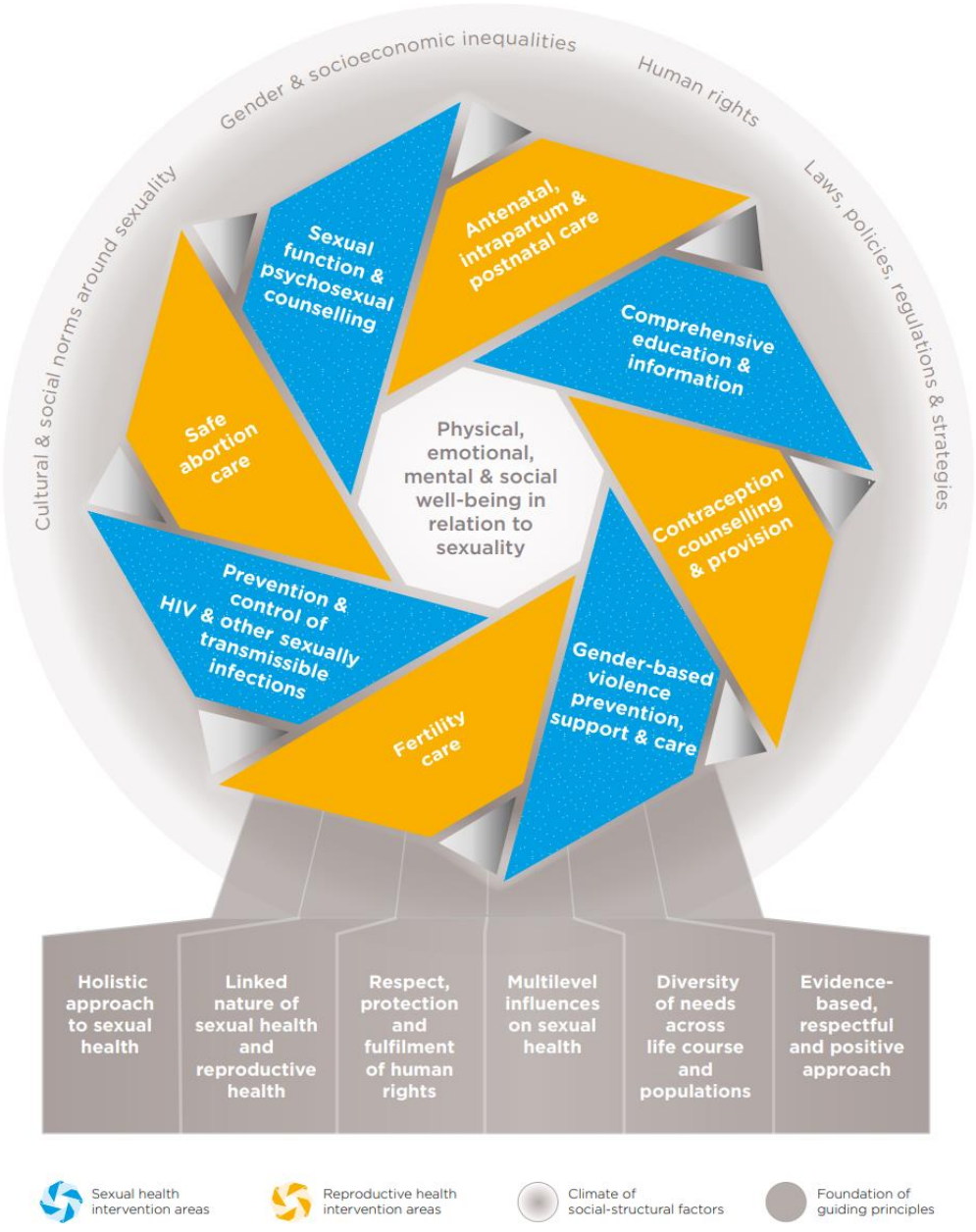
Our study indicates that there is interest and need for health providers and their managers to receive increased training and support for the delivery of comprehensive, quality family planning services, including male methods of family planning. This includes the need for easily accessible, standardised and evidence-based policies and guidelines around SRH service provision. More holistic training and support around gender, sexuality, the law, and individual rights is also required.

