

EXPLORING WOMEN'S KNOWLEDGE, ATTITUDES AND
PRACTICES ABOUT FAMILY PLANNING IN A RURAL AREA
OF TIMOR-LESTE

Angelita Maria de Jesus Gomes

Student ID: 15871900

Thesis submitted in partial fulfilment of the requirement for the degree of
Master of Public Health

School of Public Health and Psychosocial Study

Auckland University of Technology

May 2018

ABSTRACT

Introduction: Family Planning (FP) has been recognised as an important public health intervention for reducing the reproductive health burdens occurring among women. Timor-Leste has been reported as having the highest rate of maternal mortality (557 per 100,000 livebirths) and fertility rate (4.2 per women childbirth) among the other Southeast Asian countries. Family planning has been justified as systems which provide support to reproductive women or couples to achieve positive goals; to prevent pregnancy, and the control and planning of the spacing, and number of child births. FP initiatives are aimed at reducing poverty, improving maternal and child health, and decreasing maternal fertility and mortality rate in Timor-Leste. However, poor use or a lack of family planning in Timor-Leste contributes to unmet FP needs, with higher rates of maternal mortality and fertility rate in the country, with only 24% of married women using FP.

Aim of research: The aim of this study was to explore rural women's knowledge, attitude and practice in relation to utilisation of family planning in Timor-Leste.

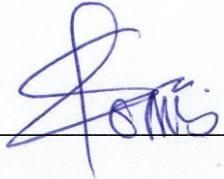
Methodology: Using a qualitative descriptive approach, the study sought to identify the different factors which may influence women's perceptions and experience regarding decision making related to family planning. The study conducted three focus group discussions with 25 married women aged between (18 – 45 years) in rural areas of Suai-Covalima district of Timor-Leste. Their data was thematically analysed.

Finding and discussion: This study identified that there are positive perceptions in favour of family planning use. However, there was a lack of knowledge about family planning contraception methods. FP had not been fully understood by the women participants and this had contributed to women and their family having misunderstandings about side-effects and impact on infertility. Timorese culture, specifically the patriarchal society, strongly influenced FP decision making. To help empower women education on FP should include men so that future FP decisions are more likely to be shared. Traditionally, Catholic teaching has not favoured modern FP. However, the women in this study were not influence by the Church, which may have been a particularity of this specific group of women. Health literacy was seen as central to improving understanding of FP in terms of its benefits and side-effects. In addition,

enhancing health providers' access to up to date FP information and training will help increase future family planning utilisation.

ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed  Date 10th July, 2018

ACKNOWLEDGEMENTS

Sincerely, I am grateful and would like to offer my gratitude and appreciation for all the support in completing my study here at AUT, particularly in completing this thesis.

First of all, my gratitude goes to New Zealand Development Aid (NZ Aid) Scholarship for providing full sponsorship during my study in New Zealand. I was truly humbled and blessed to have received this golden opportunity. Without this scholarship, students such as me would be unable to attain the master's degree of public health at Auckland University of Technology (AUT), – New Zealand. The completion of this academic journey has enriched me with abundant knowledge and skills that will address the needs and improvement of maternal and child health issues in Timor-Leste.

My sincere thanks to AUT for offering a place to take this study of public health. My special thanks to staff within the School of Public Health and Psychosocial Studies, Postgraduate Student Learning Centre, International Student Support Centre and International Scholarship Office team for all support provided throughout my studies.

My special thanks to my two supervisors Ms. Amanda B. Lees and Dr Jagamaya Shrestha-Ranjit who have both been very patient, supportive and great mentors on my research journey. Also, my special appreciation to Dr Penny Neave who has been a great tutor and proof reader assisting me throughout the whole process of my thesis writing. A special thanks to Ms. Sue Knox who has also assisting me with formatting, to ensure that my thesis is followed the APA format style. It is indeed my honor and a great privilege to work with such a wonderful and generous people like them.

I would like to offer a big thanks to the Institute National Health (INS) of Timor-Leste in Dili and Suai-Covalima District Health Services for their approval in allowing me to undertake the study, from May to June 2017. Special thanks to the rural women participants in Suai district for being very cooperative, patient, and willing to be involved in the focus group and sharing their views, perceptions and experience of family planning and related topics.

For my beloved family in Timor-Leste, I am very much indebted on them especially to my beloved father Filomeno Gomes and my very supportive mom Constancia de Jesus who had been very patient, loving, and caring in taking care of my three children while both my husband (Jose Antonia) and I were absence for our further studies abroad. My Parents in-law Tarcisio da Costa and Rosa Meco who were also very supportive. Heartfelt thanks to my beloved children; Giovanni (10), Cornelio (8) and Chiara (5) for patiently waiting for me to finish this study and not forgetting my other siblings, they were also a very supportive and helpful people. I am truly blessed to have them all be part of my life.

Finally, to all my fellow NZ Aid scholars, it's been a great privilege to share this challenging journey with you all. Your friendship, support and encouragement deserve my heart felt gratitude.

Certainly, Praise be to God Almighty for His endless love, protection, and grace upon me! I am grateful always to God Almighty for breathing in me the life and energy to pursue my dream throughout this academic journey.

CONTENTS

Abstract	i
Attestation of authorship	iii
Acknowledgements	iv
List of figures	viii
List of tables	viii
List of abbreviations	ix
Chapter 1 Introduction	1
1.1 Definition of family planning	1
1.2 The importance of family planning as a public health issue	2
1.2.1 Reducing poverty through family planning	2
1.3 Health effects of unplanned pregnancies	4
1.3.1 Abortion	4
1.3.2 Maternal mortality	5
1.3.3 Child mortality	6
1.4 Family planning in developing regions	8
1.4.1 Unmet family planning needs	8
1.4.2 Geographical differences in types of family planning used	10
1.5 Family planning in Timor-Leste: Historical and socio-political overview	11
1.5.1 Geography	11
1.5.2 Demography	11
1.5.3 Social health determinants	12
1.5.4 Health care system	12
1.5.5 Economic and cultural systems	14
1.5.6 Religious beliefs	15
1.5.7 Family planning interventions from the Indonesia occupation until today	16
1.5.8 Family planning service utilisation overview	16
1.6 Aim of the study	18
1.7 Potential benefits of this study	18
1.8 Research questions	19
1.9 Researcher's position in this study	19
1.10 Organisation of the thesis	20
Chapter 2 Literature Review	21
2.1 Introduction	21
2.2 Geographical context	22
2.3 Knowledge, attitude and practice towards family planning	22
2.3.1 Knowledge of family planning	23
2.4 Factors influencing attitudes and practices of family planning	26
2.4.1 Family disapproval	26
2.4.2 Religious perspective	27

2.4.3	Cultural influences	29
2.4.4	The impact of gender	29
2.4.5	Health literacy	30
2.5	Summary	32
Chapter 3	Methodology.....	33
3.1	Introduction	33
3.2	Methodological positioning	33
3.2.1	Paradigm of inquiry.....	33
3.2.2	The research designs	34
3.3	The study site, participants, data collection and data analysis.....	35
3.3.1	The study sites.....	35
3.3.2	Participants of the study	35
3.3.3	Participants recruitment process	35
3.3.4	Pilot study	36
3.4	Data collection	37
3.4.1	Focus group discussion	37
3.5	Data analysis	39
3.6	Credibility of the study	40
3.7	Ethical considerations	41
3.7.1	Obtaining ethical approval	42
3.7.2	Informed consent.....	42
3.7.3	Maintaining confidential and anonymity	42
3.8	Research reflection.....	43
3.9	Summary	44
Chapter 4	Findings	45
4.1	Introduction	45
4.2	Demographic characteristics of the participants	45
4.3	The study findings.....	45
4.4	Perceived advantages of family planning	46
4.5	Knowledge and experiences about family planning methods.....	47
4.5.1	Modern contraception	47
4.5.2	Natural methods of contraception	48
4.6	Enablers/barriers in utilising family planning.....	49
4.6.1	Attitudes towards services provider	49
4.6.2	Negative experiences of adverse effects of family planning	50
4.6.3	Family influences	51
4.6.4	Impact of spiritual belief on utilising family planning.....	53
4.7	Conclusion	54
Chapter 5	Discussion	55
5.1	Introduction	55
5.2	Importance of family planning.....	55
5.3	Knowledge, attitudes and practice of family planning.....	57
5.4	Relationship with service providers	59

5.5	Enablers and barriers of family planning	60
5.5.1	Traditional family planning methods	61
5.5.2	Cultural and religion	61
5.5.3	Family influence.....	63
5.5.4	Impact of health literacy.....	64
5.5.5	Impacts of side-effects	67
5.6	Strengths and limitations of the study	69
5.6.1	Strengths of the study.....	69
5.6.2	Limitations of the study	70
5.7	Recommendations	70
5.7.1	Inclusive family planning.....	70
5.7.2	Community level.....	71
5.7.3	Health service providers.....	71
5.7.4	Future research	72
5.8	Conclusion	72
	References	74
	Appendices.....	87
	Appendix A: Geographical location of Timor-Leste & Suai-Covalima District	87
	Appendix B: Ethics approval – Institute National Health of Timor-Leste	88
	Appendix C: Participants recruitment flyer	90
	Appendix D: Research information sheet (English and Tetum)	92
	Appendix E: Participants consent form for FGDs (English and Tetum)	98
	Appendix F: Question guide for FGDs	100
	Appendix G: AUT Ethics Committee approval	101

LIST OF FIGURES

Figure 1: FP Prevalence (NSD-TLDHS, 2010a & 2016b)	17
Figure 2: Fertility trend, 2003 - 2016 (NSD-TLDHS, 2016b).....	18

LIST OF TABLES

Table 1. Health effects of unplanned pregnancy.....	9
Table 2. Focus group discussions characteristics.....	39

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ANC	Ante natal care
AUT	Auckland University of Technology
DHS	Demographic and Health Survey
FP	Family Planning
IUD	Intra uterine device
KB	Keluarga Berencana (Indonesian phrase meaning Family Planning)
LMICs	Low and middle-income countries
TLDHS	Timor-Leste Demographic Health Survey
MDG	Millennium Development Goal
MOH	Ministry of Health (Timor-Leste)
MFP	Modern Family Planning
NFP	Natural Family Planning
NSD	National Statistics Directorate
SISCA	‘Servicu integradu saude communitaria’ or Integrated Community Health Services
TFR	Total Fertility Rate
UN	United Nations
UNICEF	United Nations International Children’s Emergency Fund
UNFPA	United Nations Population Fund
WHO	World Health Organisations

CHAPTER 1 INTRODUCTION

Low utilisation or poor use of family planning (FP) services may impact women and their partners from meeting their needs for family planning, preventing pregnancy and birth spacing. This may in turn result in high fertility and increases in maternal morbidity and mortality, which remain a priority issue in Timor-Leste (Belton, Whittaker, & Barclay, 2009a; Bongaarts, 2014).

Timor-Leste's fertility rate of 5.7 births per woman and a maternal death rate of 557 maternal deaths per 100,000 live births are considered the highest rates in the Southeast Asia region (National Statistics Directorate (NSD), 2010a; Belton et al, 2009a). Although some causal associations are difficult to ascertain, researchers have suggested various maternal reproductive health problems, noting that higher maternal deaths stem from women experiencing unplanned births, induced and unsafe abortions and miscarriages (Sedgh, Singh, & Hussain, 2014).

Evidence suggests that sustained and strengthened family planning programmes in the community would help reduce these issues and save lives (Bongaarts, 2014; Sedgh et al., 2014). This would also help address the United Nations (UN) Millennium Development Goals (MDGs), specifically the maternal health targets of providing universal access to reproductive health (Bongaarts, 2014). This has particular relevance for developing countries, such as Timor-Leste and many other Southeast Asian and Pacific countries where similar challenges exist including cultural and religious barriers to improving maternal health.

1.1 Definition of family planning

As defined by Shah (2010, p. 164) family planning essentially aims at “enabling individuals and couples to attain the desired number, spacing and timing of their children, through the use of modern or natural/traditional contraceptive methods”. These include the provision of modern contraceptives, sex education and natural FP techniques.

Some modern FP methods such as injectable Depo-Provera, oral contraceptive pills and implant Norplant alter a woman's hormones to prevent her becoming pregnant, whereas others, including condoms for men and diaphragms for women act as a barrier to

conceive. Permanent modern contraception methods include laparoscopic tubal ligation for women and vasectomy for men (Hubacher & Trussell, 2015).

Aligned with modern FP methods is sex education, which educates people about how their reproductive systems function, how to use contraceptives as well as providing information about their side effects. This also provides people access to information, services and psychological support for their current and future decisions about the spacing of pregnancies.

Natural FP is a method of birth control that requires abstention from sexual intercourse during the period of ovulation, which is the time when a woman is most fertile. This period is identified by observation and measurement of bodily symptoms. Natural family planning does not need any devices, drugs, or surgical procedures for women to avoid pregnancy and so is considered affordable and acceptable to people from many cultural and religious backgrounds (Zorea, 2012). Some religions promote natural FP, for instance the Catholic Church considers modern contraceptive methods to be contrary to its moral beliefs and their use to be sinful, because of the beliefs that modern contraception prevents a divine plan to bring a new life into the world (Zorea, 2012). Significantly Catholicism holds that life begins at conception, any fertilised egg is an embryo and a potential human person. This belief has prevented some Catholics from practising modern FP methods. For example, a study conducted by Hirsch (2008) in Mexico, found that a key reason for women preferences for natural FP methods was their discomfort with using methods prohibited by the Church.

1.2 The importance of family planning as a public health issue

Family planning is a significant public health intervention as it helps to reduce poverty, hunger, and maternal and child deaths among families of low socioeconomic status (Cleland et al., 2006). In many developing countries, family planning has been part of development strategies in reducing fertility, improving socio-economic status and reducing maternal and child mortality (Miller, 2010).

1.2.1 Reducing poverty through family planning

Based on global 2012 data, approximately 12.7 % of the world's population or 897 million people in the world live under extreme poverty (Ferreira et al., 2016). This extreme poverty means few household assets and little income and can result in people suffering from malnutrition and poor health (Kent, 2010; Munang, Thiaw, & Rivington,

2011). Reducing poverty is seen as important not only from a humanitarian perspective, but also because reducing material deprivation has always been considered central to the topic of economic development (Chibba, 2008; Munang et al., 2011). Improvement in family planning and subsequent improvement in socioeconomic status has been quantified by Miller (2010), who showed that women aged between 15-19 who have accessed family planning services attained 0.05 more years of schooling, were 7% more likely to work in the professional sector and were 2% less likely to cohabit with male partners (Miller, 2010). It has also been suggested that in addition to reducing socio-economic burdens, by improving women's status, they are more likely to be involved in many social activities which in turn improves their health and wellbeing (Miller, 2010).

However, despite these advantages, Kent (2010) has stated that in many developing countries, women from poor household are less likely to have access to family planning services than richer women, even when they want to delay or avoid pregnancy. According to Kent (2010), around one-third of women in the poorest fifth of low-income countries globally have an unmet need for family planning. Many women do not want to get pregnant but do not use family planning methods. This can push millions of people into extreme poverty (Kent, 2010). Miller (2010) suggested that introducing young teenagers and women to different type of FP methods is beneficial as it may help and provide opportunities for them to gain access to FP and prevent unwanted pregnancies, which may put women at risk of illegal or legal abortions. As a result, pregnancy can be prevented. This may help empower women to be educationally and socioeconomically independent which may also increase socio-economic status (Barut, Agacayak, Bozkurt, Aksu, & Gul, 2016; Miller, 2010). Furthermore, according to Rutstein (2005), the longer the birth interval, the lower the risk for child mortality. In this respect, improving social economic status is an important social determinant that can have a profound effect on reproductive health as well as reducing the risk of maternal and child mortality. Therefore, the availability and accessibility of modern family planning enables women to have space between births and this has been estimated to result in women having fewer children in their lifetime (Miller, 2010). The findings of these studies confirm that family planning is a significant public health intervention to improve the socio-economic status of women (Miller, 2010).

1.3 Health effects of unplanned pregnancies

Unplanned pregnancies can have a number of negative impacts on maternal and child health, including abortion, maternal and child mortality.

1.3.1 Abortion

The term abortion, according to the World Health Organisation (WHO) definition, cited by Belton et al. (2009a, p. 8) is “the loss of a baby before 20 weeks of pregnancy or one weighing about 500g before viability”. Ardestani, Esfahani, and Hussieni (2016) state that abortion is the termination of conception before the foetus has the capability of living independently outside of the mother’s womb. Unintended or unplanned pregnancies can tempt a woman to illegally induce an abortion. It is critically important to note that unsafe abortion is the third largest (before excessive bleeding and infection) cause of death during pregnancy worldwide and contributes to high morbidity and mortality among women in developing countries including Timor-Leste, where abortion is illegal (Belton, Whittaker, Fonseca, Wells-Brown, & Pais, 2009b). For those who survive unsafe abortions, there can be significant consequences for their health, particularly as complications from illegal abortion are unlikely to be properly treated. Appropriate health care for women who undergo illegal abortions is critically important, in particular in countries where abortion is still illegal (Bankole et al., 2014; Levandowski et al., 2012; Victora et al., 2011).

Substantial variation exists in the proportion of pregnancies that ends in induced abortion or unsafe abortion across the world. In a 2008 report, which focused on developing countries, it was found that 41% of unsafe abortions were among women aged 15-24 years, of these 15% were among women aged 15-19 years and 26% were among women aged 20-24 years (Ahman & Shah, 2012). More recently a WHO (2017) report showed that between 2010 and 2014, 97% of unsafe abortions occurred in developing countries in Africa, Asia and Latin America. Despite limited literature published on Timor-Leste data regarding abortion rates, unsafe abortion was considered significant, contributing to a high maternal death rate and serious maternal morbidity in Timor-Leste (Belton et al., 2009b). There have been reports in the media that the abortion rate in South East Asia is 36 per 1,000 women. This includes Timor-Leste as well as Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam (CBS-NEWS, 2018). Sedgh et al. (2014) reported

that for women in Asian sub-regions, between 39-77 percent of unwanted pregnancies ended in abortion, compared to a rate of 39 percent in North America.

1.3.2 Maternal mortality

The United Nations Children's Emergency Fund (UNICEF) defines maternal mortality as;

The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental cause (UNICEF, 2014, p. 4).

Reasons for maternal deaths include problems which occur during labour, delivery and the immediate postpartum period, such as obstetric disorders, haemorrhage, hypertensive disorders, preventable preeclampsia and eclampsia, as well as other complications (Ghulmiyyah & Sibai, 2012). According to Ghulmiyyah and Sibai (2012), compared to older mothers, adolescent mothers are at most increased risk of adverse pregnancy outcomes. Several studies had proved that there is an association between women of young age and childbirth, with higher risks to maternal and infant health, as well as pregnancy complications (Cavazos-Rehg et al., 2015; Gibbs, Wendt, Peters, & Hogue, 2012).

According to global data published by Say et al. (2014) between the years 2003 to 2009, approximately 73% of all maternal deaths were caused by direct obstetric causes and 27.5% of all deaths caused by indirect causes. Direct obstetric causes included haemorrhage which accounted for 27.1% of all deaths, hypertensive disorders which accounted for 14.0%, sepsis 10.7% and the remainder of deaths were due to abortion 7.9%, and embolism 3.2% and other direct causes of deaths 9.6% and more than quarter 27.5% of deaths were attributable to indirect causes. All these causes of deaths were responsible for more than half of maternal deaths globally (Say et al., 2014).

Family planning has strong influence on saving lives and improving the health of women, children and the whole family (Stover & Ross, 2010). It has become one of the primary approaches for countries to achieve the sustainable development goals, specifically goals that are concerned with improved child and maternal health outcomes (Cleland et al., 2006).

Focusing specifically on maternal mortality in Timor-Leste, the FP programme is one of the public health priority interventions to improve maternal and child health (Alkema, Kantorova, Menozzi, & Biddlecom, 2013). In terms of the MDGs or sustainable development goals, particularly Goal 5 which aims to improve maternal health, the Ministry of Health (MOH) in Timor-Leste is scaling up its efforts to improve the health care system and so reduce ill-health, disability and death (MOH, 2011a; Cleland et al., 2006)

1.3.3 Child mortality

There are a number of definitions in relation to child mortality (Sullivan, Rutstein, & Bicego, 1994), including the probability of dying between age one to five years per 1,000 children (Sullivan et al., 1994), while under-five mortality is defined as the probability of dying from being born until reaching the fifth birthday (Roser, 2017; UNICEF, 2017). There has been a gradual reduction in the under-five children mortality rates in many developing countries. In developing countries, pneumonia, diarrhoea, neonatal intrapartum-related events, malaria and measles, were responsible for 61% of the total reduction of 35 per 1000 livebirths in the under-five mortality rate in 2000-2015 (Liu et al., 2016). UNICEF (2017) reported the under-five mortality rate was 41 deaths per 1,000 live births in 2016, however the rate of child death was still much higher in developing countries including those in South Asia and Sub-Saharan Africa compared to developed countries (Black et al., 2010; Liu et al., 2016).

According to the WHO (2006) a neonatal death is defined as the death of a child before reaching 28 days of age. The neonatal mortality rate is the number of neonatal deaths per 1,000 live births (Lawn, Wilczynska-Ketende, & Cousens, 2006). Liu et al. (2016) reported that between 2000 -2015 neonatal deaths accounted for almost half (45.1%) of all deaths of children under-five. The leading cause of deaths among neonates were composed of preterm birth complications 15.9%, intrapartum-related events 10.7%, sepsis meningitis 6.8% congenital 5%, pneumonia 2.7%, and others related diseases 4% (Liu et al., 2016).

The NSD (2016b) of Timor-Leste's demographic and health survey 2016 report, showed the under-five mortality in Timor-Leste has declined from 83 to 64 deaths per 1,000 live births in 2010, to 41 deaths per 1,000 live births in the most recent 5-year period. Progress in child survival is similar to the infant and child mortality rates which have also decreased. Based on the NSD (2016b) report, it is suggested that skilled

providers play an important role in providing and monitoring antenatal care among pregnant mothers to prevent and/or reduce morbidity and mortality risk for the mother and child. This can be during pregnancy and delivery as well as during the postnatal period, within 42 days after delivery. In Timor-Leste, 87% of urban women received antenatal care (ANC) services compared to 72% of rural women (NSD, 2016b) providing the rationale for better understanding rural Timor-Leste women's maternal health needs.

Neonatal mortality rates decline when sufficient spacing between pregnancies is adopted (Roser, 2017). There is also evidence suggesting that spacing improves chances for young children to develop both physical and mental well-being. For example, when all children were spaced by a gap of at least 2 years, the risk of infant mortality rate in developing countries, would fall by 10%, and mortality of children aged 1-4 years by 21% (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012 ; Tejineh, Assefa, Fekadu, & Tafa, 2015). In contrary, as Cleland et al. (2012) suggests, the birth of a younger sibling within 2 years of the index child may negatively impact the child's physical development, with estimates of a doubling of mortality at ages 1-2 years, and smaller adverse effects at ages 2-4 years. Furthermore, Roser (2017) argues that it is significantly important to increase the quality of services to ensure survival of children under-five. Improving under-five child health will certainly reduce the burdens and risk of death but also increase the quality of life for children to be well developed both physically and mentally. Hence, a reduction in the fertility rate not only improves reproductive health outcomes, but also enables parents to dedicate more attention and resources to improve children's health, schooling and family economic status (Alkema et al., 2013).

Family economic status is an example of a wider determinant of health. This is a condition where people born, grow, live and work for life necessities (Eshetu & Woldesenbet, 2011). It is one of the important measures determining a wide range of people's health risks and outcomes. Providing appropriate and equal social determinants of health, has a significant impact that not only improves individual and population health but also advances health equity (Eshetu & Woldesenbet, 2011). This not only benefits family alone but helps improve the health outcomes of a mother and child (Labonté & Schrecker, 2007). The conditions in which people live, and access clean health services, water, sanitation and education can help provide them with opportunities for better and healthier lives.

Socioeconomic status is also another important social determinant of health. Poor families' income may risk individual's ability particularly under-five children, to obtain basic health needs and care (Labonté & Schrecker, 2007). Therefore, the higher the level of economic status of the household, the lower the level of disease burden in under-five children's health. Eshetu and Woldesenbet (2011) stated that socioeconomically caused inequalities in health are preventable through proper policy endeavours. They further suggest that once causal factors in each country are identified, policy can be prioritised to improve the delivery of basic health services and the cost-effective usage of scarce resources. This would likely help tackle the root causes of inequality (Eshetu & Woldesenbet, 2011). In addition, improving socio-economic inequality, improving education for women, and providing good accessible health services will also contribute to the reduction of child mortality (Roser, 2017).

1.4 Family planning in developing regions

According to the United Nations [UN] (2015) report, 18% of women of reproductive age worldwide were estimated to have an unmet need for modern family planning methods and 40% of those using modern family planning methods were in developing countries. The lowest rates of family planning prevalence among women were in the African region with only 33% of women using them. In comparison, higher contraceptive usage of 59 – 75% was reported in the Southeast Asia, and Pacific region (UN, 2015). However, unmet need for modern contraceptives was still very high in 2012 for some regions, where it was reported to be 60% in Sub-Saharan, south Asia 34% and western Asia 50% (Darroch & Singh, 2013). Use of modern and traditional FP in Timor-Leste has increased slightly over time, however there are still unmet needs. This includes about 25% of married women who want to postpone pregnancy for two or more years or who want to stop childbearing altogether but are not using any type of FP (NSD, 2016b).

1.4.1 Unmet family planning needs

The unmet need for family planning is defined as the proportion of reproductive women aged from 15 to 49 years old who wish to prevent or postpone pregnancy and childbearing but are unable to meet their needs due to not using any contraceptive methods (Alkema et al., 2013). It is recognised to be an important issue because there is an association between the practice of contraception and a lack of information about it.