Task-shifting and task-sharing of contraceptive services is recommended by the World Health Organisation (WHO) as a way to increase levels of health care access [33]. This involves the process of delegation and distribution of tasks among the health workforce to make more efficient use of available human resources. It also includes the expansion of the levels of health providers who can appropriately deliver health services [33]. Our findings

suggest investing in increased task shifting and task sharing of contraceptive services would be beneficial in the Timor-Leste health context. Engaging more community health workers, counsellors, nurses and doctors in the delivery of contraceptive services may prove especially beneficial to increase access to contraception among men, young people and other groups of people whose needs may not be adequately met through the current midwifery-led model of service provision.

Our study also demonstrated a disconnect between sexual health initiatives and reproductive health initiatives. The integration of sexual health and reproductive health initiatives has significant benefits to improving overall SRH. The WHO has developed a framework for operationalising sexual health and its linkages to reproductive health (Figure 7) which could help guide changes to how SRHR services are delivered [34].

Figure 7: World Health Organisation framework for operationalising sexual health and its linkages to reproductive health [34].



We must emphasise that the demand for and supply of male family planning methods is mutually inclusive. If health care providers do not have enough clients, their interest, confidence, or skills to provide these services will be lost. Therefore, investment in both demand generation and service delivery initiatives concurrently and consistently over time is vital.

Enabling environment

The importance and benefit of investing in social and behavioural change initiatives to improve gender equity and SRHR has been well documented.

Our findings suggest that current societal norms may discourage health-seeking behaviours among men, resulting in men only seeking health services when faced with a serious or emergency condition. This is especially true for SRH services, which are considered the domain of women. This comes at great cost to men, women, and the wider community.

Policies and practices are needed that strategically engage and include men in the comprehensive reproductive health care agenda in a way that does not undermine gains made for women's access to family planning. This is key given the significant challenges and barriers identified and discussed in our study in relation to women's access to family planning services, especially for young women.

Active endorsement of family planning services - including male family planning services - by religious and cultural leaders can improve awareness and acceptability of services. For example, religious leaders have been shown to have a positive impact on the uptake of vasectomy services in other countries [30].

While our study focused on access to male family planning, we gained important insights about SRHR more generally. These insights included the need for greater investments in community level health promotion activities. Therefore, while we advocate and highlight the need for investments in access to information and services for male family planning methods and male SRHR, this must not come at the cost of impacting existing initiatives that serve women. Existing SRHR initiatives for women must continue to grow and expand. There is need for additional resources to strategically expand existing and new SRHR programs to ensure men's needs are also met, together with young people and other groups.

Operational research

Our research study was designed and implemented as operational research, with our findings and lessons learnt being directly fed back into MSTL operations to improve the effectiveness and quality of SRHR programming.

This research approach included:

- Informing program planning and design
  - Informing new MSTL program design, in collaboration with the MoH
  - Helping to guide and inform social and behaviour change projects at MSTL.

- Guiding internal MSTL team training and upskilling
  - Provider and educator training
  - Informing new staff induction at MSTL.

- Informing health promotion activities
  - Social media messaging
  - Posters and printed material
  - Informing new images and photography
  - Updating existing resources (including adding consent as the first step in the ‘how to use a condom’ instructions).

Recommendations

Our findings illustrate the complexity, diversity, challenges, barriers, enablers, and opportunities that exist around access to family planning services and SRHR more broadly in Timor-Leste.

Accordingly, our recommendations target different aspects of the health and wider social and political context in Timor-Leste. These are:

1. **Increase sexual and reproductive health and rights (SRHR) information and services to men and boys, without impacting women's autonomy or access to sexual and reproductive health information and services.**

   - Increase the availability of health care services for men. Offering a 'men's health check' may encourage men to visit health facilities for a range of preventative health care services, including family planning.
   - Develop SRHR promotion messaging that target men as users of SRH services. Use positive language that is focused on respect, trust, and pleasure. Messaging should be pre-tested to ensure effectiveness and appropriateness.
   - Consider use of client testimonial's to help build awareness and acceptance of male family planning methods. Ideally, testimonials would come from Timorese men. However, if not possible at this point in time, the use of testimonials from men in other countries may be appropriate and beneficial for increasing awareness and interest in male family planning services, especially for vasectomy.
   - Importantly, it is vital to ensure that increasing SRH information and services for men does not have a negative impact on women's access to SRH services, which require continued focus and investment.
   - Some male family planning method-specific recommendations include:

Male condoms	Increase easy access to condoms and lubricant at both health and non-health locations (for example, use of easy-access condom dispensers; more engagement with pharmacies etc) Increased promotion about the dual function of the condom to prevent STIs and pregnancy, and the ability to use them concurrently with other methods of contraception.