The UN (2015) has estimated that by 2030 the growth in contraceptive use is expected to increase in sub-Saharan Africa and Oceania regions. However, the number of women with unmet FP needs globally is estimated to only slightly change from 142 million in 2015 to 143 million in 2030. This slight projected change may be attributed to the increasing number of women of reproductive age, particularly from the sub-Saharan Africa who may or not have access to modern FP services. Whereas, the Timor-Leste demographic health survey (2016) reported that 25% of married women have an unmet need for FP (NSD, 2016b). To achieve global targets and meet FP needs, the global community needs to take action in the coming years to ensure access to sexual and reproductive health, including FP programmes, and make reproductive rights a reality for all people at all levels (UN, 2015). Looking across the region in the Southeast Asia and Pacific, studies identified that there is a significant influence on adolescent women who commence sexual activity and childbearing in the context of low contraceptive prevalence and high need for contraception (Kennedy, Gray, Azzopardi, & Creati, 2011). According to Kennedy et al. (2011), adolescent women (15 – 19 years) have a lower use of contraception, poorer knowledge of FP and less access to information and services than adult women in both the Asia and Pacific region. Furthermore, the UN (2015) state that the use of modern FP methods has been generally poor and underutilised in many under-developed and developing countries. Underused FP are found specifically in people with low economic and literacy status.

The following section summarises health effects of unplanned pregnancy by issues, facts and current achievements in developing countries including Timor-Leste:

Table 1. Health effects of unplanned pregnancy

Factors	Issues	Facts	Current achievements
Abortion	The third largest caused the maternal death in developing countries including Timor-Leste	41% of unsafe abortions were among women aged 15-24 years, of these 15% were among women aged 15-19 years and 26% were among women aged 20-24 years	FP programme has a positive influenced and had contributed to the improvement and reduction of the maternal and child health globally including in Timor-Leste

Factors	Issues	Facts	Current achievements
Maternal mortality	Adolescent mothers are at most increased risk of adverse pregnancy outcomes	2003 to 2009, approximately 73% of all maternal deaths were caused by direct obstetric causes and 27.5% of all deaths caused by indirect causes	FP has strong influence on saving lives and improving the health of women, children and the family in developing countries including Timor-Leste
Child mortality	The rate of child death was still much higher in developing countries.	Timor-Leste has declined from 83 to 64 deaths/1,000 live births in 2010, to 41 deaths/1,000 live births	Health skilled providers play an important role in providing and monitoring antenatal to prevent child morbidity and mortality
Unmet need for FP	Women's lack of practice of contraception and information of FP	Estimated to change from 142 million in 2015 to 143 million in 2030 globally. Timor-Leste 2016 DHS report; 25% married women have unmet need for FP	Ensure women access to sexual and reproductive health, including FP programmes at all levels

1.4.2 Geographical differences in types of family planning used

Family planning usage is 75% in America and in Oceania is 59%, with use in New Zealand and Australia typical of levels in regions of Europe, while the level is much lower in Melanesia, Micronesia and Polynesia (UN, 2015). In Asian countries, the use of contraceptives ranges between 57 – 64%. However, the lowest level of contraceptive prevalence was found in Afghanistan and Timor-Leste at around 29% (Tsui, McDonald-Mosley, & Burke, 2010; UN, 2015).

The UN (2015) reported that modern FP methods were used by at least three in four contraceptive users in 148 countries, representing all regions worldwide. However, modern FP methods were found to be used in less than half of all contraceptive users in 11 countries. Natural FP methods were particularly used in Middle Africa, Southern

Europe and some Western Asian countries, where natural FP methods such as withdrawal were widely applied and was in contrast to the Middle East, where the rhythm method was more commonly practiced (UN, 2015). Rossier, Senderowicz, and Soura (2014) stated that the prevalence of traditional or natural FP methods tends to be complex to analyse due to discrepancies in the questions presented in the data collection methods used. However, if research can be collected using explicit wording about natural FP methods a greater understanding of their use would be possible (Rossier et al., 2014).

1.5 Family planning in Timor-Leste: Historical and socio-political overview

1.5.1 Geography

As the youngest nation in the world, the Democratic Republic of Timor-Leste is situated in Southeast Asia, sharing part of its border with Indonesia. One half of the island is called West Timor and is under the control of Indonesia. Timor-Leste is currently divided administratively into 13 districts: Lautem/Lospalos, Viqueque, Baucau, Manatuto, Aileu, Manufahi/Same, Ainaro, Ermera, Liquisa, Dili, Bobonaro, Suai/Cova-Lima and Oecussi/Ambeno. Dili is the capital city (Hosgelen & Saikia, 2010).

The eastern half of Timor-Leste was colonised by the Portuguese for 450 years and then occupied for 24 years by Indonesian military. Before and immediately after liberation from Indonesia, and shortly after the September 1999 referendum vote, destruction by the pro-Indonesian militia began and continued towards the end of the same year. This ruined almost all the infrastructure and living conditions in both urban and rural populations (Deen et al., 2013). Since then, the country has had to rebuild its health system, along with other country-wide reconstruction and re-development.

1.5.2 Demography

Timor-Leste has a population of 1.066.582 million, who speak more than 32 local dialects (Asian Development Bank (ADB), 2014; Nerini, Dargaville, Howells, & Bazilian, 2015). The country's official language is Portuguese. Although only 13.5% of citizens are able to speak the official language, 91% speak Tetum, the country's national language, with four percent communicating in Bahasa Indonesia and 5.8 percent speaking English (Molnar, 2009). Up to 50% of Timor-Leste population is illiterate. Average life expectancy for a male is 65 and 68 for a female (ADB, 2014; NSD, 2010a). The average fertility rate of 5.7 per women childbirth of reproductive age (15-

49) has contributed to a very rapid population growth over the last ten years (MOH, 2015).

1.5.3 Social health determinants

Poverty, low literacy levels, high fertility, poor access and utilisation of health care services, and socioeconomic status are believed to be the major factors that contribute to rising maternal and child deaths (557/100 000 live-birth and 44/1000 live-births) in Timor-Leste (NSD, 2016b; Khanal, da Cruz, Karkee, & Lee, 2014). However, since the early 2000's, there have been efforts from both the government and international aid providers to improve and reduce these health challenges which included family planning, perinatal care and immunisation coverage (Deen et al., 2013).

In addition, to achieve a primary health care system that is accessible and affordable by the community and is of adequate quality, service distribution relies heavily on available human resources, physical infrastructure and the level of government support, and funding allocated to the health sector (Hosgelen & Saikia, 2010). There is an immediate need for a widening of focus to provide an improvement in the health status of the country. These include prevention and improvements to meet the expectations of the population and internationally targeted standards; social determinants such as access to basic health services, clean water and sanitation, food and education (Hosgelen & Saikia, 2010). These not only increase the chance of survival when people have fallen ill, they provide opportunities for people to prevent ill-health and live a healthy life. Deen et al. (2013) found that low numbers of midwives and health facility deliveries in Timor-Leste was believed to be important factors contributing to the high rate of maternal deaths. Therefore, improving and increasing facilities and resources to help decrease the high maternal mortality trends in Timor-Leste need to be a priority.

1.5.4 Health care system

Timor-Leste's health services are divided into two different levels, hospital services and community health services (MOH, 2011a). There are five secondary referral hospitals and one regional national hospital in the capital city of Dili - Timor-Leste. Primary health care services are provided through the district health services structure, with community health centers, health post and outreach mobile clinic incorporating an integrated community health services or '*Servicu integradu saude communitaria*' (SISCA). The community-based activities are comprised by SISCA in all remote areas, schools, markets and communities providing frequent services in accordance with the

programme. There are two levels of hospitals providing secondary care in Timor-Leste (MOH, 2011a), whereas most tertiary care is organised and obtained through several overseas hospitals due to limited technology and specialised human resources. There is a need to enhance the efficiency and efficacy of health care service utilisation to ensure higher levels of care (MOH, 2011a).

There are 69 community health services and more than 200 health centers throughout the territory, having been established between 2002 and 2005 (NSD, 2010a; Khanal et al., 2014). This includes the 600 SISCA which aim to provide outreach mobile community health clinic at the community level in rural areas (MOH, 2011a). These outreach mobile community health clinics help to address the health needs of one third of households who would otherwise travel for more than two hours to reach the nearest health facility, helping to reduce the ratio of 1 in 10 families who do not seek health care assistance when sick (Martins & Trevena, 2011).

According to recent data presented by Price et al. (2016), only 22% of women in Timor-Leste gave birth in a health facility. While in urban centers 52.8% of women used these services, in rural areas only 12.4% of women gave birth in a health facility.

Furthermore, the 2014 World Bank Health Equity and Financial Protections Report highlighted that patients from the wealthiest quintile accessed hospital care 1.75 times more than people from the poorest quintile in Timor-Leste (World-Bank, 2014). These figures are significant given that accessing health care, especially emergency obstetric care in hospital, is the most crucial factor in reducing maternal mortality in the country.

The government and development partners' strategy has set a target to decrease maternal mortality as a primary public health intervention. The National Health Sector Strategic Plan 2011-2030 (p.19) states that "the government shall ensure equal access to quality healthcare according to the needs of individuals with the same health conditions" (MOH, 2011a). Based on this strategic plan, the government has set as a health objective to provide widespread and free primary and secondary care services that are of good quality and accessible to all citizens by 2030.

Evidence has shown that in many low and middle-income countries (LMICs), poor families often face inequalities and barriers to accessing hospital services (Price et al., 2016). There is a need to improve and provide accessible quality health care services to high risk populations. For instance, poor households and low socioeconomic status,

education, opportunity costs and sociocultural barriers considerably affect levels of utilisation and reduce health burdens particularly within susceptible groups.

1.5.5 Economic and cultural systems

In terms of socio-economic status, Timor-Leste is one of the poorest countries in the world (Deen et al., 2013). It is estimated that more than half of Timor-Leste's population live in poverty, which continues to grow (NSD, 2010a). With a population of more than 1.2 million, 75% of people live in rural areas and are largely sustained by subsistence farming (NSD, 2010a). Economically, Timor-Leste is considered the least developed country in the Asia and Pacific region. Exploration of petroleum deposits in the Timor-sea has helped improved the economics of the country and as a result has seen fast-growing infrastructure such as roads, electricity and telecommunication (Niner, 2016).

In terms of cultural norms, Timor-Leste is a society with strong patriarchal practices. Senior or older men have more power over women, and generally, rural women are not encouraged to speak and take the floor in public meetings (Niner, 2011). The conservative attitude prevails that traditionally, men have more right to inherit land, own land and have access to resources (Platteau, 1996; Thu, Scott, & Van N., 2007). Women in general have less power and have a much lower status compared to men (Wigglesworth & dos Santos, 2013). In addition, men are considered to participate in more roles in all public or political decision-making as well as in household decision-making (Niner, 2011). This strong patriarchal cultural attitude often influences many parents in a rural setting to prioritise their son to undertake further education over their daughter (Niner, 2011). This conservative attitude and lack of economic opportunities persuade women to marry and begin childbearing at a relatively young age (ADB, 2014). This has led to high fertility rates and a lack of access to health services. In turn, it has resulted in the increase risks to maternal and child health in Timor-Leste.

Timorese society strongly values big families and women's fertility is considered essential as a way to improve women's social status within both family and society (Niner, 2011). This sometimes means that women are pressured by their husbands and families to bear many children. Furthermore, in a patriarchal society, infertility may be considered as rejection or stigmatization (Niner, 2016). These strong patriarchal pressures have contributed to Timor-Leste having one of the highest birth rates in the

world and associated with the highest rate of maternal deaths compared to other Southeast Asia and Pacific regions (Niner, 2011).

The strong patriarchal system has given many disadvantages to women in Timor-Leste. For example, women who have many children will be given more responsibilities and household work. As a result, many females can be blamed for not getting the housework done to a standard which matches husbands' expectations. This can put women at risk of conflict and violence which has significant implications for their health, well-being and future opportunities, as well as limiting women's time for socio and political participation (Niner, 2016).

According to the UN (2010) 23% of women in Timor-Leste are undernourished, have higher rates of malnutrition and lower levels of literacy compared to men. Linked with the socio-cultural issues, the maternal health burden and death are high and a serious matter in Timor-Leste (NSD, 2016b; Khanal et al., 2014). Family planning use would contribute greatly to improving the maternal mortality rate as it reduces the proportion of pregnancies to high-risk women (Bogale, Wondafrash, Tilahun, & Girma, 2011; Cavazos-Rehg et al., 2015). Thus, FP is an important public health initiative which can be expected to bring positive changes in women's health, lowering levels of maternal mortality.

1.5.6 Religious beliefs

Ninety-six-point nine percent of the population of Timor-Leste follow the Roman Catholic religion (Richards, 2010). As in other Catholic countries, their religious doctrine is very influential within families with respect to decision making about family planning and also impacts on health strategy development (Barrett, DaVanzo, Ellison, & Grammich, 2014). This has affected the use of modern FP and can mean some women attempt access to unsafe abortion (McQuillan, 2004; Richards, 2010).

In Catholic teaching, the main objective of marriage and sexual intercourse is procreation and thus, modern contraception is against Catholic principals and is seen as a sinful act. Modern contraceptive methods are considered as destroying any potential to produce new life (Varley, 2012). Srikanthan and Reid (2008) argued that the health service providers are required to understand and respect people's cultural and religious views. Any provision of FP should be based on a couple's beliefs. Health service providers should be familiar with different types of natural and modern FP. This would

likely be helpful to respond appropriately to people from different beliefs, thus motivating and encouraging more women or couples to use family planning methods (Srikanthan & Reid, 2008).

1.5.7 Family planning interventions from the Indonesia occupation until today

During Indonesian's occupation of Timor-Leste, the Catholic Church provided spiritual and moral services, including support and protection to all men and women in the country (Rosser & Bremner, 2015). At that time family planning as a term was known as '*Keluarga Berencana*' or 'KB' where this term became very well known as a way for women and couples to plan and organise birth spacing and pregnancy (Chapman, 1996; Mercer, Thompson, & De Araujo, 2014). This term continues to be used widely through Timor-Leste to describe FP. In the past, during Indonesian occupation, KB was felt to be forced up on women as a way to limit population growth (Mercer et al., 2014). However, the occupation government's target to control or reduce fertility failed due to political influences (Richards, 2010; Sissons, 1997).

Since Timor-Leste became an independent country in 2002, the Government has an established FP programme. The main objectives of the FP programme and policy in Timor-Leste are to provide guidance on the development and implementation of family planning and its activities in the country (MOH, 2004b). This programme helps women and couples plan for a specific number of children they wish to have as well as helping them to appropriately time birth and pregnancy to increase mother and child health.

Family planning has been implemented for some years now, and there have been some increases in uptake (Figure 1), however many obstacles remain. These challenges focus on responding to the unmet need of family planning and reducing the maternal and child health deaths (Belton et al., 2009a).

1.5.8 Family planning service utilisation overview

As has been reported by the Timor-Leste demographic health survey (Figure 1) almost 25% of currently married women used a modern family planning method, reflecting a slight increase from 2010 while only 0.7% of adolescents (15-19) were currently using any type of modern FP methods with only 71.5% of adolescents having knowledge of modern FP methods (NSD, 2016a). Therefore, it is significantly important to enhance the FP services to meet women's demands, specifically for women who have a desire to space or limit their children. If the challenges of contraceptive use were overcome, it is

projected that the contraceptive prevalence rate in Timor-Leste would be increased from the current level of 26% (modern and natural FP) to 51% (NSD, 2016b).

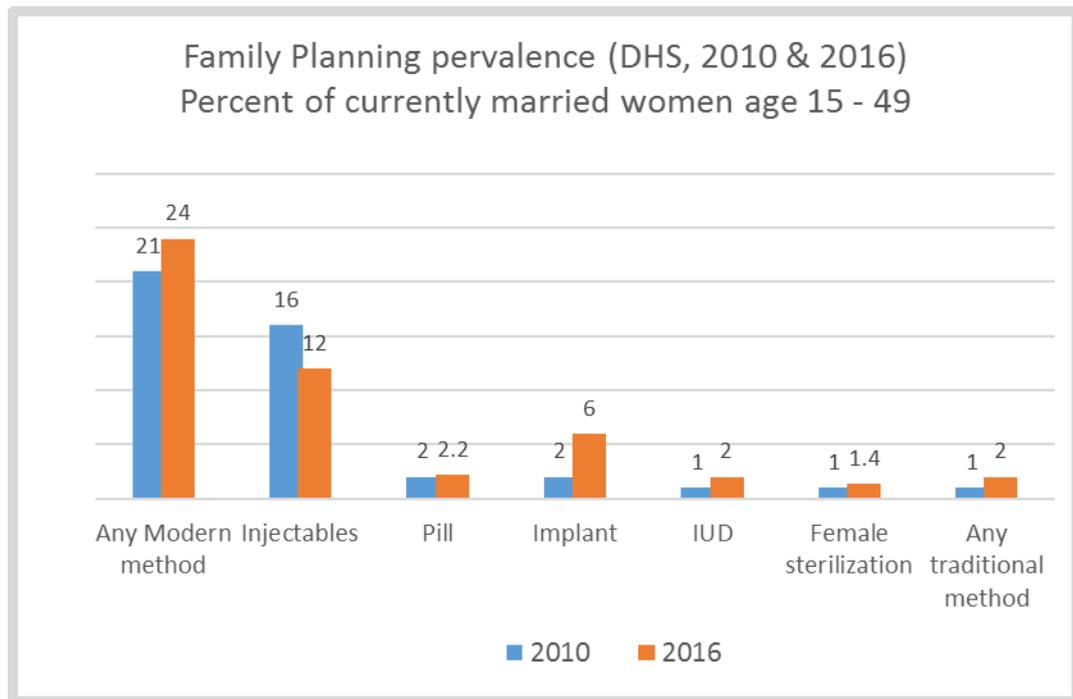


Figure 1: FP Prevalence (NSD-TLDHS, 2010a & 2016b)

The Timor-Leste demographic survey data also indicated that the trend in total fertility rate (TFR) in Timor-Leste declined from 7.8 children per women in 2003 to 4.2 children per women in 2016 (Figure 2). The impact of the political instability following the 1999 and 2006 crises and the return of people from remote rural areas to semi-urban or urban areas may have exposed them to social and economic influences encouraging smaller families. Fertility varied widely by districts, based on the updated report of Timor-Leste demographic health survey (NSD, 2016b). For instance, rural teenagers aged between 15 to 19 years and those with no education tend to start childbearing earlier than other teenagers. Although many factors contributed to the decline in previous years, exposure to family planning messages through mass media, and wider and easier access to modern family planning methods could help made a positive change in the future, particularly decreasing the gap between family planning uptake in the rural and urban settings.

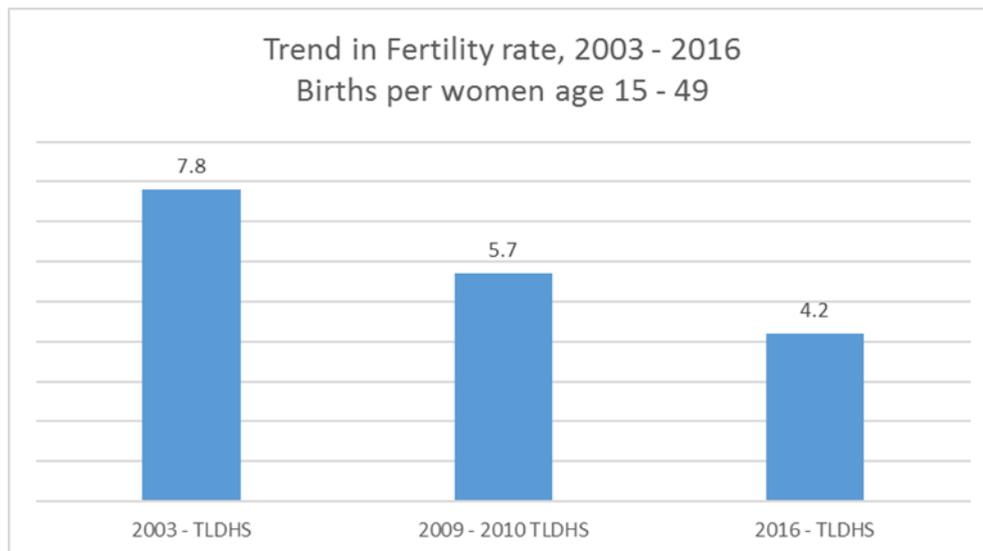


Figure 2: Fertility trend, 2003 - 2016 (NSD-TLDHS, 2016b)

1.6 Aim of the study

Timor-Leste is facing problems with high maternal mortality and fertility rates (Belton et al., 2009a). The reasons contributing to this are varied (Barrett et al., 2014; Wulifan et al., 2017). Family planning is potentially an effective public health intervention, however is underutilised in Timor-Leste. This study explored rural Timor-Leste women's knowledge, attitudes and practices about family planning to better understand FP utilisation. Furthermore, the study explored ways in which socio-cultural factors influenced women in accessing and utilising FP services. The research findings may provide a foundation for policy makers and service providers in the development of family planning strategies and interventions in Timor-Leste.

1.7 Potential benefits of this study

Through exploring rural women's perspectives, opinions, ideas and experiences about family planning utilisation, it was anticipated that this study would have several benefits.

The potential benefits of this research to the participants:

1. To increase levels of women's knowledge and understanding on the use of FP.
2. To improve women's attitude and practice about FP.

The potential benefits of this research to the community:

1. To help improve the maternal health burden and maternal mortality rate.
2. Increase family planning utilisation.

1.8 Research questions

- What are rural women's knowledge, attitudes and practices in relation to FP in Timor-Leste?
- How do women's knowledge, attitudes and practices influence FP in Timor-Leste?
- How might understanding women's attitudes contribute to increased utilisation of FP in Timor-Leste?

1.9 Researcher's position in this study

As the researcher, I am a midwife and public health professional in Timor-Leste. After Timor-Leste gained its independence from Indonesia ruled in 1999, I worked in an urban hospital in Timor-Leste for several years. During this time, I worked in the maternity ward providing and practicing clinical and midwifery assistance. Afterwards in 2002, I pursued studies in Health Administration in the Divine Word University, Madang, Papua New Guinea. After finishing my studies and returning to Timor-Leste I worked for more than ten years with several international organisations while also pursuing a degree in Public Health in University da Paz, Dili Timor-Leste. I recognised that to pursue and contribute directly to development particularly in the areas of maternal and child health in Timor-Leste, I would need to pursue international study. By studying in New Zealand, I was keen and eager to pursue my dream to involve and dedicate my skills and share my knowledge in the field of public health, cooperatively working with others to reduce health problems occurring in Timor-Leste. As a midwife, reducing maternal and child mortality and morbidity is a clear area of focus for me. Therefore, undertaking this topic as research area allowed me to gain more knowledge, insights, opinion and experiences from women living in rural areas about family planning for future enhancement and culturally appropriate family planning service implementation.

1.10 Organisation of the thesis

This thesis is presented in five chapters. Chapter one introduces the background of the study, explicitly explaining the reasons and aims of the chosen topic. It also describes the rationale and background of the researcher and the importance of family planning to public health, specifically FP in Timor-Leste and the wider region including unmet family planning need. It also specifies a brief history of Timor-Leste and its health care system.

Chapter two presents a literature review with respect to family planning with international and Timor-Leste perspectives. Firstly, it highlights the importance and effectiveness of family planning programmes at a global level, followed by a focus on Southeast Asian, and Timor-Leste. Secondly, it discusses culturally appropriate family planning services and prospective barriers to utilising family planning services that are related to the Timor-Leste context.

Chapter three presents the methodology and methods of the study, which used qualitative description, focus groups and thematically analysed data to present descriptions of rural women's perspectives, opinion and experiences with regards to their knowledge, understanding and attitudes to family planning in Timor-Leste.

Chapter four presents the findings of the study and chapter five discusses the study findings, draws conclusions, highlights the strengths and limitations of the study, and provides recommendations for effective family planning services that are culturally

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

Family planning programmes and services have been recommended as one of the most effective interventions to promote fertility control in women and improve the health of women and children (Deen et al., 2013; Tsui et al., 2010). Timor-Leste women, particularly women living in a rural setting, face many challenges in meeting their reproductive health needs; needs that include preventing pregnancy, and controlling the time between births and the number of births (Belton et al., 2009a). Factors affecting family planning utilisation include cultural and traditional barriers, religious influences, family or husband's disapproval and lack of awareness about contraception methods and their side-effects (Wallace, 2014a).

One of the targets of the Timor-Leste's Ministry of Health, with respect to improving maternal and child health, was to increase the access of family planning services and utilisation from 21% to 40% by 2015 (NSD, 2010a). Although it has shown progress on the overall family planning coverage, the success to meet the target was not fully achieved. The latest modern contraceptive usage prevalence reported in the NSD (2016b), was at 24% with the injection method being that most commonly preferred. Considering these barriers, this study intended to explore women's behaviour by exploring knowledge, attitude and practice of family planning in a rural setting of Timor-Leste.

This chapter presents international and Timor-Leste specific literature on knowledge, attitude and practice about family planning utilisation and barriers that could contribute to it not being used. Literature was gathered from existing research, documented in published research journals, government health-related reports, text books and other available, relevant publications. A number of key health databases such as Scopus, Google Scholar and others relevant to medical and health sciences were used to search for 'family planning' and related terminology to support the literature, findings and discussion of this study.

2.2 Geographical context

The population of Timor-Leste is approximately at 1.2 million, with a continuingly fast-growing population of 2.4% per year; a large proportion of the population is comprised of children or people in the reproductive age group (NSD, 2010a; WHO, 2015). The maternal mortality rate (MMR) is 557 per 100 000 women aged 15 to 49, with many maternal deaths attributed to unwanted pregnancy and unsafe abortions (Belton et al., 2009a).

Despite the recent increase in contraceptive use, Timor-Leste still has a high fertility rate and a considerable unmet need for contraception (MOH, 2015d). As has been mentioned earlier, the total fertility rate in Timor-Leste is currently an average of 4.2 births per women and is considerably higher in rural (4.6) than in urban areas (3.5) areas (NSD, 2016b). However, statistics do indicate that fertility in Timor-Leste has declined from 7.8 children per women in 2003 to 4.2 children per women in 2016 (NSD, 2016b). The total fertility rate was higher amongst other Southeast Asia and Pacific countries (NSD, 2016b). NSD (2016b) reported that the fertility rate in Suai district is 4.4 births per woman. This birth rate was the lowest figure compared to other districts in Timor-Leste. Although this trend reflects a significant effort to improve maternal health, 10% of childbirths are experienced by women at a very young age between 15 – 19 years group (NSD, 2016b). The trend of bearing children from a very young age is common among women in Timor-Leste particularly women in rural areas (NSD, 2016b). Pregnancies in women under 18 years contribute to the maternal mortality rate partly because of unsafe abortions (Ahmed, Li, Liu, & Tsui, 2012). The appropriate use of family planning could reduce unplanned pregnancies, and unsafe abortions, thus contributing to decrease maternal and child mortality rates (Ahmed et al., 2012; Belton et al., 2009b; Hatcher & Nelson, 2007).

2.3 Knowledge, attitude and practice towards family planning

This following section shows that knowledge and understanding influence attitudes towards reproduction, as well as practices in utilising the family planning. The review presented here offer a global perspective and the Timor-Leste context. Knowledge, attitude and practices interact to affect the provision of the family planning.

2.3.1 Knowledge of family planning

Bongaarts and Bruce (1995) state that knowledge is an awareness or understanding, and familiarity gained from a person, thing or fact. In a health setting, knowledge can be acquired through engagement in any social health development due to the fact that something is well known or easily recognised (Bongaarts & Bruce, 1995; Omishakin, 2015). Knowledge is considered one of the important mechanisms to improve personal behaviour and attitudes towards FP utilisation (Sedgh & Hussain, 2014) and has multiple sources. According to the literature, approximately 78% of married women knew of at least one modern method of contraception and the remaining 22% were aware of a traditional method of contraception (NSD, 2010a). Despite the high proportion of women who knew about modern methods of contraception, according to the most recent Timor-Leste Demographic Health Survey (2016), there is a huge disparity among reproductive aged women's knowledge and the utilisation of contraception. This provides support for the evidence that knowledge alone does not result directly in the uptake of contraception. Barrett et al. (2014) have suggested that there is a need to discover the wider determinants which lead to the discrepancy between knowledge and behaviour, which they state will help policy makers and service providers enhance family planning services.

Lack of knowledge and informed choices of family planning methods were found to contribute to the low rate of family planning prevalence and failure to plan spacing between births (MOH, 2015c; NSD, 2016b; UNFPA, 2004). It is believed that the most common reasons for Timor-Leste women not using family planning were fear of side effects of contraception, disapproval of their husband, and limited access to knowledge concerning FP methods (NSD, 2010a).

Since the family planning program was introduced it has provided an opportunity to many communities in Timor-Leste particularly to those who reside in rural areas (Wayte et al., 2008). Kennedy et al. (2011) have argued when there is a better understanding and insight into birth control methods in young and older women, the utilisation of FP will be increased; hence, unwanted pregnancies and abortions will likely be reduced. On the contrary, if there is a significant gap in knowledge about modern contraceptive methods, a high percentage of young and older women report difficulties distinguishing understanding modern contraception (Kennedy et al., 2011).

The lack of knowledge of contraception is evidently an important cause of the under-use or non-use (Naqvi, Hashim, Zareen, & Fatima, 2011). In Timor-Leste, the knowledge of contraception is relatively low (Wallace, 2014a; Wallace, 2014b). According to the (NSD, 2010a), there was a large gap between knowledge of family planning and its use. Approximately three in ten married women reported used a modern method in the past and two in ten married women currently used a modern FP method. However, many factors still need to be discovered to respond to the needs of women for family planning and services. These issues remain under-explored especially in terms of knowledge, attitudes and practices relating to family planning policy (Barrett et al., 2014).

In addition to a lack of knowledge about FP methods, a few studies have reported that there are several socio-cultural factors that influence and discourage women in Timor-Leste from utilising family planning services on a regular basis (Belton et al., 2009a; Wallace, 2014a). Although evidence suggests that increased awareness and education for both women and men contribute to a significant use in FP service utilisation (Stephenson & Hennink, 2004) and several family planning approaches have focused on awareness, promotion and counselling (Rosenberg & Waugh, 1998), Stephenson and Hennink (2004) stated that these approaches seemed to be not very effective in changing people's attitudes and practices towards modern FP methods. These authors suggested that it is vital to consult with families to find out in details their attitude and behaviour towards family planning services and the use of FP methods. This, they argue will allow policy makers to come up with new strategies that respond to community needs to improve family planning services (Stephenson & Hennink, 2004).

Knowledge of family planning is useful for women and their partners as it is reported to improve their health behaviour (Naqvi et al., 2011). However, some studies have revealed that while women had positive attitudes towards family planning, they may lack the relevant knowledge to enable them to practice this (Mahadeen, Khalil, Hamdan-Mansour, Sato, & Imoto, 2012; Nansseu, Nchinda, Katte, Nchagnouot, & Nguetsa, 2015). Omishakin (2015) has stated that knowledge about the various methods of contraception has a major role to play in contributing to women and their partners' choices. Women make decisions about family planning based on accurate information and a choice from a range contraceptive options (Omishakin, 2015).

Lack of knowledge and information about family planning has also been shown to be a critical barrier to accessing family planning services (Alege, Matovu, Ssensalire, &

Nabiwemba, 2016). However, a study carried out by Prachi, Das, Ankur, Shipra, and Binita (2008) highlighted that knowledge and awareness do not always lead to the utilisation of family planning contraceptives, and that it is important to understand the level of awareness and practices in the community before a clinic starts to offer family planning. For example, a study in Nigeria (Onwuzurike & Uzochukwu, 2001) showed that 81.7% of women reported that they were knowledgeable about at least one family planning method, but this did not transform into a high proportion who practiced this as only 20% of the women were utilising a family planning method.

One previous study showed that women who knew where to obtain contraceptives were much more likely to use family planning than women who did not know where to obtain them (Naqvi et al., 2011). As suggested by Naqvi et al. (2011) health providers play a very important role in providing successful family planning services and ensuring contraceptives are used on an on-going basis. By service providers enhancing awareness about the various contraceptive methods and promoting family planning services in the community, more women and their partners may be encouraged to utilise family planning (Naqvi et al., 2011).

According to a recent data from NSD (2016b), family planning utilisation tended to be slightly higher among women living in urban areas of Timor-Leste (26.8%) than women living in rural areas (25.7%). Similarly, utilisation rates appeared to be higher among women with higher levels of education than in women with lower levels of education, as only 21.8% of women with no formal education utilised family planning compared to 29.3% for those with formal primary or secondary education. This was consistent with the WHO report of 2013, which stated that women with no education gave birth to three times the number of children compared to women who had received at least a secondary school level education (WHO, 2013). This highlighted the importance of sustaining and enhancing education amongst both urban and rural women and to ensure that information and education of family planning is provided in both areas. Increasing women's knowledge has also been shown to be useful in helping women to manage the side-effects of contraception, which can cause them to discontinue contraceptive use (Naqvi et al., 2011; Tilahun et al., 2013).

Overall, women and couples in Timor-Leste, as in other low-income countries need more information and education related to their health matters. Once appropriate awareness and counselling has reached all levels of the communities, the health

behaviour and misperceptions about FP can be improved. In this way family planning targets aimed at reducing and preventing women from unwanted pregnancy and abortion may be obtained. This is one of the national health goals of Timor-Leste (NSD, 2016b).

2.4 Factors influencing attitudes and practices of family planning

In many developing countries, the use of contraception has increased from 10% in the 1960s to more than 50% in the 1990s (Korra, 2002; UN, 2015). The use of contraceptives has contributed much to the reduction of the global fertility, as well as the reduction of maternal morbidity and mortality in women of reproductive age (Ackerson & Zielinski, 2017). Whilst these gradual changes in family planning and contraceptive use are welcome, there are still barriers that exist that prevent family planning utilisation (Ackerson & Zielinski, 2017).

2.4.1 Family disapproval

Many cultures currently value the male gender over females (Belton et al., (2009a). Belton et al. (2009a) found that Timor-Leste is a patriarchal society, this often may lead men to forbid their wives to use modern birth control methods. This was also highlighted by Wallace (2014a), who noted that cultural norms in male-dominated societies can include opposition to family planning by husbands. A further study indicated that the main reason for non-use of contraceptive methods appeared to be the pressure from family; such as, husbands, parents or parents in law (Santoso & Surya, 2017). Santoso and Surya (2017) identified in their study that husbands and in-laws were the most important and common influential people concerning the choice of contraceptive methods (Santoso & Surya, 2017). This is not surprising considering the cultural and religious circumstances prevalent in some developing countries including Timor-Leste where the man is considered to be the head of the family (Niner, 2011; Santoso & Surya, 2017).

In countries where men are the main decision makers, women often face challenges in seeking men's approval for using contraceptives; which is reported to be one of the main reasons why women who do have knowledge about family planning are hesitant to practice it (Pegu, Gaur, Sharma, & Santa, 2017). Therefore, both women and men's knowledge of family planning and its methods is considered one of the essential determinants of family planning and their methods utilisation. These findings suggested that family planning programmes should be delivered in a culturally sensitive manner

and should include both men and women (Hasna, 2003). Considering men shape reproductive decisions, it is argued that if men were pro-actively involved in family planning awareness campaigns, there might be a transformation of values and perceptions around fertility and family planning (Hasna, 2003).

As stated by Pappa, Rottach, and Vaziri (2013), parents or parents-in-laws also influence women and their partners in Timor-Leste with respect to the use of modern contraceptives. For example, mothers or mothers-in-law can influence these decisions (Pappa et al., 2013). This influence has also been confirmed by Zwi et al. (2009). Amongst the fears of mothers or in-laws are that there will be side-effects associated with contraception and that, hormonal methods of contraception in particular can lead to infertility, reduced sex drive, and health problems (Pappa et al., 2013; Wallace, 2014a). Similar cultural norms and influences have also been reported from other countries, such as Pakistan, Bangladesh, India, Nepal and other Asian countries (Char, Saavala, & Kulmala, 2010; Kadir, Fikree, Khan, & Sajan, 2003). The presence of a mother or mother-in-law in the household decreases the probabilities of a woman utilising modern family planning method (Char et al., 2010).

Furthermore, in some Timor-Leste cultures, male children may be more highly valued due to the fact males inherit land and ensure continuation of the family name (Platteau, 1996; Thu et al., 2007). This can cause family members to encourage a woman to have further pregnancies if a couple has only had female offspring, even if a woman is keen to practice contraception (Saikia, Dasvarma, & Wells-Brown, 2009).

The following section will explain how religious and cultural influences women and their partners utilising family planning.

2.4.2 Religious perspective

Religious and cultural factors have the potential to influence the acceptance and use of contraception by couples in very distinct ways (Srikanthan & Reid, 2008). For example, Roman Catholics believe that the usage of contraception method is sinful, as it destroys any potential to produce new life and violates the principle purpose of marriage (Richards, 2015). Protestants also believe that the use of contraception violates God's command to be fruitful and multiply but there are no bans on women's use of contraception specifically to couples who have already got children (LoPresti, 2005). Similarly, in Islamic society, teachings encourage extensive families. Family planning

however is not forbidden but is more commonly used for birth spacing rather than to restrict the number of the children (Bernhart & Uddin, 1990; Hasna, 2003; Omran, 2012; Srikanthan & Reid, 2008; Varley, 2012).

Timor-Leste is a society in which discussion of sexuality is considered a taboo, an attitude reinforced by the Catholic faith (Richards, 2015; Wayte et al., 2008). Even though various international studies support the importance of sex education, there has been little opportunity to implement this in Timor-Leste (Povey & Mercer, 2002; Wayte et al., 2008).

In Timor-Leste, nearly 97% of people are followers of the Catholic religion and that could likely be one of the many reasons that prevents couples from using modern family planning methods (Richards, 2015). The Catholic Church has fully endorsed the Vatican prohibition against any form of modern contraceptives, including condoms, pills, injectable and other contraceptive modern barriers (Wayte et al., 2008). As emphasised by Belton et al. (2009a), there is a connection between religious beliefs and a couple's attitude towards the utilisation of modern family planning methods.

Despite Catholic beliefs about the usage of modern family planning methods, in Timor-Leste, the Catholic Church encourages married couples to practice natural family planning (NFP) such as use of the calendar to check fertile periods, billing, cycle beads and breastfeeding/lactation amenorrhea methods (Ekpo et al., 2008; Ryder, 1993). However, these traditional methods have been proven to be less effective for those couples who have little knowledge or unfamiliarity with their own body's ovulation and menstrual cycle (Fehring, 2009).

International studies suggest that women from other religions including Hindus, Muslims and Buddhists are often more likely to use natural family planning forms in part because they have more access to information about these methods (Pallone & Bergus, 2009). Srikanthan and Reid (2008), suggested that it is vital for health providers to consider every client encounter as unique, particularly in a religiously and culturally diverse settings. It has been suggested that care needs to be taken not to characterise stereotypical religious, social and cultural characteristics to women requesting advice about contraception. Clinicians or health providers should be aware that different value systems may impact differently on contraception decision-making of couples, depending on their beliefs.

2.4.3 Cultural influences

Other barriers for ineffective implementation of family planning program are the influence of traditional and cultural practices. Timorese society has traditionally valued extended families and as studies suggest, Timorese women in general want to have many children (Lundahl & Sjöholm, 2009; Sissons, 1997). This norm of practice and behaviour may impede the effectiveness of the FP program in its society. For example, more than 50% of reproductive aged women, who were not using modern contraceptive methods for FP were, also not intending to utilise these methods in the future (Wallace, 2014a; Wallace 2014b).

Contrary to the results reported above, according to Lundahl and Sjöholm (2009) in Timor-Leste, 17% of reproductive aged women wanted to have no more than two children, 13% of them wanted to have access to family planning methods, and 3% did not want to limit the number of children they should have. Only 10% responded that modern FP method would help to space their birth effectively. However, as stated by Lundahl and Sjöholm (2009), over 60% of women and 70% of men were completely ignorant about the possible use of FP methods.

2.4.4 The impact of gender

Gender-based issues are another significant area in relation to family planning utilisation. In Timor-Leste, there is a lack of recognition about gender-based violence or gender inequality (Meiksin, Meekers, Thompson, Hagopian, & Mercer, 2015). These gender issues are serious and ongoing problems in both urban and rural settings undermining and abusing women's right to both physical and mental health (Meiksin et al., 2015; Wayte et al., 2008). Gender-based violence in Timor-Leste is strongly associated with a high probability of a negative outcome for maternal and child health (Meiksin et al., 2015). Similarly, Picasso (2016) found that although, gender roles vary among societies, in many under-developed nations, gender power and cultural norms have the most impact on inequalities among populations. This strong gender power domination by men and the country's cultural norms have been associated with Timor-Leste's women inability to decide in life to use modern FP methods (Wayte et al., 2008).

A study conducted in the Philippines by Oyieke and Galang (2016), suggested that making joint decisions on family planning improved a couple's relationship and resulted in positive outcomes in terms of acceptability, accessibility and utility. This

mechanism is on other hand is to prevent a negative perception which was perceived by respondent's men that use of contraceptives encourages women to be unfaithful (Oyieke & Galang, 2016).

While joint decision-making has documented advantages, it is not universal. In a study of Pakistani couples, it was found that joint decision making from both wife and husband is rarely seen. With regard to taking-up of a family planning method, it also equally essential with regards to the desire number of children a man would like to have (Mustafa et al., 2015). Although, women are motivated to use contraceptive methods, men's approval was reliably perceived to be the most essential factor of contraceptive use (Balaiah, Ghule, Naik, Parida, & Hazari, 2001). Men in this case are needed to enhance their knowledge and understanding of family planning which in turn will improve the influences and successfulness of the family planning utilisation among women or their female partners (Balaiah et al., 2001; Islam, 2014; Mwageni, Ankomah, & Powell, 1998).

In addition, according to Mwageni et al. (1998), it is likely effective result that there are need for more awareness campaigns on different aspects of reproductive behaviours, such as the importance of children, irrespective of their sex and partner communications.

2.4.5 Health literacy

Health literacy is commonly defined as the skills and abilities required to obtain access to, understand and optimise any of the health services and information (Rudd, 2010). Health literacy is a fundamental tool to drive an individual to accept, access and utilise the basic health care and information appropriately for their own positive health outcomes (Freedman et al., 2009). Sykes, Wills, Rowlands, and Popple (2013) emphasises that health literacy is considered as community development in which civilians become knowledgeable of issues, be active in discussions and take part in decision making for health purposes.

Illiteracy levels in Timor-Leste are one of the highest in the world (Kennedy et al., 2011). Illiteracy makes understanding health information challenging. This in turn affects decisions about family planning. For instance, some of the reproductive aged women in Timor-Leste are unable to differentiate types of modern contraception (Kennedy et al., 2011). Therefore, to improve the health literacy of individuals, it is

essential to involve communities in any community development programmes, in a way that would make people have a sense of belonging, to be more informed and aware of matters, as well as be more motivated and empowered to make decisions for health (Sykes et al., 2013). In a study by Kennedy et al. (2011) it was revealed that, approximately, 21% of married adolescents tend to know the basis of contraceptive methods and up to 84% of reproductive aged women were never informed regarding FP awareness in any modes of communication such as, radio, television, newspaper, magazine, poster or pamphlets. In addition, the majority of adolescent women aged (20 – 29) have never been made aware of FP with health workers or had never been exposed to any of contraceptive method (Kennedy et al., 2011). Factors contributing to women not receiving family planning involves; financial barriers, poor geographical access, lack of knowledge of services and concerns about availability of health workers (Kennedy et al., 2011). However, it is not that women or men were opposed to contraception but were possibly inhibited by its limited information and effectiveness (Pradesh, 1997). Hence, the role of skilled health service providers is important to make availability of an effective and appropriate information of family planning, to ensure the simple language and promotional materials are used, so that the FP information can be understood and accepted by all levels (Pradesh, 1997).

As studies show, geographical location of women and their partners play a part in the level of choice among users of modern contraceptive methods (Cleland et al., 2006). For example, those women that live in the rural areas have limited knowledge and access to contraceptives compared to the women in urban areas. The welfare of households, especially in rural areas, remains one of the major priority areas of Timor-Leste's government (ADB, 2014). According to Timor-Leste demographic health survey report (2010), rural women in Timor-Leste have on average one child more than urban women, (6.0 compared with 4.9 births per women). The level of fertility is inversely correlated to women's levels of education and wealth quintile (NSD, 2010a). This report showed that women's educational attainment was significant, with 6.1 births among women with no education to 2.9 births among women with more than secondary education (NSD, 2010a). This signifies that current users of modern contraceptives are educated, and this shows that they are more likely to be users of modern contraceptives than those women with low or no education. Hence, marginalised communities with lack of education were recognised as paramount, and the importance of providing FP within the context of full sexual and reproductive health care to be informed side

effects, what to do in case of problems and what other substitute modern family planning methods they can utilise (Cleland et al., 2006).

2.5 Summary

Family planning programmes are known as one of the most effective methods to help reduce high maternal and child mortality, prevent unwanted pregnancies and space births (Cleland et al., 2006). It is therefore, important to encourage women of a reproductive age particularly in rural and marginalised communities to utilise modern family planning methods. This would give extensive benefits for women to improve their lives by having a chance to have access to education, economic and social activities. This will also help women raise their children properly and give them a better life. Various strategies and objectives have been developed by the government of Timor-Leste with the support from various stakeholders to achieve these aims. The basic initiatives are to prevent or delay pregnancy, to plan and space for a number of children, and to increase use of modern family planning contraceptives.

The global and Timor-Leste based literature has highlighted barriers influencing women in accessing and utilising family planning services. These barriers associated with poor family planning services and utilisation include; lack of knowledge and information about family planning, attitudes and practices towards family planning, side-effects, cultural and religious beliefs, gender power and low socio-economic status.

The research presented in the next chapters was carried out with rural women and tried to identify the gaps affecting family planning. Understanding rural women's perception and behaviour about family planning is significant. This will in turn contribute to new family planning policies or reproductive health strategies thus helping to provide solutions in accordance to rural Timor-Leste women's needs and based on socio-culturally appropriate interventions.

CHAPTER 3 METHODOLOGY

3.1 Introduction

This chapter presents the methodological approach of this study. It first provides the rationale for situating this study within the naturalistic paradigm of enquiry and for utilising a qualitative research design. It then outlines the study setting, participants, methods of data collection and data analysis. Furthermore, this chapter explains the steps that were taken to consider ethical issues and to enhance the credibility of the study. Finally, the role of the researcher and reflections about the interest and issues in relation to researcher role are presented.

The three main research questions of this study were: ‘What are rural women’s knowledge, attitudes and practices in relation to FP in Timor-Leste?’, ‘How do women’s knowledge, attitudes and practices influences FP in Timor-Leste?’ and ‘How might understanding women’s attitudes contribute to increased utilisation of FP in Timor-Leste?’ The methodological choice was made in relation to these research questions which required a qualitative approach.

3.2 Methodological positioning

3.2.1 Paradigm of inquiry

The design and methods of this study are guided by the naturalistic/constructivist paradigm of inquiry developed by Guba and Lincoln (1994). Social constructivism or constructionism is based on beliefs, reality, knowledge and experience through social interaction (Guba & Lincoln, 1994). A constructionist approach concentrates on identifying and highlighting the significance of culture and context in exploring what happens in society. It is concerned with how knowledge or information is constructed and understood. In order to obtain accurate data that would be useful and meaningful for Timor-Leste community, it was important that the research approach respected the local cultural values and beliefs; understanding how women and the community construct themselves in relation to FP. As Guba and Lincoln (1994) suggest, constructivism provides a useful approach to establish good communication and collaborative relationships between the researcher and participants. The naturalistic/constructivist paradigm of inquiry is considered more appropriate than other qualitative methodologies to address the research questions considering that society interprets

reality based on their historical, religious and cultural background as well as in the ways they experience in life.

The literature (as outlined in chapter two) indicates that women's knowledge and attitudes are influenced by the context in which they make decisions about family planning. A deep understanding of the participants' attitudes about family planning could only be ascertained by giving them the opportunity to speak in their own words about these issues. Therefore, the research approach was guided by a philosophy which took these factors into account.

3.2.2 The research designs

This study utilised a qualitative descriptive research design. Qualitative research is undertaken when the researcher intends to understand the meaning of human action, utilises analysis of textual data rather than translating data into numbers for analysis (Creswell & Creswell, 2017). According to Marshall and Rossman (2014) qualitative research often takes place in natural settings and draws on multiple methods that respect the humanity of participants in the study concentrating on the social context.

Furthermore, qualitative descriptive research requires the researcher to put more focus on the participants' views and experiences rather than their own interpretation on what they see and hear. While phenomenology and grounded theory are based on the researcher's own interpretations and may allow for bias (Sandelowski, 2000), a qualitative descriptive study enables researchers to communicate and interact deeply with participants to produce rich data or information which is related to specific issues. The qualitative descriptive study often presents as narrative, open-ended interviews of the knowledge and experiences of the participants of a different ethnicity and/or backgrounds (Lewis, 2015; Marshall & Rossman, 2014). Using this descriptive approach in this study provides an opportunity for the women's unheard voices to be heard (Silverman, 2013).

This study aimed to explore rural Timor-Leste women's knowledge, attitudes and practices of family planning. It was anticipated that through a qualitative descriptive approach this study would enrich deeper understanding, thoughtful and relevant experiences of the research through the viewpoints of selected participants in their own expression (Marshall & Rossman, 2014). In addition, qualitative descriptive research was considered to be appropriate in relation to the nature of the study and the duration

of the study's timeframe to complete the study. Thus, this research design was considered appropriate for this thesis.

3.3 The study site, participants, data collection and data analysis

This section provides an overview of the study site in which the study was conducted, the process of the participants' recruitment and methods used for data collection and data analysis.

3.3.1 The study sites

This study was conducted in the Suai district of Timor-Leste (Appendix A). The rationale for choosing Suai district as a study location was because this area is considered to have a high need for health research. Suai district is 178 km from Dili the capital city of Timor-Leste. It takes approximately five to six hours to travel by road from Dili to Suai. This remote location creates challenges to accessing services and there is a poor health awareness in local communities (ADB, 2014; MOH, 2015).

3.3.2 Participants of the study

The participants of this study were women aged between 18–45 years old, living in Suai district, and currently using a health clinic. The rationale for these criteria was because they are considered to be a reproductively active age group. Women outside of this age range or residing outside Suai district, were excluded from the study.

3.3.3 Participants recruitment process

The study took place during the months of May to June 2017. Prior to arriving in Suai district for data collection, the researcher contacted the local midwife to consult and obtain her support in recruiting participants. After arriving in Suai district, the researcher introduced herself to the Head of the Health Clinic and showed him the approval letter from the Institute National Health of Timor-Leste in Dili to conduct the study (Appendix B). The recruitment process was then begun by the local midwife who posted the participants recruitment flyer (Appendix C) on a community noticeboard and also informed women who came to the clinic about the study.

Participants were recruited through purposive sampling which involved the midwife informing women who would meet the study criteria about the study. This allowed the researcher to collect views or ideas of relevance to the purpose of the study (Tongco, 2007). There are different perspectives from different authors regarding sampling size

adequacy in qualitative research and there are no practical guidelines to determine the sample size for purposive sampling (Guest, Bunce, & Johnson, 2006). However, Guest et al. (2006) affirmed that, no matter how small or larger the sample size is, the key element required is to reach saturation.

Potential participants were handed the participant's recruitment flyer, information sheet (Appendix D), and participant consent form (Appendix E). All were given up to two weeks to decide whether or not to take part in the study. To some of the potential participants who identified cannot read and write would be explained right away when handed out the envelope with a package of research information. Those interested were asked to contact the researcher via a phone call or return the envelope containing completed consent form agreement or signature to the midwife to forward to the researcher. After two weeks, 25 women who met the inclusion criteria had agreed to participate in the focus groups. The potential participants were then contacted by the researcher. An initial meeting was held to provide an overview of the study before conducting focus group discussion. The purpose of the meeting was to ensure that the women fully understood the research process providing them an opportunity to ask questions with the research in person. It was important at this point to inform participants of the study that there were no right and wrong answers to the questions that would be used to guide the focus group discussion (FGDs).

3.3.4 Pilot study

Prior to conducting the focus group discussions, a pilot study was planned with eight women of similar demographics to the participants. The pilot study is considered a pivotal tool to pre-test the questioners before the main study is conducted. This is an opportunity to identify whether the proposed discussions method and guide were understandable or not. As Van and Hundley (2001) and Janghorban, Latifnejad, and Taghipour (2014) suggested, having a pilot study is important as it might give information about whether proposed methods or instruments are inappropriate or too complicated. Therefore, this pilot study was pivotal as it enabled the researcher to identify if improvements were needed (Janghorban et al., 2014).