	Natural methods	Increase awareness about the role of men in the use of natural family planning methods, within the community and the health care system. Promotion of natural family planning should ensure risks and efficacy are accurately and clearly communicated. Access or referral to modern methods of family planning should always be available.
	Vasectomy	Identify, upskill, and support a small yet sustainable cadre of health care providers to provide vasectomy services. This could be done in Timor-Leste or through clinical exchange in another country location which currently provides routine vasectomy services. Develop targeted health promotion messaging for men. Possible starting points include the male partners of couples who express not wanting to have any more children, helping to shift the burden of permanent method use from the female to male partner.

2. Strengthen and expand current family planning programming beyond maternal and child health services, to reach more diverse groups, across the lifespan.

- Use appropriate terminology and language about the prevention of pregnancy, that can be understood by different target groups. Contraception may be an appropriate term worth exploring.
- Support, empower, and utilise more diverse clinical staff (midwifes, nurses, doctors, counsellors) to provide family planning counselling and services both in and outside the field of maternal and child health care. This is especially important for men, young people, single people, people who do not have or do not want children and all others who may not need or feel comfortable about accessing health services through maternal and child health pathways.
- Increased task-sharing between different professional cadres, so health care providers are more able and likely to provide holistic SRH services to individuals in their care.
- Include consideration of sexual pleasure into all service delivery programming.
- Given the importance that religious leaders have in shaping conversations and access to SRH services, better engagement with these important figures at both national and local levels would help enable increased access to services.

3. Strengthen pre-service and in-service training initiatives for health providers

- Include male SRH and male methods of family planning in pre-service education and training. Ensure clinical and other health students in Timor-Leste have good knowledge and understanding before graduating and entering the workforce.
- Include male methods of family planning and male SRH in training programs for in-service health care providers. This is especially important acknowledging that health care providers may have received clinical training overseas.
- Changes in provider training and social norms will invariably take time, so immediately focusing on the professional responsibilities and roles of the health care providers may be a good first step to ensure the personal beliefs of a health care provider do not inhibit them from providing inclusive, equitable, quality, and client focused SRH services.

4. Strengthen alignment and coordination between existing sexual health and reproductive health initiatives.

- Improved coordination and collaboration between family planning and sexually transmitted infection (STI) initiatives.
- Training and supporting health care providers (nurses, midwives and doctors) to deliver both contraception and STI services as part of the primary health care package.
- Ensuring all health care providers working in SRH have the skills, knowledge and support to identify and respond to cases of sexual and gender-based violence.

5. Strengthen and streamline awareness, understanding, and implementation of national SRHR policies and practices for family planning service provision.

- Increase pre-service education and training about national SRHR policies and laws. Ensure clinical and health students in Timor-Leste have good knowledge and understanding before entering the workforce.
- Include relevant national SRHR policies and laws in family planning training for in-service health care providers. This is especially important acknowledging that health care providers may have received clinical training overseas.

- Ensure health managers and directors have correct knowledge about national SRHR policies and laws so they are better able to support and empower health care providers to uphold professional standards of care.

- Ensure timely, formal, and transparent communication and dissemination of any SRH policy or practice updates. This is important for consistency across the health workforce.

- Support individuals and communities to know and understand their rights and opportunities to access SRHR information and services, through education, awareness, and health care service transparency. Providing a formal opportunity for Timorese people to ask questions, provide feedback, and to clarify any changes in national policy or practice is also important for health service quality and equity.

6. Encourage more open, healthy, and rights-based discussion about gender equity and SRHR.

- Invest in social and behaviour change initiatives that focus on shifting harmful social norms around gender, violence, and SRHR for individuals, couples, communities and health workers.

- Ensure consent to sexual relations and individual rights remain central in any discussion about family planning use.

7. Include more SRHR questions tailored to men in health monitoring and surveys.

- For example, within the Demographic and Health Survey program, to better understand male perspectives, experiences and meet their health needs.