The pilot study participants were chosen from the same community as the main study's participants, and likely to have similar level of understanding. Firstly, the researcher contacted potential participants for the pilot study and explained the reasons for the pilot study. The researcher and the participants of the pilot study set a date and venue to

conduct the pilot. The pilot study was held in a meeting room of the Suai villa health clinic.

The pilot study was found to be very beneficial as it provided an opportunity to improve skills in conducting the focus group discussion including interacting with the participants, the time frame set and the flow of the focus group questions. From the pilot study, no amendments were required in the FG questions. However, the pilot study identified that some women did not speak as much as others. Therefore, there was a need to provide opportunity for all participants to speak.

3.4 Data collection

Data were collected for this study by conducting FGDs with the rural Timor-Leste women. The following section provides a rationale for using FGDs along with further details relating to data collection.

3.4.1 Focus group discussion

Focus group discussion was undertaken with women in Suai district, allowing them to share their viewpoints and experiences in a group. As stated by Krueger (1988), Wong (2008) and Green and Thorogood (2018), focus groups provides an opportunity to generate in-depth discussion in relation to women's experiences and perception about FP. It enables deep assessment of meanings and allows logical comparison of one's experience with another one in their group (Cresswell, 2003). Furthermore, according to Wilkinson (1998) an essential part of a focus group is that it requires an interaction between the participants and the researcher and it is the collection of this kind of interactive data which distinguishes the focus group from the individual interview.

Focus groups allows people to extend as well as state opinions and views they may not have understood through their individual thoughts and can put participants at ease and enables them to talk freely and thoughtfully in a group (Gill, Stewart, Treasure, & Chadwick, 2008; Green & Thorogood, 2018). Furthermore, focus groups discussions are considered a good way to understand the perspective of a community in an interpersonal communication rather in an individual communication (Creswell, 2013; Wilkinson, 1998). Exploring a sensitive topic of women's knowledge, attitude and practice of family planning, the FGD method can encourage women to discuss openly with one another. Significantly, some women who may be hesitant to be solely interviewed and reluctant to discuss individually, may feel more comfortable in a group

discussion process, inspiring more women to engage in the discussion (Creswell, 2013). Due to the nature of the FGD, where this requires the interaction from group participants with each other as well as with the moderator (Wilkinson, 1998), the participants were informed in advance to freely share and discuss their knowledge and experiences of FP with one another. Since the FGDs were held at the clinic it was a trustworthy location. Those using the clinic and therefore participating in the FGD had previously experienced the clinic setting, where they were safe to discuss FP. The importance of confidentiality was discussed before the FGD took place, that the researcher would not identify the nature of the discussions and it was expected that the women would respect this too. The fact that the researcher was a Timor-Leste midwife also contributed to establishing a trusting environment where the women were comfortable discussing FP issues as she understood the study content and had existing strategies for effectively communicating with women and creating a comfortable atmosphere that would produce rich data and information for this study.

Three FGDs were conducted in two clinics of the Suai villa sub-district; they were consisted of 8 to 9 participants. The three FGDs were considered appropriate due to the duration and the scope of the MPH study. As Gill et al. (2008) consider, smaller or larger number of participants have advantages and disadvantages. For instance, it is believed a smaller (3-4) number leads to inadequate discussion while with a larger number of (10-14) participants can be chaotic, difficult to organise and challenging for participants who do not have a chance to speak. Considering this perspective, the ideal number between 6 to 9 participants was expected that it would allow the participants to actively interact in the discussion, generating sufficient information to meet data saturation (Gill et al., 2008; Ruff, Alexander, & McKie, 2005).

Based on the information gathered from the literature review, a semi-structured question guide was developed to guide the content of the focus group. The content of the question guide (Appendix G) included women's knowledge, understanding about family planning and attitudes towards family planning practices that could influence family planning among women in Timor-Leste. At the end of the FGDs, there was an open question to allow participants to discuss any topics that were not covered in the FGDs.

At the initial information sharing meeting, all participants signed the consent form with either their written signature or with inked finger prints. Possible focus group venues

were discussed, and all agreed to use the meeting room of the two above mentioned clinics. Prior to each FGD verbal consent was gained. Participants were also informed that the FGD would be recorded using an audio-recorder and the researcher would also take notes during the FGD; and the participants agreed for that.

The first main FGD was conducted shortly after the pilot study was held, with subsequent FGDs taken place in the following sequential weeks. Before the FGD began, participants were reminded of their roles in the discussions and were advised that the FGD would not be longer than one and half hours. Participants were advised that they had the freedom to leave the discussions anytime they wished to. Informing people in advance about the FGD process can aim to increase commitment and willingness to participate (Barnett, 2002).

The focus groups included participants of mixed ages, as this can be effective and convenient, helping to stimulate participants to extend and exchange different ideas and views of family planning with one another (Silverman, 2013). After the FGDs, light refreshments were provided. Over the refreshments the participants noted that overall, the discussion had been beneficial. They mentioned that the FGDs enabled them to openly exchange opinions, experiences and information related to family planning.

The characteristics of each focus group are presented in the following table:

Table 2. Focus group discussions characteristics

FGDs	Location	No. of participants	Age range	Marital status	Level of education	No. of pregnancy	No. of living children
Group 1	CHC Suai Villa	8	18 - 41	All Married	Elementary - High School	1 - 6	1 - 6
Group 2	CHC Suai Villa	8	20 - 40	All Married	Illiterates – High School	1 - 6	1 - 6
Group 3	Health Post Ogues	9	18 - 38	All Married	Illiterates – High School	1 - 7	1 - 5

3.5 Data analysis

This study utilised a thematic approach to analyse the data. Thematic analysis is appropriate for a qualitative study as it allows for rich, detailed and complex description

of data gathered (Green & Thorogood, 2018). Furthermore, it provides effective techniques to analyse a broad set of data and information in a comprehensive way for developing and identifying a set of logical themes and sub-themes from the raw data (Braun & Clarke, 2006). This data analysis method also fits with the naturalistic paradigm of inquiry (Guba & Lincoln, 1994), because as Patton (2002) and Liamputtong (2009) suggests, that the data analysis methods is inspired by and attempts to describe, the participant's worldview. To produce an essential and realistic report Braun and Clarke (2006) suggest six steps; transcription of the data, repeated readings to familiarise the data, coding, identifying the major themes, reorganising the codes in potential themes and sub-themes, and production of names for each theme and the writing up of the report. All of these steps were undertaken in this study.

The data analysis began with the transcriptions and translations of the audio recorded data. The FGDs were undertaken in the Tetum language and the audio recordings were transcribed verbatim in Tetum language by the researcher, immediately after group discussions were completed. Then the Tetum transcriptions were translated into English, again by the researcher, and saved as a computer file to enable the thematic analysis to commence. After reading the transcriptions several times the process of coding took place. This involved finding key words in the text, and then manually grouping them into themes. Connections were then made between the themes to enhance understanding of data and to enable the identification of the themes through grouped meaning. After identifying the differences and meanings amongst themes, new themes were created and named.

3.6 Credibility of the study

Ohman (2005) highlights that the credibility of qualitative studies is determined by good communication and collaboration among the researcher, the participants and commitment with the area and topic of the study. In this study a number of steps were considered that contributed to enhance its credibility. They include; prolonged engagement with the research topic, review of various national and international documents, collaboration with midwives and other relevant stakeholders, and supervisors.

Ohman (2005), emphasises that, "prolonged engagement refers to researcher's efforts to really understand and become acquainted with the social context under study and the people in this context" (p.278). The researcher is an experienced midwife, who worked

in Timor-Leste for an extensive period of time. Therefore, she has understanding of the research topic and socio-cultural context of the participants of this study.

Credibility of qualitative studies is often determined by the capability and effort of the researcher (Thomas & Magilvy, 2011). As a Timorese, the researcher shares common similarities such as, language, culture and religion with the participants; that enabled her to gain in depth understanding of the context and the participants of the study. This meant the researcher was able to build a trustworthy relationship with participants, and therefore, while conducting the FGDs the participants were more likely to feel at ease.

As stated by Guba and Lincoln (1994), the credibility of data can be clarified or verified by reviewing the transcriptions, notes, and interpretations of data. Ideally, member checking would have taken place, however, in this study, consideration was given to the sociocultural setting of rural Timor-Leste where a patriarchal society dominates. As a result, the researcher opted not to require participants back to the clinic for this checking process to validate transcripts given this would have involved an additional journey and time away from the home. It was also possible that some participants may have been seeking FP advice without the knowledge of their husbands and so a sense of protection was applied. This factor also precluded the researcher from visiting the participants in their homes for member checking

In addition, communication and collaboration with the key stakeholders of the National Health Research and Suai District Health Board can be considered important steps taken in this study. Contact with the local midwives was established prior to the fieldwork and continued while in the field for data collection. Furthermore, a research proposal was presented in Dili to the Institute National Health office prior to the data collection with opportunities for the Institute to ask questions about the study. Finally, regular academic support, between the researcher and the two supervisors to discuss, review and verify the research steps were maintained during the period of fieldwork. These are some of the strategies used to strengthen the credibility of the study (Thomas & Magilvy, 2011), to present an accurate description of human experience (Krefting, 1991).

3.7 Ethical considerations

Prior to undertaking the study, several key ethical and cultural considerations were identified. Because the researcher aimed to interact and explore deeply with the participants with regards to their perspectives, knowledge and experiences about FP, it

was paramount to respect the participants' rights, decisions, concerns and privacy in following research ethical principles (Cresswell, 2003).

3.7.1 Obtaining ethical approval

As the study involved human participants, ethics approval was sought and received from the Auckland University of Technology Ethics Committee [AUTEK] and approval was received (Appendix G). As this study was conducted in Suai-Covalima district of Timor-Leste, permission to conduct the study was also required from the Timor-Leste Institute of National Health. To obtain this, the aims of the study and a brief description of the research methods were presented. After that presentation, approval was granted to the researcher to conduct the study.

3.7.2 Informed consent

As part of the ethics approval process, it is important to respect participants' rights and decisions to participate in the study. Therefore, the researcher was required to inform participants in writing and verbally for those with low literacy levels of the objectives that clearly explained details about the study and the participants' role during the FGDs (Miles & Huberman, 1994). Participant information sheets and informed consent forms were written in the local language to help participants understand the process and nature of the study. The participants were advised that they had the right to refuse to answer any questions or to withdraw from the focus group discussions at any time if they wished and that the audio-recordings, the hard copies of transcripts and the signed copies of consent forms would be kept securely.

3.7.3 Maintaining confidential and anonymity

The researcher was required to maintain the confidentiality and anonymity of the participants (Fehring, 2002). Therefore, all identifying information about participants was removed during the transcription process and a code replaced participant's names in the writing up of the final report. This process was clearly explained to participants prior to data collection including that the anonymised data would not be used for any other purposes and any comments they made would be kept anonymous in the final report.

3.8 Research reflection

The role of the researcher is central to undertaking the qualitative data collection and data analysis process (Pope, Ziebland, & Mays, 2000). Within focus group discussions, the researcher has a moderator role and is pivotal to the success of the focus group discussions (Barnett, 2002). Thus, according to Taylor, Bogdan, and DeVault (2015) and Denzin and Lincoln (2011), it is crucial for every qualitative researcher to set apart their own assumptions and biases, because qualitative research findings can characterise the researcher's images, understanding and interpretations of the issue of the study. To help overcome bias the researcher used a pre-planned questioned guide, made audio-recordings to ensure an accurate account of the discussion which the researcher transcribed verbatim. Furthermore, utilising a qualitative descriptive approach helped offer accurate representations of the data.

The researcher's educational background as a midwife with more than ten years' experience in both clinical (hospital) and non-clinical healthcare (International Health Organization) created an interest to explore about family planning issues. This enabled the researcher to uncover the participants' views and experiences relating to family planning. Furthermore, the researcher is a Timorese native and fluently speaks the local language, and is familiar with local culture, norms, and social etiquette. This means she is a cultural insider and part of the broader community, enabling her to understand the study content and creating effective communication and a comfortable atmosphere that would produce rich data and information for this study. Therefore, there are potential benefits to the researcher for her future public health practices, which include:

1. To gain insights about the level of women's knowledge and understanding toward family planning and to explore the attitude and practices about the use of overall FP and contraceptive in Timor-Leste.
2. To gain better ideas and critical analysis about FP implementation in Timor-Leste.
3. To develop research and critical thinking skills to be able to further analyse FP implementation in Timor-Leste.

3.9 Summary

This qualitative descriptive study was guided by the naturalistic paradigm of enquiry. The location of this study was Suai-Covalima district of Timor-Leste, and the study began in May and ended in June 2018. The purposive sampling was used to select the participants, and Timor-Leste women aged 18 to 45 years were the participants of this study. Data were collected by conducting three focus group discussions with a total of 25 women and data were analysed using thematic approach. Ethics approval was obtained from the Auckland University of Technology Ethics Committee and Timor-Leste National Health Institute. Ethical principles such as informed consent and maintaining confidentiality and anonymity were discussed. The credibility of the study and role of the researcher were discussed as pertaining to this study. The next chapter presents the finding of the study.

CHAPTER 4 FINDINGS

4.1 Introduction

This chapter presents the findings from a study on women's knowledge, attitudes and practice about family planning in rural Timor-Leste. Three focus group discussions took place with a total of 25 women from rural communities in the Suai district of Timor-Leste. The first section of this chapter presents an overview of the demographic characteristics of the participants, and the second section presents the findings of the study.

4.2 Demographic characteristics of the participants

Demographic information was collected including participants' age, marital status, number and age range of children, and educational background. All the participants were aged between 18 to 45 years old, living in a rural Suai district. Out of 25 participants; eleven were in the age range 18-25 years, seven were between 26-30 years and seven were 31 years and above. All the women identified as married, and the majority of them (n=19) began to have children at the age between 18 - 22 years. At the time of the focus group, 11 women had between five and seven children, ten women had between two and four, whilst the remaining four women had only one child each.

The majority of these women were of the Catholic faith (n=20) and five were from other Christian denominations. The all participants described themselves as a housewife and mother. While just over half of the women had had some formal schooling (n=13), almost just as many (n=12) of the women had never had any formal schooling. None of the women were working for wages and all were dependent on their husband's income.

4.3 The study findings

As outlined in chapter three, data were analysed according to a thematic approach. Three major themes were identified:

- Perceived advantages of family planning
- Knowledge and experiences about family planning methods
- Barriers and enablers to family planning utilisation

4.4 Perceived advantages of family planning

The participants had a general understanding of family planning and the importance of utilising family planning. As the discussion progressed, the importance of family planning emerged when participants spoke about how women should utilise family planning to help them to effectively space children and to increase the health and well-being of their own and their children's health. These factors were recognised as increasing women's ability to undertake activities of daily living, such as garden and household routines.

In relation to birth spacing, another commonly emerging perception was about how FP gave more opportunities for work, be it paid employment or women's activities of daily living. The following comments provide an example.

At least to wait until the first one has walked, that would enable the older one to look-after the younger one and also to help and give mother time to work (P9 - FG1).

It is better to wait at least the child has grown a bit older particularly during the harvesting period otherwise it will be difficult for us who are needed to work in the rice-field or gardening (P5 – FG2).

Many women realised how important it was for them to utilise family planning methods. They perceived that utilising family planning methods would not just give space in between births and pregnancies but, also help to provide better health to woman and child, as the following excerpts explain:

We want to utilise family planning method because it helps to make us to prevent our pregnancy, gives better health to a mother, particularly to those who easily conceive, and it gives time for our children to grow a bit bigger and healthy too (P9–FG1).

In regard to our and children's health, we must know well to give space in between our pregnancies. At least the child has grown a bit bigger then we may get pregnant again. This is to give good health to our child and a mother too (P3 –FG2).

Some women stated explicitly that family planning can contribute towards their desired weight status. As an example:

Family planning does really help some of us who are slim and tiny to grow fat or make us gain weight. We will likely not gain weight, if it is not consistent to our body. (P1–FG1).

Our bodies will gain weight, if the method we choose is consistent to our bodies (P4-FG2).

However, a small number of the participants considered that a side-effects of family planning can be perceived as weight loss. The following as an example:

If the body is inconsistent with the family planning method we use, we will tend to lose weight and not gain any weight (P1-FG1).

The following findings highlighted that some participants saw family planning as being beneficial, both in terms of being able to do more jobs around the house and garden, and also gave them the opportunity to do paid work, as follows:

I think family planning is very good for us in the family, especially when we get a job outside. Family planning method allows us to plan for when we want to get pregnant or to give space between our children. Having small child may be difficult for a mother to get a job done. So, this was a reason makes me to utilise the contraceptive method, to make me to wait until my child get bigger, so that I can work well too (P5-FG2).

4.5 Knowledge and experiences about family planning methods

This section outlines women's experiences towards modern and natural family planning based on their knowledge and their practices in utilising different types of family planning methods. It presents some examples of how women perceived and experienced modern family planning.

4.5.1 Modern contraception

Participants had only a limited knowledge of contraceptive methods. The majority of them were unable to classify different types of modern contraceptives. Most of them only knew one or two types of contraceptive methods, which were injectable progestin (Depo-Provera) and oral contraceptives (the pill). Most of the participants across all three focus groups knew less about intrauterine devices (IUD) and implants (Norplant). While they were able to distinguish between these two methods of IUD and Norplant, they were unable to describe the names, as outlined by the following participants:

There are three types of contraceptive methods namely, injection, pill and the one inserted... (Both participants can't describe the names) (P6 & P7-FG1)

Pills, the insertion method with small needle and injection (P2-FG2)

There are three types; the injection, pill and the one inserted in our arms (P4-FG3).

In regard to their use of contraception, the focus group data highlighted that most of the women preferred to use injectable and pills methods compared to other types of FP. The women found these family planning methods to be convenient and not complicated as they did not need to have a device inserted. The following comment is an example:

We are afraid to use either one of both insertions methods into the body. We don't feel comfortable about the insertion process and it is not convenient and effective for us to use it (P3-FG1).

Injections and pills are the most common and effective methods we mostly like to use (P4-FG2).

Women mostly worried about complications, such as impact on activity of daily living and the invasive nature of the method. The following excerpts, provide an example:

We are afraid, particularly when it inserted to our body (P2-FG2).

We feel much safer and secured to use injection method than any other modern methods (P4-FG2).

Some participants felt that some of the modern contraceptives would likely impact on women's health, particularly their physical and sexual reproductive systems. This was identified by several participants who commented that:

Some people said to me that the insertion method particularly the one inserted into arm (Implant Norplant) is not convenient and effective as it not enabling us to do any work or lift heavy weights (P7-FG2).

The one inserted through our vagina likely inconvenient method and may cause bleedings, also my cause several of sickness (P6-FG2).

4.5.2 Natural methods of contraception

There were also several comments which revealed participants' perception towards natural family planning methods.

The study findings suggested that despite there being several natural family planning methods, the majority of participants had little knowledge about natural family planning. This was identified during the focus groups discussion where women were

able to describe only one or two types of natural family planning methods, such as, beads/corals and calendar method. The following comments are the examples.

There are natural family planning methods, like beads/corals and calendar method (P6–FG1).

Another pertinent issue that was identified was that some of the participants considered natural family planning method was not convenient to meet their FP needs. In particular, a number of the women noted that natural family planning was not safe to practice with their partners, and it was difficult to compromise with their partners or husbands particularly during a fertile period. For example, as one of the participants spontaneously expressed, accompanied by laughter.

Don't ever you try to practice the natural family planning methods, if we try it, we will immediately get burnt. (P4–FG2).

According to some participants, natural family planning required a high level of mutual understanding from both wife and husband.

As a wife together with our husband, we should hold a mutual commitment and understanding, otherwise, natural family planning method would not certainly work out well as we expected for (P3–FG2).

Natural family planning does really need a well mutual understanding particularly from a husband if not it will be difficult for a woman to control the pregnancy, just because we need to fulfil husband's sexual desires. In general, men often did not care if their wives are in a fertility period (Then laughter by all the participants). (P4–FG2).

4.6 Enablers/barriers in utilising family planning

In general, the women identified some enablers but a number of barriers to their utilisation of family planning. Following are some of the enabling factors which may supports women in the utilisation of the family planning.

4.6.1 Attitudes towards services provider

The findings from this study highlighted that the participants experienced very good communication and relationships with their midwives. They further commented that they have always received information related to family planning. Similarly, the women found it easy to approach midwives with any family planning issues they may have or have experienced. The following comments are some of the examples.

When we face any problem, we will tell the midwife to change the method (P9–FG1).

Our midwives here are good, they give good assistance and they talk to us about any information related to FP issue (P5–FG1).

They do give good assistances, whatever seems not right with us, they would immediately advise us. Conversely, when things seem not right with us, we will immediately let them know (P1–FG1).

Surprisingly, despite the accessibility of the midwife and the good relationship with them that they expressed, they don't feel that they had a firm grasp on knowledge. As an example, one of the participants commented;

The midwife did tell us about the different names of family planning methods, but we don't remember their names again (P5 – FG3).

4.6.2 Negative experiences of adverse effects of family planning

Despite the women being satisfied with the family planning services offered there were some aspects of family planning that were seen as negative. These will be presented in the following sub-theme.

There were some issues raised by the participants about barriers that influenced the women's utilisation of family planning.

Although, a small number (n=9) reported not experiencing any side-effects from contraceptives, most of them (n=16) stated that they had some negative reactions that impacted on their health. The commonly reported adverse effects were, irregularity in monthly period, headaches, nausea, spotting/bleeding, body pain and high blood pressure.

I have used contraceptives for a long time already since my first children was born and I have seven children. Overall the injection method was good for me. Although, after getting it, I began to experience pain. Only a pain in my joint arms and feet that had distracted me a lot from my work and I think this was the only concern I had. I was thinking maybe it was just because I don't have my monthly period (P3–FG3).

I used the injection method for 10 times now. Since I applied it, I experienced the headaches and black spotting every month (P1–FG2).

Participants considered the contraceptive's side effects could be a factor that had caused some women to withdraw from, or change to, another modern contraceptive method.

For example:

I used to get the injection method for my contraception method. After getting it, I used to have a high blood pressure and headache. Because of having these several health sicknesses, I now changed for the oral pills and after I consumed the pills, I think I feel much better (P3–FG2).

4.6.3 Family influences

The study findings suggested that women in general do not practice family planning without their partner and parents or parents' in-law's approval and opinions.

The majority of participants considered that it is very important to discuss family planning with their partner before utilising it. However, several participants commented that some of their husbands had not clearly understood family planning, even if they (wives) had discussed it with their husbands. Therefore, sometimes they faced difficulties to convince and explain to their husbands its usefulness and advantages.

I think, why some husbands appeared to not allow their wife to use family planning method, this is because some men seemed do not understand of its benefits and how it is used for (P2–FG2).

Some men think when we use family planning is enabling us to cheat behind them, that's why they refused their wife to use contraceptive method (P4–FG1).

While a number of participants said that, although it might be sometimes be challenging to get their husbands approval, these participants always find ways to use the family planning method and discuss with their male partner because these women considered the family planning was a significant and sensitive issue. This is to avoid any misunderstanding and miscommunication among them and their husbands. As an example, the following excerpt stated that:

We want to participate in family planning, as a member of the family we are the family planner. So, we need to plan with our husband. If they refuse, we would just have to remain patient and just follow them. But as a woman, I do really want to use it because, I am concerned about my health and I do want to have longer space. However, men who were always refused and have a suspicious over their wives that when women used family planning methods will allowing them to cheat on their back. Because of their fear towards husband's

disapproval, some women often hesitant to use contraceptive method. In the end, women who would get the consequence to get pregnant again. Man, often never realised that, it would be a wife who gets the health impact (P1-FG1).

Interestingly, this excerpt exemplified that although women had discussed family planning with their husbands, for some, there was still a lack of support from them. A number of participants also considered that there were many men in their village who had little information about family planning and were reluctant to learn about it, including its benefits and how it is used. Furthermore, a few participants shared that there were reasons why some men/husbands appeared to disagree with their wives to use family planning.

The above excerpts suggest that men were likely to dominate female partner in making decisions. This can create conflict or violence among men and female partners and can even cause women to fail to practice natural family planning methods.

Based on what I had experienced and seen, men often refused and forbade their wives to participate and use family planning. Men always make sure and insisted their wife not to utilise family planning. Because they don't like their wife to use it. That's why still many women in my village haven't used family planning method, even though they had bared many children and in closer distances (P1-FG1).

However, even if these women had expressed some negative attitudes of family planning from their husbands, there were some positive attitudes and concerns from their husbands regarding family planning methods' side-effects and beliefs it could have an impact on their wives' health.

Sometimes, my husband is too worry, he would think, I can get sick after getting the contraceptive method. This is one of the reasons, makes men often did not agree their wife to use contraceptive methods (P4-FG3).

Although there were challenges for women to change men's negative views towards family planning, a few women considered it is important to have the confidence to discuss with their partner the importance of women using the family planning. The following excerpt is an example:

I think, as women, we should have courage to talk to our men, we are the ones who give birth therefore, we should strongly speak to them (men) that we need to participate in the family planning and explain

to men that when we use family planning method is not to cause any harm or cheat on their back but, it is for the benefit of our overall health to remain healthy and fit (P1-FG1).

Furthermore, some women expressed that they sometimes found their parents' and parents-in-laws' being unsupportive towards their decisions for family planning utilisation.

My parents always have a negative thought about contraceptive method. They used to convince my husband and I of not to use the contraceptive method because they believed modern family planning method will stop me to conceive and have another child (P1-FG1).

The majority of women stated that, even if some of their parents disagreed with their decision to use modern family planning, this would not ultimately impact on their family planning utilisation. Women considered that the decisions of family planning were supposed to be in couple's hands and not in their parents' hands.

Most of the participants revealed that negative thoughts from their parents and parent-in-laws are generally influenced by common myths that still strongly influence Timor-Leste society. This centres on parents or parents' in-laws believing that modern family planning methods may negatively impact on the women's reproductive health that may prevent a woman being able to conceive or have a child.

4.6.4 Impact of spiritual belief on utilising family planning

As outlined in the demographic information, most of the participants were Catholic. However, according to the participants in all three FGDs, the church did not influence their decisions to utilise family planning contraceptives. This is an unexpected finding, women described that it is up to each couple to decide whether to use a modern or natural family planning methods. The following are the examples provide by the participants:

None of the Catholic Church here in Suai district had ever directly influences us to not use the modern family planning methods. It was our own rights and decisions to decide whether to use it or not (P6-FG2).

None of the churches had never forbidden us. I think, Churches were not strict towards our decisions. It is our right to decide which family planning method we would like to use (P1-FG1).

4.7 Conclusion

This chapter has presented the key findings emerging from the thematic analysis of the data gathered from three focus group discussions undertaken with rural Timor-Leste women to explore their knowledge, attitude and practices of family planning.

The three major themes emerged from the focus groups were perceived advantages of family planning, knowledge and experiences about family planning methods, and enablers/barriers in utilising family planning.

In the next chapter these findings will be critically discussed in relation to the research question and previous findings from the literature review.

CHAPTER 5 DISCUSSION

5.1 Introduction

The aim of this chapter is to discuss key findings identified in the study incorporating existing literature in order to consider the extent to which the research question has been addressed.

This study sought to answer the following research questions:

What are rural women's knowledge, attitudes and practices in relation to family planning (FP) in Timor-Leste?

How do women's knowledge, attitudes and practices influence family planning in Timor-Leste?

How might understanding women's attitudes contribute to increased utilisation of FP in Timor-Leste?

Three major themes emerged from the focus group discussion: The importance of the family planning, awareness of contraceptives methods, and enablers or barriers influencing family planning use. These themes reflect the various perceptions, opinions, and experiences of rural women participants from Suai district, in terms of knowledge, attitudes and practice towards family planning services and utilisation, reflecting their lived experience. The strengths and limitations of the study are reviewed and recommendations for policy, practice and communities in rural Suai district and for further research are presented towards the end of this chapter.

5.2 Importance of family planning

The consensus in the literature is that knowledge about family planning is useful for women and their husbands as it shapes the perceptions and attitudes towards current and future family planning practices (Nansseu et al., 2015). However, the findings of this study indicated that there were some significant gaps in women's knowledge.

Women in this study viewed modern FP positively as a way to control their fertility, but it was identified that women had very limited knowledge of the various methods of contraception due to poor education. Women's limited knowledge and different perspective about family planning has been described previously by Wallace (2014a)

who also revealed that education is believed to be a key element to women accessing and utilising family planning. However, even with greater knowledge about family planning and methods of contraception do not always translate to an individual actually practicing family planning (Speizer, Whittle, & Carter, 2005). Knowledge is important, but it has been shown that it does not lead to expected behaviours – behaviour relates to other things such as culture, context, peer pressure, power, powerlessness, resources, emotions, personal preferences and beliefs. For instance, the Timor-Leste demographic health survey showed that while 87% of women had good knowledge of at least one family planning method, actual utilisation of FP was considered low at 24% in the country overall (NSD, 2016b). Similarly, a study in India showed that 87% of women reported to be knowledgeable about at least one family planning method, but this was not been transformed into a high practice rate, as it was showed that only 38% of the women responded were utilising a family planning method (Pegu et al., 2017). Factors believed to contribute to lower contraceptive use were lack of awareness, education, strong cultural and religious norms, as well as economic and political barriers.

It cannot be over emphasised how family planning is a significant factor relating to maternal and child health and reproductive health in general. Utilising family planning was an important consideration for women in this study, and one of the very significant reasons was the perceived a good health of both mother and child, as well as giving the mother an opportunity to plan for the right time to become pregnant and control the number of children they had. Several previous researchers highlighted that there is a strong association between the short-spacing of child birth and maternal and child mortality (Ghulmiyyah & Sibai, 2012; Kassebaum et al., 2014). Evidence suggests that more reliable information on health and sexual behavior, such as family planning, can contribute to preventing and reducing complications related to maternal health (Victora et al., 2011).

Timor-Leste is still considered to have a very high maternal death of four times the likelihood of dying in childbirth (UNFPA, 2017). Low family planning utilisation and a high total fertility rate of 4.2 births per women is considered to be amongst the highest in the Southeast Asia region (NSD, 2016b). Despite a slight increase in family planning contraceptive use from 21% in 2010 to 24% in 2016, studying women's knowledge, attitudes and practice towards family planning in this region is necessary, as findings could contribute to develop policy for improving family planning services and utilisation in Timor-Leste communities.

Overall, this theme has identified that family planning was significantly important to women in this study. However, despite this importance, there were some significant gaps found in women's knowledge of FP. Behaviour change also plays an important role to improve women's attitudes towards decisions and utilisation of FP. More importantly, having good knowledge of FP has both direct and indirect effects on society, not only to increase the FP utilisation but to improve maternal and child health.

5.3 Knowledge, attitudes and practice of family planning

Knowledge of family planning refers to how women understand about the importance of family planning, the types of family planning methods, as well as the source of information and services for family planning (Omishakin, 2015). The findings of this current study identified that participants had minimal knowledge and understanding of family planning and lacked the ability to identify many contraceptive methods-both traditional and modern family planning methods. Fewer than half of the participants knew more than two types of the family planning method, regardless of whether it was a traditional or modern method. Misbelief and/or misinformation were prevalent corresponding with the findings of Wallace (2014b). Possible sources of misinformation were, for example, women gaining incorrect FP information from friends, husbands and in-laws. Hence, gaining women's knowledge and experiences on FP were considered essential as to lessen the negative perceptions and attitudes about the importance of FP.

According to the literature, limited knowledge about family planning is considered one of the most significant indicators preventing women from using family planning methods (Najafi-Sharjabad, Yahya, Hejar, & Manaf, 2013; Wallace, 2014a). Previous researchers affirmed that women who are knowledgeable and well educated are more likely to be encouraged and motivated to access and use family planning to control their pregnancy (Simelela, 2006; Wallace, 2014a; Wallace, 2014b). In this study, the injectable Depo-Provera and oral contraceptive pills were the most commonly known contraceptive methods. This supports the findings of NSD (2016b) report in relation to women's knowledge and preferences, where injectable methods are the primary contraceptive method used to prevent pregnancy and give space between births.

The finding was similar to a study conducted in Ethiopia, where pills and injectables were contraceptive methods commonly known by both males and females (Tilahun et al., 2013), but different to national data from Pakistan (Mustafa et al., 2015) where IUD followed by the condom and female sterilisation were the most commonly known

contraceptive methods. While the reasons given by the Pakistani women for using these were based on safety and few side-effects (Mustafa et al., 2015), women in the current study made their choice because of the simple instructions and effectiveness. They preferred short term methods, such as Injectable Depo-Provera and oral contraceptive pills.

In general, the current study revealed that women who participated in study, while not having a high level of FP knowledge, were using contraceptive methods, although from a limited range. This was different to the latest findings reported by NSD (2016b), that indicated high awareness but low contraceptive utilisation. A reason for this could be that the majority of current participants had access to health facilities in the study site and therefore, they may have had a greater awareness of health, including family planning and may have had more opportunities to access health information. Also, it could have been that there were a large number of women in the local community who did not utilise FP.

This study revealed a significant trend between women's knowledge and the practice of family planning. In association with the current demographic characteristic of women of this study; literacy, age, and the number of children were likely to be essential factors relating to current family planning decisions; this finding is supported by previous studies (Barut et al., 2016; Miller, 2010). In this study a fear of side-effects is highlighted as one of the reasons for women not using specific contraceptives, a result that has also been described in other studies conducted in Ethiopia (Tilahun et al., 2013) and India (Quereishi, Sadanadan, & Mathew, 2012).

The low levels of education may have impacted on women's health literacy particularly toward the appropriate choice of family planning methods. This notion was supported by Tilahun et al. (2013) and Wallace (2014a) in that formal education was the most important factor associated with greater knowledge about contraceptive methods. As the literature suggests, the quality of information on family planning and its related contraceptive methods determines women's decisions to use family planning (Yee & Simon, 2011). In general, the findings that women in this current study lacked the ability to easily identify other than a few family planning methods.

Education has a key role to play and provide important step in making informed-decisions to utilise health services. Quereishi et al. (2012) came up with several suggestions that improving female's level of awareness and better access to family

planning services could solve the problems of unmet family planning needs. In this way, it would encourage more women to utilise contraceptive methods to reduce fertility rates and choose appropriate birth spacing. If the level of education is increased, the awareness of family planning options may also increase. Women who recognise the benefits of family planning are inclined to use family planning methods to control pregnancies and number of children compared to women who had limited knowledge and are in turn easily influenced by other factors (Guttmacher Institute, 2014), for example, cultural beliefs, misinformation and misinterpretation regarding the use and benefit of family planning utilisation. These gaps may be a threat to women to discontinue utilising family planning. However, in the current study, women recognised the benefit of family planning and they affirmed to continue its use, even if they would have to face challenges such as their husband's disapproval or other influences such as cultural or religious beliefs or misbeliefs relating to contraception. Timor-Leste women's family planning knowledge can be affected by myths and beliefs (Pegu et al., 2017). The women in this study perceived that the IUD and implants may reduce their physical activities and present risks to their health, cause menstrual irregularity, infertility and lack of physical movement. It can be considered that these women were lacking information and knowledge of various type of family planning methods.

To summarise, this theme has identified that women's lack of knowledge of FP has a correlation with women's lacked of use of FP. The impact of women's poor knowledge and practices of FP were influenced by limited information and education. In addition, misinterpretation and misunderstanding of FP introduced by other parties might also had influenced women's attitudes to reject the use of any particular FP methods. Therefore, it is significant that every midwife improves women's awareness and understanding of FP by using simple materials and information to attain more women's interest to choose and decide appropriate methods of FP.

5.4 Relationship with service providers

Most women in this study had received and heard information about family planning from government health providers such as hospitals, clinics, midwives, as well as through the mass media such as radio and television. This combination of formal and informal sources of information was similarly found by Alege et al. (2016), Jay, Masoud, Sabiha, and Avelina (2017) and Quereishi et al. (2012) who stated that health service providers, friends and the media were the most trusted sources of family

planning information. Pegu et al. (2017), notes that increases in appropriate and sufficient information of FP methods is beneficial as it allows women to make informed-decisions for choosing the most reliable and appropriate family planning method.

Some women in this current study expressed negative experiences which they believed were caused by the contraceptives they used. The relationship with health providers, especially the midwife is important for these women. It is necessary for health service providers to assess and provide reliable information and assistance to avoid women from discontinuing family planning methods. Providing women with reliable information and alternative family planning methods may help maintain women's decisions to use family planning. Omishakin (2015) states that providing adequate services and offering appropriate family planning information by the professional health providers appeased those who were hesitant to use contraceptives, who were suffering from side-effects, and prevented some from discontinuing family planning. As Jay et al. (2017) suggest adequate information, counselling and further assessment can be integrated during antenatal care services. In turn, women's attitudes and practices could be improved and thus, the unmet needs of family planning will be reduced (Askew, 2012; Hasan & Islam, 2016; Nansseu et al., 2015).

Women in this study stated that services and sources of family planning were easier to access because they were provided free of charge. Timor-Leste's health services of both government and non-governmental facilities were the current leading sources of family planning services that facilitate community with free services (NSD, 2016b). Free FP services provide more choice to women to obtain contraceptives either from private or government providers without worrying about cost (Alege et al., 2016). Hence, offering free FP services encourages more women to utilise the services effectively.

5.5 Enablers and barriers of family planning

Several factors affect the attitude and practices of women towards FP. This includes the positive interactions between the midwife and the woman. These positive interactions enabled more women to use FP. Therefore, positive communication and interaction is important and determines women's position on FP decisions and utilisation. As presented in the following sections, a range of other factors also determines women's FP utilisation.

5.5.1 Traditional family planning methods

Women in this study considered natural family planning methods unfavourable. They stated that natural family planning methods were not effective, convenient or reliable to practice with their partners. This is consistent with the findings of Speizer et al. (2005) who also suggest the inconvenience of natural family planning to be one of the main reasons for women in Honduras to discontinue practicing this FP method. Reasons for choosing between natural and other family planning methods included side-effects (Tilahun et al., 2013) as well as religious and cultural beliefs (Sedgh et al., 2014).

Women in this study had a lack of confidence and mistrust towards traditional family planning methods. This may likely be because of some women may find modern contraception more convenient or they are aware of the availability, and it is free from many health service providers. Hasan and Islam (2016) argues that when women and men have clear information on both modern and traditional family planning methods, it increases their motivation to use FP of any method. In contrast, when information is not clear, and women and men's FP preferences are not met, it can lead them to fail to use any method of FP (Pearson & Becker, 2014). The women in this study faced a similar situation where traditional FP methods were not effective to practice with their partners. Considering that 97% of Timor-Leste are Catholics (Richards, 2015), women and their partners should be appropriately instructed of how and when this natural FP method could be applied, to lessen negative experiences (Pallone & Bergus, 2009). However, both traditional and modern family planning methods can give more options for women and their partner to choose. Therefore, adequate information on both modern and traditional FP methods are pivotal for women and their partners.

5.5.2 Cultural and religion

In terms of cultural and religious concerns, this study had revealed both positive and negative influences on decisions to use family planning. The findings of this study revealed that the majority of the women were Catholic, and all were using modern family planning methods. These women claimed that the Church in Timor-Leste does not forbid them to use modern family planning methods which the women considered positively. This belief contradicts studies conducted previously that the Catholic faith in Timor-Leste impeded women and couples from utilising family planning, particularly modern family planning methods (Richards, 2015; Wayte et al., 2008). The findings were also in contrast with a Ugandan study (Nalwadda, Mirembe, Byamugisha, &

Faxelid, 2010) and one carried out in Nigeria (Onwuzurike & Uzochukwu, 2001) that explored reasons for low contraceptive uptake. According to the findings of these studies, the Church or religion was one of the major barriers against effective family planning practice particularly the use of modern contraceptive methods. The perspectives of women in this study are quite unique. Given the majority of Timorese are Catholics (NSD, 2016b; Richards, 2015), it is interesting these women did not perceive that the Catholic Church provides the most valuable moral perspective on women's roles and rights on FP in Timor-Leste. Nevertheless, the role of religion as a barrier may depend on the degree of religiosity and traditionalism of an individual to adopt contraception. Considering that this perspective was only revealed amongst participants, all of whom used the FP clinics, it might be the case that women not accessing the health clinics would have different perceptions and experiences of the influence of religion on their FP decisions.

It is well documented that the Catholic Church's position on modern family planning methods has challenged the implementation of family planning programme in Timor-Leste (Belton et al., 2009a; Wallace, 2014a; Wayte et al., 2008). This is similar to the Philippines, where Richards (2015) found that the Catholic teaching on contraception has promoted and perpetuated negative and misleading perceptions of contraception. In some instances, modern family planning methods are promoted as not acceptable, sinful and against human nature (Srikanthan & Reid, 2008; Wallace, 2014a; Wallace, 2014b). The position of the Church on this issue can put women in a dilemma. Women in the current study thought that many Timor-Leste women who adhered to Church teaching would not use modern family planning, while those who did, were considered by the Church to have sinned.

Traditional family planning method also required a mutual understanding and disciplined manner from both man and woman to meet their family planning needs (Johnson- Hanks, 2002). Women in the current study reported that convincing their husbands was sometimes challenging. The Church's position is to continue promoting natural family planning methods. While the Church was universally perceived as an influential agency around reproductive health, Richards (2015) found evidence that many of the Church representatives expressed support for the principle of reproductive choice, despite a strong Church position on promoting natural family planning methods. Furthermore, being a Catholic believer does not always influence an individual interest

to utilise modern family planning methods (Leonard, Chavira, Coonrod, Hart, & Bay, 2006).

Providing both natural and modern family planning to all believers is promising, as this gives women and their partners, options to choose from the different family planning methods that they consider to be effective, convenient and reliable (Omishakin, 2015; Richards, 2015), and thus, overcome some of the current religious barriers against the use of contraceptives. Overall, the Church can be either a barrier or enabler for family planning utilisation. However, as the Catholic Church played a main role during the Timor-Leste conflict for independence there is no doubt people may show respect to the Church's position on any issue (Lyon, 2011). Therefore, it is very important for the family planning service providers to understand how religion could affect women's FP decisions. Furthermore, having strategies to involve Church leaders in family planning programmes (Richards, 2010), could be beneficial to reduce some negative interpretations and barriers to contraceptive use.

5.5.3 Family influence

The socio-political context, such as, peer-pressure, restrictions on female mobility and in-law's disapproval, were prominent in this current study. Husbands have played a very strong role in family planning decisions. Often they made the FP decisions, but some women spoke of shared decisions between husband and wife and these were viewed as ideal and positive in relation to FP decisions, but generally not the norm. Most women in this study would not use contraception without their husband's approval. This is because in traditional practice, the man is considered the head of the family and responsible for any household decisions including the desired number of children (Niner, 2011). Thus, in the traditional patriarchy, women are expected to obey and respect their husbands, taking care of the children and all the household routines (Niner, 2011; Wallace, 2014). These findings are similar to many others, for instance from India (Pegu et al., 2017), Tanzania (Schuler, Rottach, & Mukiri, 2011) and Bangladesh (Islam, 2014). It is important to involve men in any health promotional activities to boost their health literacy levels to support their wives with family planning. Therefore, there is a strong need to provide men with information and involving them in counselling sessions may help them to be more supportive of contraceptive use and more aware of the concepts of shared decision-making approach (Adelekan, Omoregie, & Edoni, 2014).

Another factor identified from this current study was that often men were found to be suspicious and had mistrusted women using contraception. According to women participated in this study, men believed that by allowing women to utilise contraceptive methods enables them to cheat on men. This finding was consistent with a study conducted in Nigeria where men had similar perceptions that allowing women to use family planning methods encourages women to be unfaithful (Oyieke & Galang, 2016). This behaviour is considered a barrier to contraceptive use and thus a hindrance to women's utilisation of contraceptives.

Having men participate in family planning education in clinic sessions can be beneficial as this would improve men's awareness and knowledge of family planning, as well as enhance communication between couples. This approach would likely decrease negative attitudes and perceptions in men towards their wives' FP use (Adelekan et al., 2014). In addition, participants expressed support for the right to reproductive self-determination. However, as the culture and religion in Timor-Leste has placed the man as head of the family, women's reproductive rights and decisions may remain a challenge in the country. The negative perceptions held by men are part of existing gender issues which must be considered by family planning service providers.

5.5.4 Impact of health literacy

Health literacy is the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions (Nutbeam, 2000). Limited health literacy is associated with poor health conditions as it hinders a person's ability to access health information resources and self-manage their health status (Nutbeam, 2000).

Health literacy was an issue among these women participated in this study. Women had limited knowledge and understanding about family planning methods and their benefits. A previous study conducted by Kennedy et al. (2011), found that illiteracy levels in Timor-Leste were considerably higher than in other developing countries in Asia. Low literacy levels in the study reported by Kennedy et al. (2011) could have impacted women had a very minimum understanding about family planning and that this in turn affected their negative perceptions and decisions to use FP methods. It might have been the case that the other study was carried out in other areas of Timor-Leste such as urban areas where the health literacy rates were higher (NSD, 2016b). Also, this can be

associated with the low FP rates in Timor-Leste, which are lower compared to other developing countries (NSD, 2016b).

In this study there was an association between higher levels of education and increased knowledge of FP amongst women in this study. Despite women's limited knowledge of FP methods, findings in this study revealed that women refused to use FP methods other than injectable and oral pills, due to their negative perceptions and misinterpretation. The women perceived that utilising implants, or IUD methods can impact on their physical health, for instance, women avoided carrying and heavy-lifting, and had fears that items inserted into their body could cause vaginal bleedings, irregular periods and pain.

Poor health literacy is found to be one of the barriers to individuals accessing health services and seeking health advice or counselling (Nutbeam, 2000). This means women with sufficient education levels more easily understand family planning concepts and thus are aware of what to do and where to go when faced any issue related to FP needs. According to the demographic characteristics of the women participated in this current study, half of women had a minimum of primary and secondary school education levels and the other half of women had no formal education. This finding revealed that women with no formal education tended to have a very poor knowledge about family planning and a lack of self-esteem compared to those with a minimum education background. Women with poor health literacy may find challenges to access FP services, due to their lack of self-esteem and shyness, making it difficult for them to discuss the issue concerning FP utilisation with health service providers.

Health literacy is a very important component and it is influenced by many factors and conditions, such as age, gender, education, as well as cultural and religion and socio-economic status (Freedman et al., 2009). Providing women and their partners with clear and simple FP health information may help bring positive outcomes for their health attitudes and behaviour change. Therefore, adequate understanding and knowledge of health literacy is a tool of social health determinants, environmental and systemic forces influencing the health of individuals and the public (Freedman et al., 2009). However, undeniably, a variety of interventions are needed to help diminish factors relating to cultural and religious challenges and barriers.

Lower levels of education not only affect knowledge of contraception, but they also shape negative perceptions and beliefs (Wallace, 2014a). This can be associated with

the current low levels of family planning utilisation in Timor-Leste, where women still find it challenging to use family planning to control pregnancies and space births. Improving health literacy promises to increase women's contraception practices (Santoso & Surya, 2017). Furthermore, providing increasing family planning methods access to low in-income women and at no-cost contraception would result a significant reduction in the number of unwanted pregnancies (Peipert, Madden, Allsworth, & Secura, 2012). This is fundamental to the health of women and their children and critical to the equal functioning of women in society (Wallace, 2014a).

Previous studies confirmed that there is an association between individuals with poor health outcomes, inadequate utilisation of health services, and lower health literacy (Nutbeam, 2000; Yee & Simon, 2014). Similarly, women with poor family planning literacy are the ones whose health status is affected the most. This was perceived as being due to their inability to access FP health information resources (Dehlendorf, Rodriguez, Levy, Borrero, & Steinauer, 2010; Kennedy et al., 2011; Kim, 2009). This was also confirmed by Cleland et al. (2006) who stated that low levels of educations have contributed to poor knowledge about FP methods and their side-effects which impacted the decision to use FP in Timor-Leste.

The high rate of fertility and unintended pregnancies remain a public health issues in Timor-Leste (Wallace, 2014a). The unmet need of family planning in Timor-Leste reported is high, with 32% of women having an unmet need in 2010, which had decreased to 25% in 2016 (NSD, 2016b). Despite this decreased rate the proportion is still high. Incorrect FP use and contraceptive failure could be a factor contributing to these rates. The women in this study had also raised some concerns about complications of the contraception they used. Yee and Simon (2014) identified that inappropriate contraception use and failure contributed to half of unintended pregnancies amongst the low-income and minority women in the United States. According to Yee and Simon (2014) women with poor and minority social economic status are often at most substantial risk of unplanned pregnancy. Within this context, insufficiencies in family planning and contraception knowledge can be barriers to effective family planning. Hence, having effective communication and understanding of how and when to use contraceptives can considerably reduce the possibility of unintended pregnancies (Peipert et al., 2012; Yee & Simon, 2014).

Family planning service providers need to recognise the importance of promoting health literacy to men as well as women. A lack of support for men towards the use of contraceptive methods can be a barrier. This was identified by the women participating in this study. Hence, involving men in reproductive health is considered essential, as men are also required to take responsibility for their sexual and reproductive health, for the benefit of their family and society (Oyieke & Galang, 2016).

5.5.5 Impacts of side-effects

Side-effects related to the use of modern family planning methods can be a barrier for many women to use contraception. Some women in this current study had negative experiences of the injection Depo-Provera. They explained that fear of side-effects was one of the most critical reasons for them trying to switch or discontinue use. Perceived side-effects can impact on FP decisions, regardless of whether the women had ever utilised it or not (Mustafa et al., 2015). In addition, this current finding also revealed that often health problems occurred after utilising contraception, but poor understanding may have affected their decision to continue. This is specifically pronounced with respect to women who had likely limited understanding about family planning methods, of how to use them, and where to consult or seek for advice (Sedgh et al., 2014).

A fear of side effects threatened women's utilisation of FP (Sedgh et al., 2014). This trend continues to increase and in turn the unmet need of family planning remains a major problem in most developing countries (Alkema et al., 2013) including Timor-Leste (Belton et al., 2009a). A similar study was conducted in rural India by Quereishi et al. (2012) which revealed that the unmet need of family planning remains an issue in India due to the lack of knowledge of contraceptive methods and side-effects and these aspects were the major factors for the abandoning of modern contraception methods in rural India. A similar result was also found in rural Ethiopia, also a developing country (Tilahun et al., 2013), where a lack of knowledge of family planning methods and fear of side-effects impeded women from using family planning methods. This study has also discovered that although attitudes towards family planning were found favourable, they were not without concerns and doubts about side-effects related to the use of family planning methods.

Another issue revealed in this study was the fear side-effects with some long-term contraceptives for example, the IUD, implant and other long-term methods. Traditional methods were also considered ineffective and inconvenient to control women's

pregnancy or birth spacing. A previous study had already described similar findings (Tilahun et al., 2013), identifying that Ethiopian women consistently preferred short-term hormonal contraceptive methods like the pill and injectables than other permanent methods. Furthermore, traditional methods, which were the least known, were unfavoured FP methods.

Some women in this study openly shared their different experiences about side effects. The experience is depended on each individual's health issue. In contrast, Sedgh, Hussain, Bankole, and Singh (2007) found that often women did not express their health concerns to health providers. However, the findings of this study identified that participants openly shared their concerns regarding different side-effects with the researcher but reported not disclosing these to the health service provider.

Half of the women in this study had experienced some impact from the contraception's side-effects, for example; high blood pressure, nausea, irregular spotting, and pain in joints in arms and feet. Evidence shows that many contraceptive methods produce changes in the menstrual cycle. For instance, the injection 'Depo Provera' and implant 'Norplant' may cause irregularity on menstrual cycles, having frequent light vaginal bleedings or missing period over time (Tolley, Loza, Kafafi, & Cummings, 2005). These findings of past studies are in line with the findings of this study as the participants highlight health concerns of the contraceptives they used. This is further confirmed by a study conducted by Sedgh and Hussain (2014) that also reported concerns about side-effects and health risks pertained particularly to menstrual disruption and fears of infertility.