Challenges and limitations

This study was not without its challenges and limitations. These include:

- Participants came from seven of Timor-Leste's 13 municipalities. Timor-Leste is a culturally and socially diverse nation so our findings might not apply to all locations and communities in Timor-Leste. For a qualitative research study however, a very high number of participants were involved. We did reach data saturation, meaning that findings were repeated by more than one participant or group during the data collection period.
- The study only included participants aged 18 years and over. Future research might usefully look at the experiences and views of those who are younger.
- Further research into the SRH service access experiences of single people and people without children (independent of age) may also provide more useful findings that can be used to increase service access. A follow-up study may also be useful to compare changes in attitudes over time.
- Although PGDs were implemented in peer-specific groups organised by gender and age, some PGD groups did contain participants who were either younger or older than anticipated. Although they were few, this occurrence may have diluted some of the age-specific findings.
- Our study focused on male contraceptive methods used for the prevention of pregnancy in heterosexual relationships. Our study included only limited investigation about the use of male contraceptive methods for the prevention of pregnancy and STIs among men who have sex with men, transgender people, or people who do not identify as either male or female.
- PGD participants were invited to participate in either a male or female PGD, based on their personal gender preference and comfort. People who do not identify as either male or female may have felt excluded.
- The COVID-19 pandemic had significant impacts on this research work. Translation and transcription of PGD and IDI data was delayed by over eight months due to serious and urgent public health impacts from the COVID-19 pandemic, including the inability to meet and the need of the field research team to re-focus on essential SRHR service provision. We were unable to return to check the interpretation of our findings with PGD participants as originally planned, due to the inability to travel and meet in-person.
- Although we had diverse language skills as a team of five, we didn't speak all the languages usually used by the participants that we spoke with. Some participant meaning is likely to have been lost during the data collection, translation and/or analysis process.
- The collaborative and team approach, along with the methods used, were time-consuming and human-resource intensive. Completion of this research was, therefore, only possible due to the operational research approach taken.

Conclusion

Our research has found new and important information about access to male methods of family planning in Timor-Leste. A large number of participants were involved in our study, sharing important insights from both the supply and demand side of the health system. While our study focused on male methods of family planning, our findings provide important insights around access to SRHR information and services for a wide range of people including people of different genders, ages, and sexual orientations.

Much work remains in Timor-Leste to ensure quality, comprehensive SRHR information is available and accessible to all people across the age spectrum. There is also ongoing need to promote notions of respect, consent, gender equality, and strategies for ending violence against women.

While there is a need to continue and expand current SRHR initiatives targeting women, Timor-Leste has a unique and exciting opportunity to now also target men. Numerous barriers and challenges around improving SRHR and the uptake of male family planning services were identified in our study, along with many promising enablers and opportunities.

When better meeting the SRHR needs of men and couples, significant benefits are also gained for individuals, families, and the wider community.

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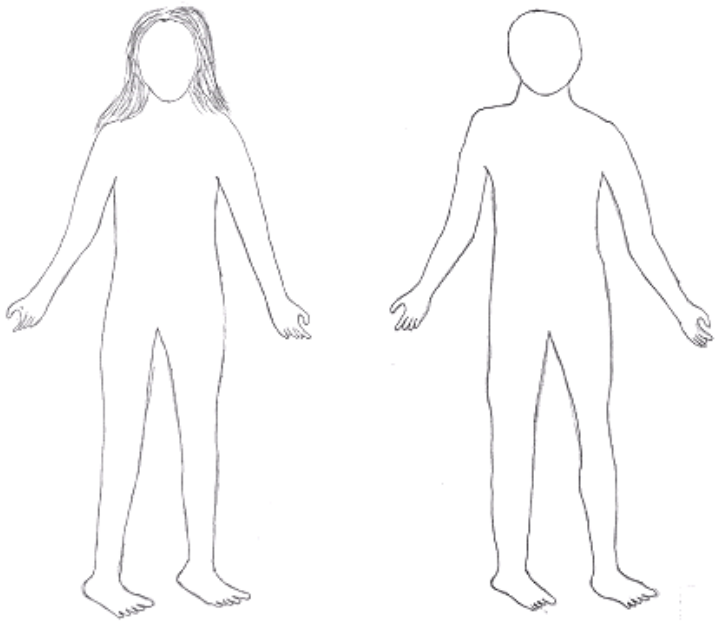
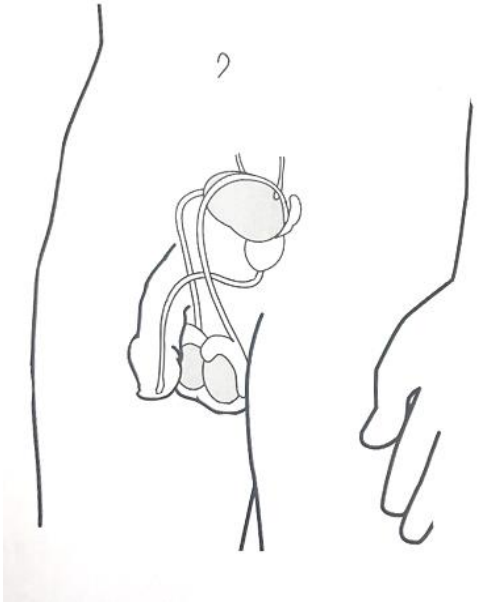
Annex 1: Research tools - body map templates