Fear of side-effects is one of the important indicators of contraceptive utilisation among both women and men and have been confirmed and discussed within different studies (Asadisarvestani, Khoo, Malek, Yasin, & Ahmadi, 2017; Sedgh et al., 2007; Wallace, 2014b). These health concerns were believed to be associated with the modern family planning methods, For example, injection progestin and oral contraceptives pills. These were potential threats for women to discontinue family planning in the future and a threat to experience unmet need of family planning and unintended pregnancy. Asadisarvestani et al. (2017) findings in Shiraz, Iran indicated that women who were more knowledgeable about potential FP methods' side effects were more likely to use the contraceptives. However, some Iranian participants who practiced FP methods continued use despite fears of side-effects. Ineffective and inappropriate family

planning utilisation may lead women to face unmet FP needs (Alkema et al., 2013). This was consistent with the current findings where women lacked relevant information about its use, apart from the limited ones that they use. Therefore, women are encouraged to have knowledge of all various FP methods and their side-effects, giving them a free choice and alternative to choose which contraceptive is most compatible and comfortable to their body and health (Asadisarvestani et al., 2017).

In addition, side-effects are the most commonly mentioned causes for withdrawal from, or unwillingness to use family planning method (Sedgh & Hussain, 2014). This is consistent with the current findings where women stated that they did have health concerns but, had not always informed the midwife. Reasons were unclear, however Tolley et al. (2005) suggests that women who seek advice for side-effects feel health providers considered side-effects to be insignificant. The health concerns raised might be considered negligible, but such issues should not be disregarded, because, often the concerns raised seemed to be a threat for many women's discontinuation of use FP methods (Tolley et al., 2005). Considering this, it is recognisably important for the health workers to immediately addressing the needs or concerns of an individual's regarding their health concerns. Addressing women's needs and concerns will help prevent women's contraceptive discontinuation and help increase usage which contribute to achieve women's FP goals and in turn relieve population pressures (Sedgh et al., 2007).

5.6 Strengths and limitations of the study

This study has both notable strengths and limitations that are necessary to consider in interpreting the findings.

5.6.1 Strengths of the study

One of the strengths of this study is that the researcher is Timorese and a midwife with good understanding of the socio-cultural context and the language of Timor-Leste. Women who involved in the study were likely to feel more comfortable to speak or discuss in their native language with the researcher. Furthermore, this study utilized a qualitative approach, which helped to gain deep understanding of the research topic by giving participants an opportunity to voice their experiences and concerns in their own words.

5.6.2 Limitations of the study

There are a number of limitations identified in this study. This study used three focus groups as the main data collection methods, and only married women aged 18 - 45 years from a certain rural area of Timor-Leste were recruited. It may be that women from different rural Timorese locations may have had different perspectives and experiences. Another limitation was this study did not include family planning utilisation among married men and that information about men was collected from their wife indirectly.

Furthermore, the decision not to undertake member checks of the transcripts may have been a limitation of this study but the researcher opted to consider the needs of the participants, who had already given time for the focus groups and for whom travelling again to the clinic may have taken them away from their daily chores and may have needed to be justified to their husbands, some of whom may not have known their wife had been visiting the clinic for FP.

A further possible limitation is that all participants were recruited from local health clinics, which may mean they were already more familiar with FP than others in the community who may not use the clinics. Despite these limitations the findings from this study may provide a starting point from which further understanding, in a larger study, could be explored. Even though extracted themes were common across all three FG it is possible that saturation of research themes did not occur. In addition, findings of this study cannot be generalised to the wider Timor-Leste population due to the qualitative nature of the study.

5.7 Recommendations

The findings from this study provide important insights into FP utilisation of participants. The study has implications for a wide range of people including rural women and male partners/husbands, the local community, health professionals, future researchers and policy makers. The following recommendations are intended to enhance family planning services and utilisation delivery to better meet maternal, family and child health outcomes in rural Timor-Leste.

5.7.1 Inclusive family planning

Firstly, the findings suggest that family planning services have provided positive health outcomes in both women and their children in the rural setting of Timor-Leste. Services have not only provided positive health outcomes but have also contributed positively to

reduce the fertility rate. While rural women were generally knowledgeable of and positive about family planning services, a lack of health literacy existed, especially in terms of family planning methods and, side-effects. There is a need to strengthen women's basic literacy skills and knowledge. This is considered to be beneficial to empower women to develop socially and economically and to be more independent rather than to be dependent only on their male partners.

In addition, it is important to introduce information about family planning, including reproductive health education to men as well as women. Men play an important role in current FP decisions but are seen not well informed and dominating decision making. Future FP decisions need to be couple-oriented with both women and men more involved. To enhance family planning, information, resources, and services need to be more informative and accessible to all.

5.7.2 Community level

To make family planning, natural or modern, widely accepted and understood, all community members and local leaders including church leaders are encouraged to work together. It is perhaps aspirational in that looking ahead it would be beneficial to see some more open discussion or acknowledgement from the Church of the impact of both natural and modern FP, strengthening its support in promoting the healthy family. Adequate and sustainable FP promotional awareness in the community can bring positive outcomes for improving knowledge, attitude and practice within the community, while also improving socioeconomic status.

5.7.3 Health service providers

There is a need to improve and increase the quality of family planning services. Knowledge and awareness of overall use of both natural and modern family planning utilisation and services is required. Improvement should not only include consideration of the importance of family planning benefits but should also include access to effective education, information and communication. This will help to improve knowledge about the various types of family planning methods, how to use and where to obtain them, their side-effects and ways to overcome any challenges experienced while using FP.

Training of the family planning providers is also important particularly keeping updated with recent information on FP methods. In this way, FP service providers are equipped to respond to any issues related to FP utilisation. In turn, this may help reduce any

misconceptions and misinterpretations which exist among women and their partners. Potentially, training that also considers privacy, confidentiality and sensitivity of FP may help encourage more women to access FP.

5.7.4 Future research

It is recommended that further research take place to increase the understanding of the factors that influence women of rural Timor-Leste around family planning so that findings can inform future policy. The study identified that low health literacy towards FP was one of the major barriers. Lack of male support or male partner's disapproval towards family planning use among women in the rural setting was one of the barriers that affected family planning utilisation among rural women. Improving and increasing family planning decisions is very important. It is necessary to involve men in a future study to identify influences surrounding the decision or approval made by men to use family planning services.

5.8 Conclusion

Effective FP can contribute to substantial decreases in fertility rates and reduce the risks of unwanted pregnancies, induced abortion and maternal deaths. However, in many developing countries, including Timor-Leste access and utilisation of FP is poor. This study aimed at exploring rural women's knowledge, attitudes and practices in relation to utilisation of family planning in Timor-Leste. The study has uncovered an understanding that highlights FP benefits and challenges perceived and experienced by rural Suai women in Timor-Leste.

There is a need to reduce the fertility rate among women in Timor-Leste which would not only promote maternal and child health, but it would also contribute to the reduction of the maternal health burden and mortality rate in Timor-Leste. Most women in this study had a reasonable knowledge about the importance of family planning. Many participants recognised family planning as a means to prevent pregnancies and give space between births for better quality of life both physically and socially. However, a lack of knowledge of a wider range of family planning methods, fear of side-effects and family influences, particularly male partner's disapproval towards family planning and in-law involvement, were common factors affecting FP service utilisation.

In addition, while the Church's role and teachings may not have been a barrier or influential factor to the women of this study, more generally there is a need for

community and church leaders to be open to discuss FP. Allowing and promoting effective methods of birth control or spacing may likely lower the number of abortions by reducing unwanted pregnancies and complications that are current risks for women's health.

Women in Timor-Leste need to be supported and provided with opportunities to obtain good education and health literacy skills. This may help empower women to be more autonomous and confident in recognising their reproductive health needs and making FP decisions. In line with the findings of this study, currently poor health literacy is impacting on women's decisions on either natural or modern FP methods. Clear and simple FP information along with skills to better understand information would be beneficial and may likely provide a positive impact on women and men as well as others over FP decisions. At the same time some rural health providers may not have access to the most up to date FP information. Ongoing training for providers is therefore another important factor to effective FP utilisation.

REFERENCES

- Ackerson, K., & Zielinski, R. (2017). Factors influencing use of family planning in women living in crisis affected areas of Sub-Saharan Africa: A review of the literature. *Midwifery*, *54*, 35-60
<https://doi.org/10.1016/j.midw.2017.07.021>
- Adelekan, A., Omoregie, P., & Edoni, E. (2014). Male involvement in family planning: Challenges and why forward *International Journal of Population Research*, *2014*, 9. <https://doi.org/http://dx.doi.org/10.1155/2014/416457>
- Ahman, E., & Shah, I. H. (2012). Unsafe abortion differentials in 2008 by age and developing country region: High burden among young women. *Reproductive Health Matters*, *20*(39), 169-173. [https://doi.org/10.1016/S0968-8080\(12\)39598-0](https://doi.org/10.1016/S0968-8080(12)39598-0)
- Ahmed, S., Li, Q., Liu, L., & Tsui, A. (2012). Maternal deaths averted by contraceptive use: An analysis of 172 countries. *The Lancet*, *380*(9837), 111-125.
[https://doi.org/https://doi.org/10.1016/S0140-6736\(12\)60478-4](https://doi.org/https://doi.org/10.1016/S0140-6736(12)60478-4)
- Alege, S. G., Matovu, J. K., Ssensalire, S., & Nabiwemba, E. (2016). Knowledge, sources and use of family planning methods among women aged 15-49 years in Uganda: A cross-sectional study. *The Pan African Medical Journal*, *24*(1), 1-12. <https://doi.org/http://doi.org/10.11604/pamj.2016.24.39.5836>
- Alkema, L., Kantorova, V., Menozzi, C., & Biddlecom, A. (2013). National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: A systematic and comprehensive analysis. *The Lancet*, *381*(9879), 1642-1652.
[https://doi.org/https://doi.org/10.1016/S0140-6736\(12\)62204-1](https://doi.org/https://doi.org/10.1016/S0140-6736(12)62204-1)
- Ardestani, A., S, Esfahani, M., K, & Hussieni, S., M (2016). Abortion in the views of different religious and laws. *Journal of Political and Laws*, *9*(4), 99-109.
<https://doi.org/10.5539/jpl.v9n4p99>
- Asadisarvestani, K., Khoo, S. L., Malek, N. M., Yasin, S. M., & Ahmadi, A. (2017). Determinants of contraceptive usage among married women in Shiraz, Iran. *Journal of Midwifery and Reproductive Health*, *5*(4), 1041-1052.
<https://doi.org/10.22038/JMRH.2017.8771>
- Asian Development Bank [ADB] (2014). Timor-Leste country gender assessment. Mandaluyong City, Philippines: Asian Development Bank. Retrieved from <https://www.adb.org/sites/default/files/institutional-document/84126/timor-leste-country-gender-assessment.pdf>.
- Askew, I. (2012). *Causes and consequences of unintended pregnancy in developing countries*. Retrieved from http://www.popcouncil.org/uploads/pdfs/events/2012ICCR_Askew.pdf
- Balaiah, D., Ghule, M., Naik, D. D., Parida, R. C., & Hazari, K. T. (2001). Fertility attitudes and family planning practices of men in a rural community of Maharashtra. *Journal of Family Welfare*, *47*(1), 56-67.
- Bankole, A., Hussain, R., Sedgh, G., Rossier, C., Kaboré, I., & Guiella, G. (2014). *Unintended pregnancy and induced abortion in Burkina Faso: Causes and consequences*. New York: Guttmacher Institute,. Retrieved from <https://pdfs.semanticscholar.org/35f6/322e67b1f656dfed50c3ec63c4c19033f7d6.pdf>.
- Barnett, J. M. (2002). Focus groups tips for beginners. *Texas Centre for adult literacy & learning*, *1*. Retrieved from <http://www-tcall.tamu.edu/orp/orp1.htm>

- Barrett, J. B., DaVanzo, J., Ellison, C. G., & Grammich, C. (2014). Religion and attitudes toward family planning issues among US adults. *Review of Religious Research, 56*(2), 161-188. <https://doi.org/10.1007/s13644-013-0136-z>
- Barut, M. U., Agacayak, E., Bozkurt, M., Aksu, T., & Gul, T. (2016). There is a positive correlation between socioeconomic status and ovarian reserve in women of reproductive age. *Medical science monitor: International Medical Journal of Experimental and Clinical Research, 22*, 4386. <https://doi.org/10.12659/MSM.897620>
- Belton, S., Whittaker, A. M., & Barclay, L. (2009a). *Maternal mortality, unplanned pregnancy, and unsafe abortion in Timor-Leste: A situational analysis*. Darwin, Australia: Alola and UNFPA. Retrieved from [file:///E:/unfpa_east_tigor_maternalmortality%20\(2\).pdf](file:///E:/unfpa_east_tigor_maternalmortality%20(2).pdf)
- Belton, S., Whittaker, A., Fonseca, Z., Wells-Brown, T., & Pais, P. (2009b). Attitudes towards the legal context of unsafe abortion in Timor-Leste. *Reproductive Health Matters, 17*(34), 55-64. [https://doi.org/10.1016/S0968-8080\(09\)34470-5](https://doi.org/10.1016/S0968-8080(09)34470-5)
- Bernhart, M. H., & Uddin, M. M. (1990). Islam and family planning acceptance in Bangladesh. *Studies in Family Planning, 21*(5), 287-292.
- Black, R. E., Cousens, S., Johnson, H. L., Lawn, J. E., Rudan, I., Bassani, D. G., . . . Cibulskis, R. (2010). Global, regional, and national causes of child mortality in 2008: a systematic analysis. *The Lancet, 375*(9730), 1969-1987. [https://doi.org/10.1016/S0140-6736\(10\)60549-1](https://doi.org/10.1016/S0140-6736(10)60549-1)
- Bogale, B., Wondafrash, M., Tilahun, T., & Girma, E. (2011). Married women's decision making power on modern contraceptive use in urban and rural southern Ethiopia. *BMC Public Health, 11*(1), 342. <https://doi.org/10.1186/1471-2458-11-342>
- Bongaarts, J. (2014). The impact of family planning programs on unmet need and demand for contraception. *Studies in Family Planning, 45*(2), 247-262. <https://doi.org/10.1111/j.1728-4465.2014.00387.x>
- Bongaarts, J. & Bruce, J. (1995). The causes of unmet need for contraception and social content of services. *Population and Council, 26*(2), 57-75 <http://www.jstor.org/stable/2137932>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3*(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Cavazos-Rehg, P. A., Krauss, M. J., Spitznagel, E. L., Bommarito, K., Madden, T., Olsen, M. A., . . . Bierut, L. J. (2015). Maternal age and risk of labor and delivery complications. *Maternal and Child Health Journal, 19*(6), 1202-1211. <https://doi.org/10.1007/s10995-014-1624-7>
- CBS-NEWS. (2018). *Abortion around the world*. Retrieved from <https://www.cbsnews.com/pictures/abortion-around-the-world-where-are-rates-highest/16/>.
- Chapman, R. J. (1996). *Significance of Family Planning for Women in Indonesia* (0314-6804). Monas Asia Institute Centre of Southeast Asian Studies: Monas University, Australia. Retrieved from <https://search.informit.com.au/fullText;dn=246317489267156;res=IELHSS>
- Char, A., Saavala, M., & Kulmala, T. (2010). Influence of mothers-in-law on young couples' family planning decisions in rural India. *Reproductive Health Matters, 18*(35), 154-162. [https://doi.org/10.1016/S0968-8080\(10\)35497-8](https://doi.org/10.1016/S0968-8080(10)35497-8)
- Chibba, M. (2008). Poverty reduction in Developing countries. *World Economic, 9*(1), 197-200. Retrieved from https://www.researchgate.net/publication/23725146_Poverty_Reduction_in_Developing_Countries.

- Cleland, J., Bernstein, S., Ezeh, A., Faundes, A., Glasier, A., & Innis, J. (2006). Family planning: The unfinished agenda. *The Lancet*, *368*(9549), 1810-1827. [https://doi.org/10.1016/S0140-6736\(06\)69480-4](https://doi.org/10.1016/S0140-6736(06)69480-4)
- Cleland, J., Conde-Agudelo, A., Peterson, H., Ross, J., & Tsui, A. (2012). Contraception and health. *The Lancet*, *380*(9837), 149-156. [https://doi.org/10.1016/S0140-6736\(12\)60609-6](https://doi.org/10.1016/S0140-6736(12)60609-6)
- Cresswell, W. (2003). *Research design: Qualitative and mixed-method approaches*. California: Thousand Oaks, Sage Publications Inc.
- Creswell, J. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage Publications. Los Angeles, USA.
- Creswell, J., & Creswell, J. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage publications. Thousand Oaks, California, USA
- Darroch, J. E., & Singh, S. (2013). Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: An analysis of national surveys. *The Lancet*, *381*(9879), 1756-1762. [https://doi.org/10.1016/S0140-6736\(13\)60597-8](https://doi.org/10.1016/S0140-6736(13)60597-8)
- Deen, J., da Conceicao Matos, L., Temple, B., Su, J. Y., da Silva, J., Liberato, S., & Tulloch, J. (2013). Identifying national health research priorities in Timor-Leste through a scoping review of existing health data. *Health research policy and systems*, *11*(1), 8. <https://doi.org/10.1186/1478-4505-11-8>
- Dehlendorf, C., Rodriguez, M. I., Levy, K., Borrero, S., & Steinauer, J. (2010). Disparities in family planning. *American Journal of Obstetrics & Gynecology*, *202*(3), 214-220. <https://doi.org/10.1016/j.ajog.2009.08.022>
- Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research*: Sage, Los Angeles, USA.
- Ekpo, G., Asy, J., Sarmiento, C., Mausiry, M., De Santos, L., Pereira, I., . . . Winter, L. (2008). *Report of the rapid assessment of family planning services for the integration of child spacing into maternal and child health programs in Oecusse District*. Arlington, Virginia, USA.
- Eshetu, E. B., & Woldesenbet, S. A. (2011). Are there particular social determinants of health for the world's poorest countries? *African Health Sciences*, *11*(1), 108-115. Retrieved from file:///E:/65005-128389-1-PB.pdf.
- Fehring, H. (2002). Ethical considerations within the constructivist research paradigm. *Slices of life: Qualitative research snapshots*, 18. Retrieved from <https://search-informit-com-au.ezproxy.aut.ac.nz/fullText;dn=742864391059556;res=IELHSS>
- Fehring, R. (2009). Efficacy and efficiency in natural family planning services. *The Linacre Quarterly*, *76*(1), 9-24. <https://doi.org/10.1179/002436309803889377>
- Ferreira, F. H., Chen, S., Dabalen, A., Dikhanov, Y., Hamadeh, N., Jolliffe, D., . . . Sangraula, P. (2016). A global count of the extreme poor in 2012: data issues, methodology and initial results. *The Journal of Economic Inequality*, *14*(2), 141-172. <https://doi.org/10.1007/s10888-016-9326-6>
- Freedman, D. A., Bess, K. D., Tucker, H. A., Boyd, D. L., Tuchman, A. M., & Wallston, K. A. (2009). Public health literacy defined. *American Journal of Preventive Medicine*, *36*(5), 446-451. <https://doi.org/10.1016/j.amepre.2009.02.001>
- Ghulmiyyah, L., & Sibai, B. (2012). Maternal mortality from preeclampsia/eclampsia. *In Seminars in Perinatology*, *36*(1), 56-59. Elsevier. <https://doi.org/10.1053/j.semperi.2011.09.011>
- Gibbs, C. M., Wendt, A., Peters, S., & Hogue, C. J. (2012). The impact of early age at first childbirth on maternal and infant health. *Paediatric and Perinatal Epidemiology*, *26*(s1), 259-284. <https://doi.org/10.1111/j.1365-3016.2012.01290.x>

- Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, 204(6), 291. <https://doi.org/10.1038/bdj.2008.192>
- Green, J., & Thorogood, N. (2018). *Qualitative methods for health research*. Los Angeles, USA: Sage.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing Paradigms in Qualitative Research. *Handbook of qualitative research*, 2(163-194), 105. Retrieved from file:///E:/10-guba_lincoln_94%20(1).pdf.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59-82. <https://doi.org/10.1177/1525822X05279903>
- Guttmacher Institute. (2014). Contraceptive use in the United States fact sheet. New York, USA: Guttmacher Institute. Retrieved from https://www.guttmacher.org/sites/default/files/factsheet/fb_contr_use_0.pdf
- Hasan, M., & Islam, S. (2016). Women knowledge, attitude, approval of family planning and contraceptive use in Bangladesh. *Asia Pacific Journal of Multidisciplinary Research*, 4(2), 76-82. Retrieved from <http://www.apjmr.com/wp-content/uploads/2016/05/APJMR-2016.4.2.11.pdf>
- Hasna, F. (2003). Islam, social traditions and family planning. *Social Policy & Administration*, 37(2), 181-197. <https://doi.org/10.1111/1467-9515.00333>
- Hatcher, R. A., & Nelson, A. L. (2007). *Contraceptive technology* (19 ed.). New York: Ardent Media.
- Hirsch, J. S. (2008). Catholics using contraceptives: Religion, family planning, and interpretive agency in rural Mexico. *Studies in Family Planning*, 39(2), 93-104. <https://doi.org/0.1111/j.1728-4465.2008.00156.x>
- Hosgelen, M., & Saikia, U. S. (2010). Timor-Leste's demographic destiny and its implications for the health sector by 2020. *Journal of Population Research*, 27(2), 122-146. <https://doi.org/10.1007/s12546-010-9036-z>
<https://doi.org/10.1007/s12546-010-9036-z>
- Hubacher, D., & Trussell, J. (2015). A definition of modern contraceptive methods. *Contraception*, 92(5), 420-421. <https://doi.org/10.1016/j.contraception.2015.08.008>
- Islam, M. S. (2014). Determinants of contraceptive method choice in Bangladesh: Male perspectives. *South East Asia Journal of Public Health*, 3(1), 50-56. <https://doi.org/10.3329/seajph.v3i1.17711>
- Janghorban, R., Latifnejad, R. R., & Taghipour, A. (2014). Pilot study in qualitative research: The roles and values. *Journal of Hayat*, 19(4), 1-5. Retrieved from <http://hayat.tums.ac.ir/article-1-666-en.html>.
- Jay, L., Masoud, M., Sabiha, K., & Avelina, R. (2017). Knowledge, source of knowledge, and perceived barriers of family planning among women attending reproductive health clinics in Suva, 2017. *Open Access Journal of Gynecology*, 2(2), 1-5. Retrieved from file:///E:/KnowledgeSourceofKnowledgeandPerceived%20(2).pdf.
- Johnson- Hanks, J. (2002). On the modernity of traditional contraception: Time and the social context of fertility. *Population and Development Review*, 28(2), 229-249. <https://doi.org/10.1111/j.1728-4457.2002.00229.x>
- Kadir, M. M., Fikree, F. F., Khan, A., & Sajan, F. (2003). Do mothers-in-law matter? Family dynamics and fertility decision-making in urban squatter settlements of Karachi, Pakistan. *Journal of Biosocial Science*, 35(4), 545-558. <https://doi.org/10.1017/S0021932003005984>

- Kassebaum, N. J., Bertozzi-Villa, A., Coggeshall, M. S., Shackelford, K. A., Steiner, C., Heuton, K. R., . . . Dicker, D. (2014). Global, regional, and national levels and causes of maternal mortality during 1990–2013: a systematic analysis for the global burden of disease study 2013. *The Lancet*, *384*(9947), 980-1004. [https://doi.org/10.1016/S0140-6736\(14\)60696-6](https://doi.org/10.1016/S0140-6736(14)60696-6)
- Kennedy, E., Gray, N., Azzopardi, P., & Creati, M. (2011). Adolescent fertility and family planning in East Asia and the Pacific: a review of DHS reports. *Reproductive Health*, *8*(1), 11. <https://doi.org/10.1186/1742-4755-8-11>
- Kent, M. M. (2010). Engaging the poor in poverty reduction: What is the role of family planning? *Family Planning and Reproductive Health, Inequality and Poverty*.
- Khanal, V., da Cruz, J., L., N., B, Karkee, R., & Lee, A. H. (2014). Factors associated with exclusive breastfeeding in timor-leste: findings from demographic and health survey 2009–2010. *Nutrients*, *6*(4), 1691-1700. <https://doi.org/10.3390/nu6041691>
- Kim, S. H. (2009). Health literacy and functional health status in Korean older adults. *Journal of Clinical Nursing*, *18*(16), 2337-2343. <https://doi.org/10.1111/j.1365-2702.2008.02739.x>
- Korra, A. (2002). *Attitudes toward family planning and reasons for nonuse among women with unmet need for family planning in Ethiopia*. Calverton, Maryland USA Citeseer.
- Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness *American Journal of Occupational Therapy*, *45*(3), 214-222. <https://doi.org/10.5014/ajot.45.3.214>
- Krueger, D. J. (1988). Integrating quantitative and qualitative methods in community research. *The Community Psychologist*, *36*, 18-19.
- Labonté, R., & Schrecker, T. (2007). Globalization and social determinants of health: Introduction and methodological background (part 1 of 3). *Globalization and Health*, *3*(1), 5. <https://doi.org/10.1186/1744-8603-3-5>
- Lawn, J. E., Wilczynska-Ketende, K., & Cousens, S. N. (2006). Estimating the causes of 4 million neonatal deaths in the year 2000. *International Journal of Epidemiology*, *35*(3), 706-718. <https://doi.org/10.1093/ije/dyl043>
- Leonard, C. J., Chavira, W., Coonrod, D. V., Hart, K. W., & Bay, R. C. (2006). Survey of attitudes regarding natural family planning in an urban Hispanic population. *Contraception*, *74*(4), 313-317. <https://doi.org/10.1016/j.contraception.2006.05.075>
- Levandowski, B. A., Kalilani- Phiri, L., Kachale, F., Awah, P., Kangaude, G., & Mhango, C. (2012). Investigating social consequences of unwanted pregnancy and unsafe abortion in Malawi: the role of stigma. *International Journal of Gynecology & Obstetrics*, *118*(S2). [https://doi.org/10.1016/S0020-7292\(12\)60017-4](https://doi.org/10.1016/S0020-7292(12)60017-4)
- Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. *Health promotion practice*, *16*(4), 473-475. <https://doi.org/10.1177/1524839915580941>
- Liamputtong, P. (2009). Qualitative data analysis: conceptual and practical considerations. *Health Promotion Journal of Australia*, *20*(2), 133-139. <https://doi.org/10.1071/HE09133>
- Liu, L., Oza, S., Hogan, D., Chu, Y., Perin, J., Zhu, J., . . . Black, R. E. (2016). Global, regional, and national causes of under-5 mortality in 2000–15: an updated systematic analysis with implications for the sustainable development goals. *The Lancet*, *388*(10063), 3027-3035. [https://doi.org/10.1016/S0140-6736\(16\)31593-8](https://doi.org/10.1016/S0140-6736(16)31593-8)
- LoPresti, A. F. (2005). Christianity. *Sex and Religion*, 117-141.