Body map image A) Used in both PGD and IDI research activities



Body map image B) Used in only IDI research activities

Annex 2: Research tools - vignettes

Vignette 1: Juliana and Carlos

Used in Group 1. Targeting a younger demographic, about the prevention or delay of first pregnancy

Juliana is a 19-year-old university student in Dili. She is in her first year of an engineering degree. She is currently dating Maun Carlos, who is 21 years old. Carlos is in his second year of studying business at university.

They have been talking about getting married and starting a family but are not sure if it's what they want to do yet. They feel so young and have many goals and dreams that they want to achieve first, before starting a family. This includes finishing university and trying to find work.

Prompt Questions:

1. What could Juliana and Carlos do to prevent pregnancy?

2. Who would be a good person for Juliana to talk to and get information about how to prevent pregnancy?

3. Who would be a good person for Carlos to talk to and get information about how to prevent pregnancy?

4. Other than pregnancy, are there any other health issues that Juliana and Carlos should think about if they are already sexually active?

5. What are some of the challenges or barriers they may face in accessing information or health care?

6. Who is responsible for making sure Juliana doesn't become pregnant?

7. What do you think would happen if in the future they decide not to marry and instead have a romantic relationship with somebody else?
   - What would be the implications for Juliana?
   - What would be the implications for Carlos?

Vignette 2: Alotu and Pedro

Used in Group 2. Targeting an older demographic; about completed families and the prevention of any further pregnancies

Alotu is 36-year-old and married to 40-year-old Pedro. They are blessed to have four children - three boys and one girl. They live in a remote area in Ermera and grow coffee beans to sell at the markets. They work hard on their farm to make sure they have food every day and their children can go to school.

Alotu feels very tired and busy after the birth of their fourth child, but deeply loves and cares for all of them. She gave birth to two of them at home, and two at the nearest health post, with the help of a midwife. They sometimes worry about how they will pay for the bride-price of their three sons to get married in the future. Pedro has carefully divided their land so their children have land to inherit.

Both Alotu and Pedro are happy with the size of their current family and don't want to have any more children.

Prompt Questions:

1. What do you think about the size of Pedro and Alotu's family?
2. What do you think about Pedro and Alotu not wanting to have any more children?
3. What could Pedro and Alotu do to prevent having another baby?
4. Who would be a good person for Alotu to talk to and get information about how to prevent pregnancy?
5. Who would be a good person for Pedro to talk to and get information about how to prevent pregnancy?
6. If Alotu and Pedro decided to speak with a health care provider, do you think it's better for them to speak to a health care provider about this together, or separately? Why?
7. When would Pedro go to a health care facility? What other health services could Pedro access at a healthcare facility?
8. Who is responsible for making sure Alotu doesn't become pregnant again?
9. If he could, do you think Pedro would use family planning to prevent having any more children? Why?
10. If Pedro decided to use family planning to prevent having any more children, what would Alotu think about this?
11. If Pedro decided to use family planning to prevent having any more children, what would their family and friends think about this?
12. What could happen if Pedro changed his mind and decided he wanted another baby?
13. What could happen if Alotu changed her mind and decided she wanted another baby?