- Lundahl, M., & Sjöholm, F. (2009). Population growth and job creation in Timor-Leste. *Journal of the Asia Pacific Economy*, 14(1), 90-104. <https://doi.org/10.1080/13547860802661603>
- Lyon, A. (2011). *The Activist Catholic Church in Independent East Timor: "The Church is not a Political Institution"*. Symposium conducted at the meeting of the World International Studies Committee, Annual Conference, Porto, Portugal Retrieved from <http://docplayer.net/29853362-The-activist-catholic-church-in-independent-east-timor-the-church-is-not-a-political-institution-prepared-by.html>
- Mahadeen, A., Khalil, A., Hamdan-Mansour, A., Sato, T., & Imoto, A. (2012). Knowledge, attitudes and practices towards family planning among women in the rural southern region of Jordan/Connaissances, attitudes et pratiques des femmes en matière de planification familiale dans le sud rural de la Jordanie. *Eastern Mediterranean health journal*, 18(6), 567-572. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/22888612>.
- Marshall, C., & Rossman, G. B. (2014). *Designing qualitative research* (6th ed.). London, England: Sage publications.
- Martins, N., & Trevena, L. (2011). Taking healthcare to the people in Timor-Leste. *Health South-East Asia*, 4(2), 4-6. WHO SEARO Newsletter, RC Edition.
- McQuillan, K. (2004). When does religion influence fertility? *Population and development review*, 30(1), 25-56. <https://doi.org/https://doi-org.ezproxy.aut.ac.nz/10.1111/j.1728-4457.2004.00002.x>
- Meiksin, R., Meekers, D., Thompson, S., Hagopian, A., & Mercer, M. A. (2015). Domestic violence, marital control, and family planning, maternal, and birth outcomes in Timor-Leste. *Maternal and Child Health Journal*, 19(6), 1338-1347. <https://doi.org/10.1007/s10995-014-1638-1>
- Mercer, M. A., Thompson, S. M., & De Araujo, R. M. (2014). The role of international NGOs in health systems strengthening: The case of Timor-Leste. *International Journal of Health Services*, 44(2), 323-335. <https://doi.org/10.2190/HS.44.2.i>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (Second ed.) London, United Kingdom, Sage.
- Miller, G. (2010). Contraception as development? New evidence from family planning in Colombia. *The Economic Journal*, 120(545), 709-736. <https://doi.org/10.1111/j.1468-0297.2009.02306.x>
- Ministry of Health [MOH] (2011a). *National health sector strategic plan 2011 – 2030; Towards a healthy East-Timorese people in a healthy Timor-Leste*. Ministry of Health, Dili, Timor-Leste: Taliti. Retrieved from http://www.searo.who.int/timorleste/publications/national_health_sector_plan.pdf?ua=1
- Ministry of Health [MOH] (2004b). *National Family Planning Policy*, Dili, Timor-Leste. Retrieved from http://timor-leste.unfpa.org/sites/default/files/pub-pdf/TL_FP_National_Policy1.pdf
- Ministry of Health [MOH] (2015c). *Emergency obstetric and newborn care needs assessment Timor-Leste*. Ministry of Health, Dili, Timor-Leste. Retrieved from <http://timor-leste.unfpa.org/sites/default/files/pub-pdf/Emergency%20Obstetric%20and%20%20Newborn%20Care%20Needs%20%20Assessment%20.pdf>.
- Ministry of Health [MOH] (2015d). *Relatório Estatística Saúde, período Janeiro-Dezembro 2015*. Dili, Timor-Leste
- Ministry of Health (MoH). (2015). *Relatório Estatística Saúde, Período Janeiro-Dezembro 2015*. Dili, Timor-Leste

- Molnar, A. K. (2009). *Timor Leste: Politics, history, and culture*. London & New York: Routledge.
- Munang, R. T., Thiaw, I., & Rivington, M. (2011). Ecosystem management: Tomorrow's approach to enhancing food security under a changing climate. *Sustainability*, 3(7), 937-954. <https://doi.org/10.3390/su3070937>
- Mustafa, G., Azmat, S. K., Hameed, W., Ali, S., Ishaque, M., Hussain, W., . . . Munroe, E. (2015). Family planning knowledge, attitudes, and practices among married men and women in rural areas of Pakistan: Findings from a qualitative need assessment study. *International Journal of Reproductive Medicine*, 2015, 8. <https://doi.org/10.1155/2015/190520>
- Mwageni, E. A., Ankomah, A., & Powell, R. A. (1998). Attitudes of men towards family planning in Mbeya region, Tanzania: A rural-urban comparison of qualitative data. *Journal of Biosocial Science*, 30(3), 381-392.
- Najafi-Sharjabad, F., Yahya, S., Z., S., Hejar A., R., M., H., & Manaf, R. A. (2013). Barriers of modern contraceptive practices among Asian women: A mini literature review. *Global Journal of health science*, 5(5), 181-192. <https://doi.org/10.5539/gjhs.v5n5p181>
- Nalwadda, G., Mirembe, F., Byamugisha, J., & Faxelid, E. (2010). Persistent high fertility in Uganda: Young people recount obstacles and enabling factors to use of contraceptives. *BMC Public Health*, 10(1), 530. <https://doi.org/10.1186/1471-2458-10-530>
- Nansseu, J. R. N., Nchinda, E. C., Katte, J. C., Nchagnouot, F. M., & Nguetsa, G. D. (2015). Assessing the knowledge, attitude and practice of family planning among women living in the Mbouda health district, Cameroon. *Reproductive health*, 12(1), 92. <https://doi.org/10.1186/s12978-015-0085-9>
- Naqvi, S., Hashim, N., Zareen, N., & Fatima, H. (2011). Knowledge, attitude and practice of parous women regarding contraception. *Journal Coll Physicians Surg Pak*, 21(2), 103-105. Retrieved from <https://pdfs.semanticscholar.org/98f8/8d188f3a21219adf4dc1e063030e41ac8c59.pdf>
- National Statistics Directorate [NSD], (2010a). Timor-Leste demographic and health survey (TLDHS). Dili, Timor-Leste: ICF Macro. Retrieved from <https://dhsprogram.com/pubs/pdf/FR235/FR235.pdf>
- National Statistics Directorate [NSD], (2016b). Timor-Leste demographic health survey (TLDHS), 2016. Key Indicators Report. Timor-Leste and Rockville, Maryland, USA: ICF: General Directorate of Statistics GDS. Retrieved from <https://dhsprogram.com/pubs/pdf/PR83/PR83.pdf>
- Nerini, F. F., Dargaville, R., Howells, M., & Bazilian, M. (2015). Estimating the cost of energy access: The case of the village of Suro Craic in Timor Leste. *Energy*, 79, 385-397. <https://doi.org/https://doi-org.ezproxy.aut.ac.nz/10.1016/j.energy.2014.11.025>
- Niner, S. (2011). Hakat klot, narrow steps: negotiating gender in post-conflict Timor-Leste. *International Feminist Journal of Politics*, 13(3), 413-435. <https://doi.org/10.1080/14616742.2011.587371>
- Niner, S. (2016). *Effects and affects: Women in the post-conflict moment in Timor-Leste: An application of V. Spike Peterson's 'gendering insecurities, informalization and war economies'*. In the palgrave handbook of gender and development (pp. 495-512): Springer. Retrieved from https://link.springer.com/chapter/10.1007/978-1-137-38273-3_33

- Nutbeam, D. (2000). Health literacy as a public health goal: A challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International*, 15(3), 259-267.
<https://doi.org/10.1093/heapro/15.3.259>
- Ohman, A. (2005). Qualitative methodology for rehabilitation research. *Journal of Rehabilitation Medicine*, 37(5), 273-280.
<https://doi.org/10.1080/16501970510040056>
- Omishakin, M. (2015). Knowledge, attitude and practice of family planning among healthcare providers in two selected health centres in Osogbo Local Government, Osun State. *Women's Health and Gynecology* 1(2), 2-4.
- Omran, A.-R. (2012). *Family planning in the legacy of Islam*. USA and Canada: Routledge.
- Onwuzurike, B., & Uzochukwu, B. (2001). Knowledge, attitude and practice of family planning amongst women in a high density low-income urban of Enugu, Nigeria. *African Journal of Reproductive Health*, 5(2), 83-89.
<https://doi.org/10.2307/3583433>
- Oyieke, J. A., & Galang, D. D. (2016). Knowledge, attitudes and cultural practices: Their influence on male involvement in reproductive health. *Baraton Interdisciplinary Research Journal*, 6, 139-149.
- Pallone, S. R., & Bergus, G. R. (2009). Fertility awareness-based methods: another option for family planning. *The Journal of the American Board of Family Medicine*, 22(2), 147-157. <https://doi.org/10.3122/jabfm.2009.02.080038>
- Pappa, S., Rottach, E., & Vaziri, H. (2013). *Family planning and maternal neonatal and child health in Timor-Leste: Assessing gender constraints and opportunities improving outcomes*. Washington, DC. Retrieved from http://www.healthpolicyproject.com/pubs/87_TLGenderAssessmentFormattedJul.pdf
- Patton, M. Q. (2002). *Qualitative research & evaluation methods*. 3. painos: Thousand Oaks: Sage.
- Pearson, E., & Becker, S. (2014). Couples' unmet need for family planning in three West African countries. *Studies in Family Planning*, 45(3), 339-359.
<https://doi.org/10.1111/j.1728-4465.2014.00395.x>
- Pegu, B., Gaur, B., P. S, Sharma, N., & A, S. S. (2017). Knowledge, attitude and practices of contraception among married women. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 3(2), 385-388.
- Peipert, J. F., Madden, T., Allsworth, J. E., & Secura, G. M. (2012). Preventing unintended pregnancies by providing no-cost contraception. *Obstetrics and Gynecology*, 120(6), 1291-1297.
- Picasso, B. C. (2016). *A public health approach to undernutrition in children under-five and infants in Ethiopia: An overview* (Electronic Thesis). The University of Arizona, The University of Arizona. Retrieved from <http://hdl.handle.net/10150/613425>
- Platteau, J. P. (1996). The evolutionary theory of land rights as applied to sub-Saharan Africa: A critical assessment. *Development and Change*, 27(1), 29-86.
<https://doi.org/10.1111/j.1467-7660.1996.tb00578.x>
- Pope, C., Ziebland, S., & Mays, N. (2000). Qualitative research in health care: Analysing qualitative data. *BMJ: British Medical Journal*, 320(7227), 114-116.
- Povey, G., & Mercer, M. A. (2002). East Timor in transition: Health and health care. *International Journal of Health Services*, 32(3), 607-623.
<https://doi.org/10.2190/MAYX-00LX-D01V-RJDF>

- Prachi, R., Das, G. S., Ankur, B., Shipra, J., & Binita, K. (2008). A study of knowledge, attitude and practice of family planning among the women of reproductive age group in Sikkim. *The Journal of Obstetrics and Gynecology of India*, 58(1), 63-67.
- Pradesh, U. (1997). *Male Involvement in Family Planning*. The population council. India. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.175.9811&rep=rep1&type=pdf>
- Price, J. A., Soares, A., I., F. S., Asante, A. D., Martins, J. S., Williams, K., & Wiseman, V. L. (2016). "I go I die, I stay I die, better to stay and die in my house": understanding the barriers to accessing health care in Timor-Leste. *Bio Med Central Health Services Research*, 16, 535. <https://doi.org/10.1186/s12913-016-1762-2>
- Quereishi, J., Sadanadan, S., & Mathew, A. K. (2012). Knowledge, attitude and practice of family planning methods among the rural females of Bagbahara block Mahasamund district in Chhattisgarh State *Oxford Univ Press Great Clarendon ST, Oxford OX2 6DP, England*. Symposium conducted at the meeting of the European Journal Of Public Health. Retrieved from <http://www.gjmedph.com/uploads/O2-Vo6No2.pdf>
- Richards, E. (2010). *The Catholic Church and the struggle for reproductive rights in post-independence Timor-Leste* (Unpublished PhD Theses). University of Leeds, Leeds., Leeds.
- Richards, E. (2015). The Catholic Church and reproductive health and rights in Timor-Leste: contestation, negotiation and cooperation. *Culture, Health & Sexuality*, 17(3), 343-358. <https://doi.org/10.1080/13691058.2014.966255>
- Rosenberg, M. J., & Waugh, M. S. (1998). Oral contraceptive discontinuation: A prospective evaluation of frequency and reasons. *American Journal of Obstetrics & Gynecology*, 179(3), 577-582. [https://doi.org/10.1016/S0002-9378\(98\)70047-X](https://doi.org/10.1016/S0002-9378(98)70047-X)
- Roser, M. (2017). Child mortality. Literacy. Published online at OurWorldInData. org.
- Rosser, A., & Bremner, S. (2015). The World Bank's health projects in Timor-Leste: The political economy of effective aid. *International Peacekeeping*, 22(4), 435-451. <https://doi.org/10.1080/13533312.2015.1059731>
- Rossier, C., Senderowicz, L., & Soura, A. (2014). Do natural methods count? Underreporting of natural contraception in urban Burkina Faso. *Studies in Family Planning*, 45(2), 171-182. <https://doi.org/10.1111/j.1728-4465.2014.00383.x>
- Rudd, R. E. (2010). Improving Americans' health literacy. *New England Journal of Medicine*, 363(24), 2283-2285.
- Ruff, C. C., Alexander, I. M., & McKie, C. (2005). The use of focus group methodology in health disparities research. *Nursing outlook*, 53(3), 134-140. <https://doi.org/10.1016/j.outlook.2005.03.010>
- Rutstein, S. O. (2005). Effects of preceding birth intervals on neonatal, infant and under- five years mortality and nutritional status in developing countries: evidence from the demographic and health surveys. *International Journal of Gynecology & Obstetrics*, 89(S1). <https://doi.org/10.1016/j.ijgo.2004.11.012>
- Ryder, R. (1993). " Natural family planning": effective birth control supported by the Catholic Church. *BMJ*, 307(6906), 723-726. <https://doi.org/10.1136/bmj.307.6906.723>

- Saikia, U., Dasvarma, G., & Wells-Brown, T. (2009). The world's highest fertility in Asia's newest nation: an investigation into reproductive behaviour of women in Timor-Leste Symposium conducted at the meeting of the 26th International Union for Scientific Study of Population Conference
- Sandelowski, M. (2000). Focus on research methods-whatsoever happened to qualitative description? *Research in Nursing and Health*, 23(4), 334-340.
- Santoso, B. I., & Surya, R. (2017). Knowledge, attitude, and practice of contraception among pregnant women in Ende district, east Nusa Tenggara, Indonesia. *Journal South Asian Feder Obst Gynae*, 9(2), 110-118. <https://doi.org/10.5005/jp-journals-10006-1470>
- Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A., Daniels, J., . . . Alkema, L. (2014). Global causes of maternal death: a WHO systematic analysis. *The Lancet Global Health*, 2(6), e323-e333. [https://doi.org/10.1016/S2214-109X\(14\)70227-X](https://doi.org/10.1016/S2214-109X(14)70227-X)
- Schuler, S. R., Rottach, E., & Mukiri, P. (2011). Gender norms and family planning decision-making in Tanzania: A qualitative study. *Journal of public health in Africa*, 2(2), e25. <https://doi.org/10.4081/jphia.2011.e25>
- Sedgh, G., & Hussain, R. (2014). Reasons for contraceptive nonuse among women having unmet need for contraception in developing countries. *Studies in Family Planning*, 45(2), 151-169. <https://doi.org/10.1111/j.1728-4465.2014.00382.x>
- Sedgh, G., Hussain, R., Bankole, A., & Singh, S. (2007). Women with an unmet need for contraception in developing countries and their reasons for not using a method. *Occasional report*, 37, 5-40.
- Sedgh, G., Singh, S., & Hussain, R. (2014). Intended and unintended pregnancies worldwide in 2012 and recent trends. *Studies in Family Planning*, 45(3), 301-314. <https://doi.org/10.1111/j.1728-4465.2014.00393.x>
- Shah, I. H. (2010). Family planning and reproductive health. *Demography*, 1, 162-184. Retrieved from <https://www.eolss.net/Sample-Chapters/C04/E6-147-05.pdf>.
- Silverman, D. (2013). *Doing qualitative research: A practical handbook* (Fourth ed.). Los Angeles and London: SAGE Publications Limited.
- Simelela, N. (2006). Women's access to modern methods of fertility regulation. *International Journal of Gynecology & Obstetrics*, 94(3), 292-300. <https://doi.org/10.1016/j.ijgo.2006.04.014>
- Sissons, M. E. (1997). *From one day to another: Violations of women's reproductive and sexual rights in East Timor*. Victoria, Australia: East Timor Human Rights Centre Incorporated.
- Speizer, I. S., Whittle, L., & Carter, M. (2005). Gender relations and reproductive decision making in Honduras. *International Family Planning Perspectives*, 31(3), 131-139.
- Srikanthan, A., & Reid, R. L. (2008). Religious and cultural influences on contraception. *Journal of Obstetrics and Gynaecology Canada*, 30(2), 129-137. [https://doi.org/10.1016/S1701-2163\(16\)32736-0](https://doi.org/10.1016/S1701-2163(16)32736-0)
- Stephenson, R., & Hennink, M. (2004). Barriers to family planning service use among the Urban Poor in Pakistan. *Asia-Pacific Population Journal*, 19(2), 5-26.
- Stover, J., & Ross, J. (2010). How increased contraceptive use has reduced maternal mortality. *Maternal and Child Health Journal*, 14(5), 687-695. <https://doi.org/10.1007/s10995-009-0521-y>
- Sullivan, J. M., Rutstein, S. O., & Bicego, G. T. (1994). Infant and child mortality. *Macro International*, 15.
- Sykes, S., Wills, J., Rowlands, G., & Popple, K. (2013). Understanding critical health literacy: a concept analysis. *BMC Public Health*, 13(1), 150. <https://doi.org/10.1186/1471-2458-13-150>

- Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource* (Vol. 2). New Jersey and Canada: John Wiley & Sons.
- Tejineh, S., Assefa, D., Fekadu, H., & Tafa, M. (2015). Awareness, utilization and barriers to family planning services among female students at Asella Preparatory School, Ethiopia. *Gynecology Obstetrics (Sunnyvale)*, 5(7), 307.
<https://doi.org/10.4172/2161-0932.1000307>
- Thomas, E., & Magilvy, J. K. (2011). Qualitative rigor or research validity in qualitative research. *Journal for Specialists in Pediatric Nursing*, 16(2), 151-155.
<https://doi.org/10.1111/j.1744-6155.2011.00283.x>
- Thu, P. M., Scott, S., & Van N., K. P. (2007). Gendered access to customary land in East Timor. *GeoJournal*, 69(4), 239-255. Retrieved from
<https://link.springer.com/article/10.1007/s10708-007-9094-8>.
- Tilahun, T., Coene, G., Luchters, S., Kassahun, W., Leye, E., Temmerman, M., & Degomme, O. (2013). Family planning knowledge, attitude and practice among married couples in Jimma zone, Ethiopia. *PloS one*, 8(4), e61335.
<https://doi.org/10.1371/journal.pone.0061335>
- TLDHS. (2016). *Timor-Leste Demographic Health Survey: Key Indicators Report 2016*: Ministry of Health and Ministry of Finance - General Directorate of Statistics Retrieved from <https://dhsprogram.com/pubs/pdf/PR83/PR83.pdf>
- Tolley, E., Loza, S., Kafafi, L., & Cummings, S. (2005). The impact of menstrual side effects on contraceptive discontinuation: Findings from a longitudinal study in Cairo, Egypt. *International Family Planning Perspectives*, 15-23.
- Tongco, M., D. C. (2007). Purposive sampling as a tool for informant selection. *Ethnobotany Research and Applications*, 5, 147-158. Retrieved from
[file:///E:/126-454-1-PB%20\(1\).pdf](file:///E:/126-454-1-PB%20(1).pdf)
- Tsui, A. O., McDonald-Mosley, R., & Burke, A. E. (2010). Family Planning and the Burden of Unintended Pregnancies. *Epidemiologic Reviews*, 32(1), 152-174.
<https://doi.org/10.1093/epirev/mxq012>
- United Nations (2010). *The Millennium Development Goals Report*. New York. Retrieved from
<http://www.un.org/millenniumgoals/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%2020100615%20-.pdf>
- United Nations [UN] (2015). Trend in contraceptive use worldwide 2015 . (ST/ESA/SER.A/349). United Nations, New York: Department of Economic and Social Affairs, population division. Retrieved from www.unpopulation.org.
- United Nations Children's Emergency Fund [UNICEF] (2014). Trends in maternal mortality: 1990 to 2013.
- United Nations Children's Emergency Fund [UNICEF] (2017). *Levels and Trends in Child Mortality. Report 2017*. Retrieved from
<https://data.unicef.org/resources/levels-trends-child-mortality/>
- United Nations Population Fund [UNFPA] (2004, 5-13 September 1994). Programme of action. Adopted at the international conference on population and development. Presented at the meeting of the International Conference on Population and Development, Cairo. Retrieved from
https://www.unfpa.org/sites/default/files/event-pdf/PoA_en.pdf
- United Nations Population Fund [UNFPA] (2017). UNFPA Timor-Leste: 2017 Country assessment on sexual reproductive health rights (SRHR) in Timor-Leste.
- Van, T. E. R., & Hundley, V. (2001). *The importance of pilot studies*. Social Research Update. Retrieved from <http://hdl.handle.net/2164/157>

- Varley, E. (2012). Islamic logics, reproductive rationalities: Family planning in northern Pakistan. *Anthropology & Medicine*, 19(2), 189-206.
<https://doi.org/10.1080/13648470.2012.675044>
- Victora, C. G., Aquino, E. M., M, d. C. L., Monteiro, C. A., Barros, F. C., & Szwarcwald, C. L. (2011). Maternal and child health in Brazil: Progress and challenges. *The Lancet*, 377(9780), 1863-1876. [https://doi.org/10.1016/S0140-6736\(11\)60138-4](https://doi.org/10.1016/S0140-6736(11)60138-4)
- Wallace, H. J. (2014a). *Understanding family planning and contraceptive choices in Timor-Leste-an exploration of perceptions, misconceptions and realities*. Charles Darwin University, Darwin, Australia.
- Wallace, H. J. (2014b). *Perception of family planning in Viqueque & Dili (Timor-Leste). Final report*. Darwin, Australia: A collaborative qualitative research project between Marie Stopes Interantional Timor-Leste and Menzies Schools of Health research, Darwin, Australia. Retrieved from <https://mariestopes.tl/media/2024/eng-perceptions-of-family-planning-in-viqueque-and-dili-timor-leste.pdf>
- Wayte, K., Zwi, A. B., Belton, S., Martins, J., Martins, N., Whelan, A., & Kelly, P. M. (2008). Conflict and development: Challenges in responding to sexual and reproductive health needs in Timor-Leste. *Reproductive Health Matters*, 16(31), 83-92. [https://doi.org/10.1016/S0968-8080\(08\)31355-X](https://doi.org/10.1016/S0968-8080(08)31355-X)
- World Health Organisations [WHO] (2006). *Neonatal and perinatal mortality. Country, Regional and Global Estimates*. Geneva, Switzerland. Retrieved from http://apps.who.int/iris/bitstream/10665/43444/1/9241563206_eng.pdf
- World Health Organisations [WHO] (2015). *World Health Statistics 2015*. Geneva Switzerland: World Health Organisations. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/170250/9789240694439_eng.pdf;jsessionid=7A2B246DE6715C20876CBF3060B7D8E4?sequence=1
- World Health Organisations [WHO] (2017). Worldwide, an estimated 25 million unsafe abortion occur each year.: Media centre released
- Wigglesworth, A., & dos Santos, A. B. (2013). Customary values and global influences in youth attitudes to gender and violence in Timor-Leste. <http://www.tlstudies.org/pdfs/TLSA%20Conf%202015/online%20papers/online%20paper01.pdf>
- Wilkinson, S. (1998). Focus group methodology: A review. *International Journal of Social Research Methodology*, 1(3), 181-203.
<https://doi.org/10.1080/13645579.1998.10846874>
- Wong, L. P. (2008). Focus Group Discussion: a tool for health and medical research. *Singapore Med Journal*, 49(3), 256-261. Retrieved from https://umexpert.um.edu.my/file/publication/00007704_17969.pdf
- World-Bank (2014). *Health equity and financial protection report, Timor-Leste*. Washinton D. C. World Bank. Retrieved from <http://documents.worldbank.org/curated/en/670661468105266883/pdf/89850-REVISED-PUBLIC-Timor-Leste-Health-Equity-and-Financial-Protection-Report-FINAL.pdfS>
- Wulifan, J. K., Mazalale, J., Jahn, A., Hien, H., Ilboudo, P. C., Meda, N., & De Allegri, M. (2017). Factors associated with contraceptive use among women of reproductive age in rural districts of Burkina Faso. *Journal of Health Care for the Poor and Underserved*, 28(1), 228-247.
<https://doi.org/https://doi.org/10.1353/hpu.2017.0019>

- Yee, L. M., & Simon, M. A. (2011). Perceptions of coercion, discrimination and other negative experiences in postpartum contraceptive counseling for low-income minority women. *Journal of Health Care for the Poor and Underserved*, 22(4), 1387-1400. <https://doi.org/10.1353/hpu.2011.0144>
- Yee, L. M., & Simon, M. A. (2014). The role of health literacy and numeracy in contraceptive decision-making for urban Chicago women. *Journal of Community Health*, 39(2), 394-399. <https://doi.org/10.1007/s10900-013-9777-7>
- Zorea, A. W. (2012). *Birth Control: Health and Medical Issues Today*. Santa Barbara, California: ABC-CLIO.
- Zwi, A. B., Blignault, I., Glazebrook, D., Correia, V., Bateman S., C. R., Ferreira, E., & Pinto, B. M. (2009). *Timor-Leste: Health care seeking behaviour study*: School of Public Health and Community Medicine, The University of New South Wales.