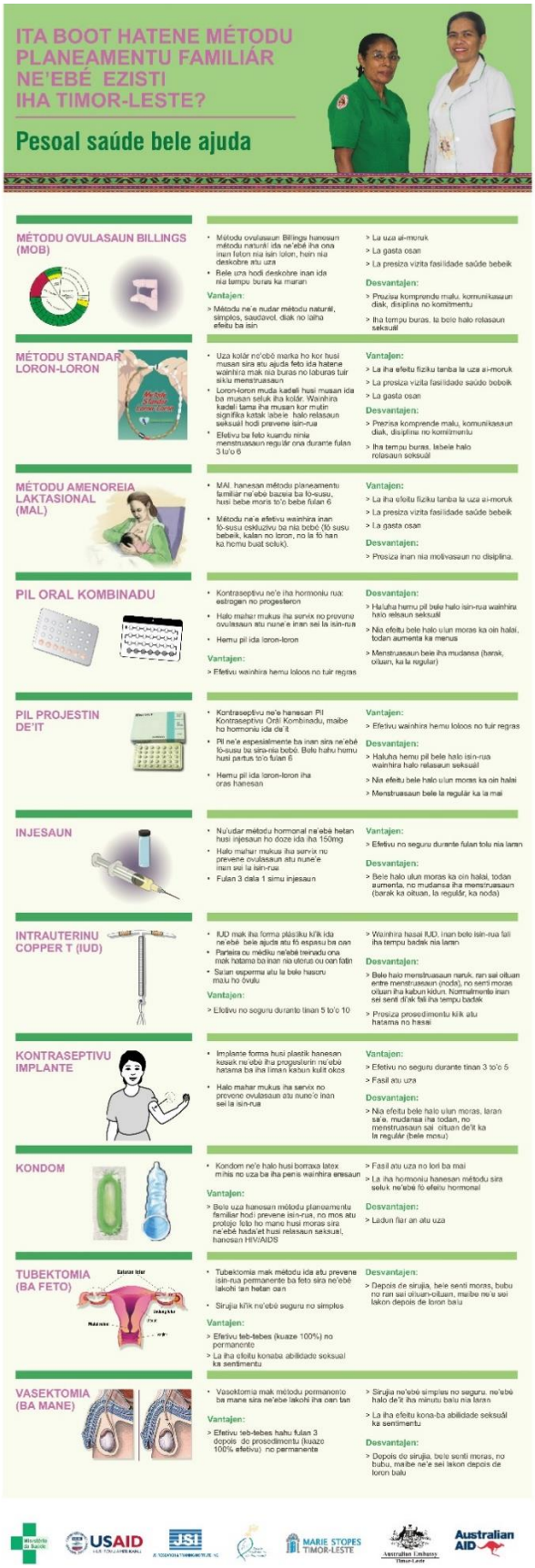
Annex 3: Research tools – facilitated family planning discussion

1. Introduce the Ministry of Health family planning wall banner to participants. Use the following prompt questions to facilitate discussion:
    - *Has anybody seen this before? Where?*
    - *Has anybody seen or heard information that is like this poster, but is different? What did you see? Where did you see this?*
2. Briefly discuss each option available on the wallchart. Provide example methods to touch and hold. Explain we will write-down any questions people have and answer them at the end of the research activity.

Prompt Questions:

3. Condoms
    - What words could be used to describe a condom?
    - What do you think people might say or think when they hear about or see a condom?
    - Who can use a condom?
    - Where could people access condoms?
4. Vasectomy:
    - What words could be used to describe vasectomy?
    - What do you think people might say or think when they hear about vasectomy?
    - Who can access a vasectomy service?
    - Where could people access a vasectomy service?

5. Natural family planning:
    - What words could be used to describe natural family planning methods?
    - What do you think people might say or think when they hear about natural family planning?
    - Who can use natural family planning methods?
    - Where could people get information about natural family planning methods?
6. Finish the activity by facilitating these remaining questions with the group:
    - *Thinking back to the story about (Carlos and Juliana)/(Pedro and Alotu), what might be a good family planning method for them to consider using? Why?*
    - *Are you surprised by any of the family planning methods you see here?*
    - *If you wanted to learn more about these family planning methods, where could you go? Who could you ask? Who would you want to learn from?*



Ministry of Health family planning wall banner

Annex 4: Research communication plan

To date, the research has been shared in the following ways:

- This plain language report, available in Tetun and English.
- An abstract was included in the 2019 Timor-Leste National Health Institute Research Bulletin, in Tetun and English.
- A presentation about research methods was given at the 10th Asia Pacific Conference on Reproductive and Sexual Health and Rights, held online in July 2020 as a result of the COVID-19 pandemic, but was originally scheduled to be held in Cambodia from May 26th – 29th 2020: https://www.facebook.com/APCRSHR10/videos/live-3rd-session-of-apcrshr10-virtual-on-sexual-and-reproductivehealth-and-right/633572727555562/
- A presentation about research process was shared at the online Sixth Global Symposium on Health Systems Research, held in October 2020.

Research outcomes will also be made public and shared through several diverse pathways. This will include:

- Shared verbally with participants and communities across Timor-Leste, through municipality based MSTL educators and staff.
- A series of social media posts, in Tetun and English.
- Four to five peer reviewed research papers, in English. Abstracts of all articles published will be translated into Tetun and shared with key stakeholders in Timor-Leste.
- A PhD dissertation, expected to be completed at the University of Melbourne in 2023.
- Presentations at national and international conferences, research, and education events.