Appendix B: Ethics approval – Institute National Health of Timor-Leste



MINISTÉRIO DA
SAÚDE

Instituto Nacional de Saúde
Gabinete Diretor Ezekutivu

No. Ref.: ~~C97~~ MS-INS/DE-DP/AG/V/2017

ETHICS APPROVAL

Angelita Maria de Jesus Gomes
Master of Public Health student
Auckland University Technology
New Zealand

Dear Ms. Angelita,

Project Title: **Exploring Timor-Leste rural women's knowledge, understanding and attitudes to family planning.**

Thank you for submitting the above research project for ethical review. This project was considered by the Institute National of Health-Research Technical Committee at its meeting held on May 3rd, 2017.

I am pleased to advise you that the Institute National of Health-Research Technical Committee (INS-RTC) has granted **Technical approval** of this research project.

Please note that if additional sites are engaged prior to the commencement of, or during the research project, the coordinating Principal Investigator is required to notify the Institute National of Health-Research Technical Committee (INS-RTC). Notification of withdrawn sites should also be provided to the TL-HRTC in timely fashion

The Approved documents include:

1. INS-RTC Application form
2. Inform Consent
3. Participant's information Sheet
4. Interview Guide (Tetum ver.)

This approval is for period of Five (5) months. An ANNUAL/FINAL Project progress report is required on or before August 2017.

APPROVAL IS SUBJECT to the following conditions being met:

1. The Coordinating Principal Investigator (PI) will immediately report anything that **might warrant review** of ethical approval of the project.
2. The coordinating Principal Investigator will notify the Institute National of Health-Research Technical Committee (INS-RTC) of any event that requires **a modification to the Protocol or other project document** and submit any required amendments and accordance with the instructions provided by the INS-RTC.
3. The Coordinating Principal Investigator will submit any necessary report related to the **safety of research participant (i.e. Protocol deviation, protocol violations)** in accordance with Institute National of Health-Research Ethics & Technical Committee (INS-RETC) policy and procedures.

4. The coordinating PI will **report** to the INS-RTC, **Annually** in the specified format and notify the HRTC when the project is completed at all sites.
5. The coordinating PI will notify the INS-RTC if the project is **discontinued at participating site before the expected completion date**, with reason provided.
6. The coordinating PI will notify the INS-RTC of any plan **to extend the duration of the project past the approval period listed above** and will submit any associated required documentation.
7. The coordinating PI will notify the INS-RTC of his or her inability to continue as coordinating PI including the name of and contact information for a replacement.
8. The safe and ethical conduct of this project is entirely the responsibility of the investigators and their institution(s).
9. Researcher should report immediately anything which might affect continuing ethical acceptance of the project, including:
 - Adverse effects of the project on subject and steps taken to deal with these;
 - Other unforeseen events;
 - New Information that may invalidate the ethical integrity of the study; and
 - Propose changes in the project.
10. Approval for further Six months will be granted if the INS-RTC is satisfied that the conducted of the project has been consisted with the original protocol.
11. Confidentiality Research participants should be maintained at all times as required by law
12. The patient information sheet and the consent form shall be printed on the relevant site letterhead with full contact details.
13. The Patient Information sheet must provide a brief outline of research activity including, risk and benefits, withdrawal options, contact details of the researcher and must also state that Research Secretary can be contacted (Telephone 78256097 and E-mail (komisaunetika.ins@gmail.com) for information concerning policies, right of participant, concern or complaints regarding the ethical conduct of study.

This Letter Constitutes Ethical & Technical Approval Only.

Dili, May 11th, 2017
Your Sincerely,



Domingas da Costa Pereira, Lic. Ec

Executive Director and President of Directive Council of INS in Acting



*Edifício Instituto Nacional de Saúde, Rua de Comoro Dili
Website: www.ins-gov-tl.com, Telf: 33310099*

Appendix C: Participants recruitment flyer



Appendix (C)

NOTICE

WOMEN NEEDED FOR RESEARCH ON EXPLORING WOMEN'S KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT FAMILY PLANNING IN TIMOR-LESTE.

I am a Timorese midwife and wish to help improve the health of mothers and children in rural Timor-Leste. We are looking for women using the clinics aged between 18 to 45 years old who are able to have children to participate in the study into family planning. As a participating member in this research, you would be asked to participate in a confidential focus group discussion. The focus group discussion will take approximately an hour of your time.

If you are interested, please contact the researcher,
Angelita Maria de Jesus Gomes on 7808 5527



Approved by the Auckland University of Technology Ethics Committee on type the date on which the final approval was granted AUTEK Reference number type the AUTEK reference number

Note: The Participant should retain a copy of this form.

INFORMASAUN

PERSIJA PARTICIPANTE INAN-FETON BA ESTUDUS PESKIZA KONA BA ATU BUKA HATENE FETO SIRA NIA KONHESEMENTU, ATTITUDE NO LALAOK KONA BA PLANEAMENTO FAMILIAR IHA TIMOR-LESTE.

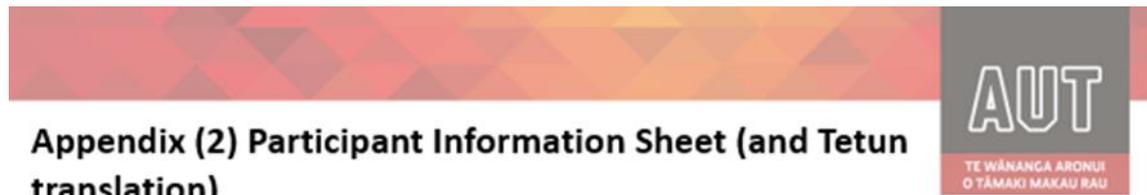
Hau parteira Timor-oan, hakarak ajuda hadiak problema iha area saude inan no oan iha area rurais Timor-Leste. Persija inan-feton nebe utiliza hela klinika, husi tinan ka idade 18 to 45, ho voluntaria atu participa iha estudus peskiza ida ne'e. Hanesan membru ba peskiza ida ne'e, ami persija ita boot sira nia interaktivu iha diskusaun grupu nian no sei halo gravasaun e foti notas duranti halao prosesu diskusaun ne'e. Iha diskusaun grupu ne'e, sei uja tempo to oras ida ho balu nia laran.

Karik inan-feton sira interese, halo favour bele kontaktu direktamente
ba,

Angelita Maria de Jesus Gomes, ho numeru kontaktu: 7808 5527.



Appendix D: Research information sheet (English and Tetum)



Appendix (2) Participant Information Sheet (and Tetun translation)

Participant Information Sheet (and Tetun translation)

Date Information Sheet Produced:

15 February 2017

Project Title:

Exploring Timor-Leste rural women's knowledge, understanding and attitudes to family planning.

An Invitation:

Ola, my name is Angelita Maria de Jesus Gomes, I am a midwife from Timor-Leste and am currently studying towards a master's degree in public health in New Zealand. I am particularly interested in issues to do with women's health. I would like to invite you to be part of my study, which focuses on Timor-Leste women's knowledge, understanding and attitudes to family planning.

What is the purpose of this research?

The main purpose of this study is to gain information and knowledge about family planning program from rural women in Suai district. (1). To explore levels of women's knowledge and understanding on the use of modern family planning. (2). To explore women's attitudes to modern family planning. (3). To inform policy makers and service providers in development of enhanced family planning strategy and interventions in Timor-Leste. From this group discussion, potential information gathered will be very beneficial as it could contribute to the development of family planning services, increase the access and the utilisation of family planning programs which helps to improve the health of mothers and babies and decrease the number of women dying in Timor-Leste particularly in rural settings.

How was I identified and why am I being invited to participate in this research?

First of all, thank you for your time and your willingness to consider participating in this group discussion. You are selected for this group discussion because you live in Suai district, who are using the clinics aged between 18 – 45 years and are able to conceive. I am hoping you will be interesting in sharing your experiences, views and knowledge about family planning. The focus group discussion will involve 6 to 8 participants. Recruitment will be on a "first come first served basis", however, additional names will be kept while focus groups are running in case numbers drop. The discussion will take place in a secure and comfortable place of about one-hour time. The discussion will be guided by the primary researcher. During the discussion there will be an audio-recording and notes will be taking throughout the discussion.

How do I agree to participate in this research?

Before proceeding into a discussion, there will be a consent form for each participant to read and sign it. Before signing it, if you wish to get clear explanation from this study, I will be delightedly to hold an initial meeting with you to explain how the process of this study undertake based on the informed consent and information sheet. Once you agree and signing it, the signed form will be handed directly to the primary researcher and then verbal checking of consent take place prior to focus group discussion.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time during the data collection phase of the study. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the analysis of findings have begun, removal of your data may not be possible.

What will happen in this research?

You are invited to actively participate in the discussion in sharing and talking about the family planning issue that you are aware of or not aware of about. There will be several questions to be asked and discussed. The primary researcher will moderate the discussion.

What are the discomforts and risks?

In these focus group discussion, we will discuss family planning. This may for some be uncomfortable and embarrassing. There is no pressure to respond to all parts of the discussion. This focus group discussion will be in safe setting. Participants will not be identified as I will not be identifying participants in the reporting of this study.

How will these discomforts and risks be alleviated?

It is possible that some women will feel uncomfortable discussing family planning. Therefore, some initial conversation will take place and the researcher will regularly check that the participants are comfortable and remind them they can leave at any time or choose not to be part of sections of the focus group discussion. So, these risks of uncomfortableness are small.

What are the benefits?

The benefit of taking part in this study is that you will be given an opportunity to discuss an important topic and learn from others in the group. Furthermore, the findings could contribute to the development of family planning services, increase the access and the utilisation of family planning programs which helps to improve the health of mothers and babies, decrease the number of women dying in Timor-Leste particularly in rural setting and help women better understand ways to space children.

How will my privacy be protected?

The primary researcher ensures that all efforts are made to ensure your identities will not be identified in the final write up of this study. Participants will not be given a pseudonym to protect your identities instead your name will be using a numbered code, e.g. FGP1, FG2P2, etc. This to protect your identities in the findings or final report. This mechanism helps ensure that any women in the community with the same name as the pseudonym I use will not feel she is being linked to the data.

What are the costs of participating in this research?

This research will take approximately one hour of your time. A koha of \$5 US will be given as a contribution towards transportation costs.

The focus group discussion will take one hour. A koha will be given towards transportation costs.

What opportunity do I have to consider this invitation?

After receiving study information you will have two weeks to consider whether you would like to participate or not.

Will I receive feedback on the results of this research?

Please notify us if you would like to get the result of this study. The primary researcher will gladly share and talk in general about the final result of the study in the community in a way that will protect your identity.

What do I do if I have concerns about this research?

In case you have any question or concerns regarding the nature of the research you would like to raise or ask, please contact my first supervisor, Ms. Amanda B Lees, email address: amlees@aut.ac.nz or phone number: +64 9 921 9999 ext: 7647.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, + 64 9 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the primary researcher as follows:

- (1). The Primary researcher: Angelita Maria de Jesus Gomes on phone number: 7725 0649

Researcher Contact Details:

Provide the name and all relevant contact details. Note that for personal safety reasons, AUTEK does not allow researchers to provide home addresses or phone numbers.

Primary researcher: Angelita Maria de Jesus Gomes

Student ID: 15871900

Email: gomeslita@yahoo.com

Project Supervisor Contact Details:

Supervisor one: Ms. Amanda B Lees

Email: amlees@aut.ac.nz

Supervisor two: Dr Jagamaya Shrestha-Ranjit

Email: jagamaya.shrestha@aut.ac.nz

Provide the name and all relevant contact details. Note that for personal safety reasons, AUTEK does not allow researchers to provide home addresses or phone numbers.

Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*, AUTEK Reference number *type the reference number*.

Participant Information Sheet (Translation Tetun version)

Date Information Sheet Produced:

Participant Information Sheet - Tetun translation – to have AUT letterhead for dissemination

15 Februar 2017

Titulo peskijasaun:

Buka hatene oinnusa inan-feton rurais sira nia kunhesementu, attitude no lalaok ba planeamentu familiar iha Timor-Leste.

Karta konviti:

Ola, Hau nia naran Angelita Maria de Jesus Gomes, hau parteira no Timor-oan, agora dadaun foti hela hau nia estudo iha mesteradu Saude Publika nian. Hau spesifikamente interese iha estudo kona ba saude inan nian. Agora dadauk hau iha ne'e, atu konvida inan-feton sira atu partisipa iha hau nia peskiza kona ba atu esplora oinnusa inan-feton sira nia kunhesementu, kompriensaun no attitude ba planeamentu familiar.

Objektivu husi peskija ida ne'e?

Objektivu husi peskiza ida ne'e maka atu hetan informasaun no kunhesementu husi inan feton rurais sira nian iha distritu Suai ne'e, kona ba planeamentu familiar. (1). Atu buka hatene nivel kunhesementu no kompriensaun inan sira nian iha planeamentu familiar nian. (2). Atu buka hatene oinnusa atetude ka lalaok inan sira nian ba planeamentu familiar nian. (3). Ho informasaun nebe hetan bele informa ba ulun bot pesoal saude hotu hodi desenvolve no altrasa planu strategia nebe diak no apropiadu iha programa planeamentu familiar nian iha futuro. Husi diskusaun grupu ne'e, sei hetan no rekolha informasaun no hanoin diak husi itabot sira kona ba planeamentu familiar nian no nia vantajen husi informasaun ne'e bele kontribui ba dezenvolve servisu programa planeamentu familiar nian iha rai laran, no hasa'e tan utilisasaun ba programa ida ne'e, nebe bele ajuda hodi hatun ka hamenus sofrémentu inan-feton ho oan sira nian no numeru mate inan sira nian iha Timor-Leste, liu-liu iha areas rurais tomak.

Hanusa mak itabot inklui hau no tamba saida mak itabot konvida hau atu partisipa iha estudo peskiza ida ne'e?

Uluk nanain, hau hakarak hato'o hau nia obrigada wain ba itabo'ot sira nia tempu no desijaun atu partisipa iha grupu diskusaun ida ne'e. Ita boot hili ba iha estudus peskiza ida ne'e, tamba itabot hela iha distritu Suai, utiliza hela assistensia klinika nian, ho idade tinan 18 – 45 anos no sei bele hahoris. Husu ba inan-feton sira bele fahe itabot nia esperiensia, hanoin no kunhesementu kona ba programa no metode planeamentu familiar nian. Iha grupu diskusaun ne'e sei involv partisipante nain 6 to 8 deit. Ne'e duni, se mak mai uluk maka ami sei involv nia. Maibe, karik iha naran liu ami sei hakerek iha ami nia lista hodi troka ema nebe karik nia dada an. Diskusaun grupu ne'e sei halao ita fatin nebe diak no konfortable. Tuir orario, ita sei halao diskusaun ida ne'e, iha oras ida nia laran. Grupus diskusaun ne'e sei mos modera husi hau rasik (Angelita Gomes) primeiru peskizador. Duranti diskusaun sei iha gravador oan ida atu grava ita nia lian no sei iha ema ida hodi foti notas.

Oinnusa hau atu fo hau nia autorizasaun atu partisipa iha estudus peskiza ida ne'e?

Molok atu hahu ita nia grupu diskusaun ne'e, sei ofrese formulario konsiente ida/*consent form* ba partisipante ida-idak atu le'e no asina. Karik ita hakarak atu hetan informasaun no esplikasau klean liuta^h kona ba estudo ida ne'e, hau ho kontente bele hasoru malu ho itabo'ot hodi esplika kona ba lalaok husi peskiza ida ne'e basea ba formatu konsiente no informasaun ne'e. Depois de asinatura, formulariu ne'e sei intrega fila fali ba hau rasik (primeira peskizador) no molok diskusaun hahu hau sei hare ka rekonfirma fali ida-idak ninia formulariu konsiente ne'e molok atu hahu sesaun diskusaun ne'e.

Ita-bo'ot sira nia partisipasaun iha peskiza ida ne'e, rekunhese voluntaria (ita rasik mak hili/hakarak) no itabo'ot nia desizaun atu partisipa ka la partisipa sei la halakon ba itabo'ot. Itabo'ot bele dada an sai husi estudo ka diskusaun ida ne'e iha tempu saida deit. Karik itabo'ot husu atu dada an sai husi estudo peskiza ida ne'e, ami sei fo dalan rua ba itabo'ot atu hili hanesan, dadus itabo'ot nian ne'ebe mak ami rekolha ona, bele hasai ka hamos tiha husi lista ka itabo'ot desidí atu bele continua uja dadus itabo'ot nian nebe mak ami rekolha tiha ona. Maibe, wainhira dadus hirak ne'e ami kompila no analisa ona, sei la iha possibilidade atu hasai ka hamos.

Saida mak atu akontese duranti estudo peskiza ida ne'e?

Ami konvida atu itabo'ot sira ativu iha partisipasaun ne'e, ami hakarak itabo'ot sira hotu atu koalio no fahe itabo'ot sira nia esperiensia no hanoin kona ba programa planeamentu familiar nian ne'e. duranti dikusaun grupu nian ne'e, sei iha

pergunta balu ba itabo'ot sira atu responde ka halo diskusaun no fahe imi nia hanoin no esperiensa. Primeiru peskizador (Angelita Gomes) sei modera diskusaun ida ne'e.

Risku no perigus saida deit mak sei akontese?

Iha grupu dikusaun ida ne'e, ita sei koalia kona ba planeamentu familiar nian. Ho rasaun ne'e, ema balu bele senti ladun diak no moe atu koalia. Laiha presau ka obriga ba ema ida-idak atu responde ba pergunta hotu. Grupu diskusaun ne'e sei iha fatin nebe seguru. Partisipante nia identidade lolos sei la fo sai ka uja hodi hakerek iha ami nia reportagen estudus ida ne'e.

Maneira saida mak bele halakon risku no perigus karik akontese duranti diskusaun nia laran?

Iha possibilidade ba inan-feton balu senti la konfortavel ka seguru hodi halo diskusaun kona ba planeamentu familiar nian. Tanba ne'e, duranti diskusaun iha liafuan balu mak sei uja deit sinal ka maneira seluk no peskizador sei aseguru tu-tuir partisipante sira iha komfortavel nia laran no fo hanoin ba inan-feton sira karik hakarak atu dadan husi diskusaun ne'e ka nafatin iha diskusaun ne to'o remata. Ho nune'e risku ba laran susar ka tauk bele hamenus e sei la akontense.

Karik iha partisipante balu mak senti ladun seguru no persija suporta kounseling nian maka ami sei refere partisipante ne'e ba suporta kaunseling nian nebe iha area rai laran. Assistensia servisu ne'e ofrese ba komunidadade rurais hotu no la selu.

Benefisio saida mak itabot hetan?

Benifisio husi informasaun peskiza ne'e bele kontribui ba dezenvolve servisu programa planeamentu familiar nian iha rai laran, nebe sei ajuda hasa'e utilisasaun inan-feton sira nian ba programa ida ne'e, nebe bele ajuda hatun ka hamenus sofrémentu inan-feton no oan sira nian no hamenus numeru mate inan sira nian iha rain Timor-Leste, liu-liu iha areas rurais tomak no mos bele ajuda aumenta kompriensaun no kunhesementu diak inan sira nian ho dalan atu fo espasu ba isinrua ka hahoris.

Oin hanusa mak atu aseguru hau nia problema pesoal nian?

Primeiru peskizador sei aseguru katak informasaun hotu sei mantein segredu no atu aseguru identities itabot sira nian, naran hotu sei la fo sai ka uja naran inisial seluk molok atu halo reportagen final ba estudus ida ne'e, hodi proteze nafatin partisipante sira nia identidade. Partisipante hotu sei uja deit numeru kode, ezemplu, FGP1, FGP2 no seluk tan. Rajaun uza kode sira ne'e, atu proteje nafatin itabot sira nia identities iha ami nia reportagen ikus ka final nian no atu evita karik iha naran ruma nebe hanesan sei la fo impaktu ba itabot sira no dadus nebe rekolha ona.

Kustu saida deit mak inklui iha peskiza ida ne'e?

Grupu diskusaun ida ne'e sei halo duranti oras ida nia laran. Suporta kiik ka 'koha' ki'ik oan hanesan osan transporta (\$5.00) nian sei ofrese ba partisipante sira depois de sesaun diskusaun ne remata.

Oportunidade saida mak hau hetan husi konviti ida ne'e?

Depois de itabot sira simu tiha formatu informasaun peskiza ida ne'e, itaboot sira iha tempo semana rua atu desidi hakarak tuir iha estudus ba grupu diskusaun ne ka lae.

Bele ka lae hau sei simu komentariu husi resultadu peskiza ida ne'e?

Favor ida fo hatene ami karik itaboot hakarak atu hetan kopia ida husi resultadu peskiza ida ne'e. Ami sei ho kontenti atu fahe informasaun husi peskiza ida ne'e no mos ami bele mai koalia in geralmente ho ita bo'ot sira iha komunidadade ida ne'e kona ba dadus nebe maka ami hetan no hakerek. identidade no informasaun partisipante nian sei nafatin segredu no la fo sai.

Saida mak hau halo wainhira hau iha duvidas ka hanoin ruma kona ba peskiza ida ne'e?

Karik iha hanoin, duvidas ka pergunta ruma nebe iha relasaun ho peskiza ida ne'e, ita bele dirietamente husu ka kontaktu hau nia primeiru supervisor, Sra. Amanda B Lees, email address: amlees@aut.ac.nz ka no telp: 0+64 9 921 9999 ext: 7647.

Karik iha hanoin ka duvidas ruma relasiona ho lalaok peskiza nian, ita bele kontaktu direktamente Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, + 64 9 921 9999 ext 6038.

Ba se mak hau atu kontaktu atu hetan informasaun klea liutan kona ba peskiza ida ne'e?

Favor ida rai didiak informasaun peskiza nian no authorijasaun partisipante nian ne'e ba itabot nia future referensia. Itabot mos bele kontaktu peskizador hanesan naran tuir mai ne'e:

(1). Primeiru peskizador: Angelita Maria de Jesus Gomes iha no kontaktu 7808 5527

Researcher Contact Details:

Provide the name and all relevant contact details. Note that for personal safety reasons, AUTEK does not allow researchers to provide home addresses or phone numbers.

Primary researcher: Angelita Maria de Jesus Gomes

Student ID: 15871900

Email: gomeslita@yahoo.com

Project Supervisor Contact Details:

Supervisor one: Ms. Amanda B Lees

Email: amlees@aut.ac.nz

Supervisor two: Dr. Jagamaya Shrestha-Ranjit

Email: jagamaya.shrestha@aut.ac.nz

Provide the name and all relevant contact details. Note that for personal safety reasons, AUTEK does not allow researchers to provide home addresses or phone numbers.

Approved by the Auckland University of Technology Ethics Committee on type the date final ethics approval was granted, AUTEK Reference number type the reference number.

Appendix E: Participants consent form for FGDs (English and Tetum)

we send one (1) copy (single sided, clipped not stapled) of this Consent Form with your application to:

AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Appendix (E) Consent Form and Tetun translation

Consent Form

For use when focus groups are involved.

Project title: Exploring Timor-Leste rural women's knowledge, attitudes and practice to family planning.

Project Supervisor: Amanda B Lees

Researcher: Angelita Maria de Jesus Gomes

- I have read and understood the information provided about this research project in the Information Sheet dated 15 February 2017.
- I have had an opportunity to ask questions and to have them answered.
- I understand that identity of my fellow participants and our discussions in the focus group is confidential to the group and I agree to keep this information confidential.
- I understand that notes will be taken during the focus group and that it will also be audio-taped and transcribed.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then, while it may not be possible to destroy all records of the focus group discussion of which I was part, I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I agree to take part in this research.
- I wish to receive a summary of the research findings (please tick one): Yes No

Participant's signature :

Participant's name :

Participant's Contact Details (if appropriate) :

.....
.....
.....
.....

Date :

Approved by the Auckland University of Technology Ethics Committee on *type the date on which the final approval was granted* AUTEK Reference number *type the AUTEK reference number*

Note: The Participant should retain a copy of this form.

Consent Form (Formatu de konsienti)

Titulo ba estudu: **Buka hatene oinnusa kunhesemento, kompriensaun no attitude ka lalaok kona ba metode planeamentu familiar husi inan-feton rurais iha Timor-Leste.**

Project Supervisor: **Amanda B Lees**

Peskijador: **Angelita Maria de Jesus Gomes**

- Hau le no compriende ona, informasaun peskiza nian nebe relata ona iha informasaun peskiza nian ne'e, data 15 fulan Februari tinan 2017.
- hau iha oportunitade atu husu pergunta no fo tempo ba sira atu responde hau nia pergunta.
- Hau kompriende katak identidade husi ami hotu nebe partisipasaun no ami nia diskusaun iha fokus grupu ne'e, kontinua segredu iha grupu ne'e no hau promete atu kaer hau nia komprimisio ida ne'e no mantein nafatin segredu ida ne'e.
- Hau kompriende katak duranti prosesu diskusaun nian, se iha ema ida foti notas no mos se iha tape-rekorder atu halo gravasaun duranti halao diskusaun iha fokus grupu ne'e no sei hakerek no foti kopia husi gravasaun ne'e.
- Hau kompriende katak involve an iha estuda peskiza ida ne'e, voluntariamente (hau rasik mak hakarak) no hau bele dada an sai husi estudu peskiza ida ne'e iha qualker tempo saida deit no sei la halo maneira ida nebe atu fo desvantajen.
- Hau kompriende katak se kuando hau dada an husi peskiza ida ne'e, maka sei lai iha possibilidade atu halakon rekordasaun itabot nian nebe halo ona durante diskusaun. Maibe, iha possibilidade atu oferese dalan seluk ba itabot atu hili, inklui hamos hotu dadus nebe mak identifika iha itabo'ot nian ou itabo'ot bele hatan atu ami kontinua uja itabo'ot nia dadus. Maibe, karik informasaun hotu nebe mak ami rekolha no kompleta ona, possibilidade atu hamos hau nia dadus ka informasaun sei la aplika
- Hau hakarak atu participa iha peskiza ida ne'e.
- Hau hakarak atu hetan kopia husi sumario peskiza ida ne'e (favour tauk tik ka sinal ida ba): Ya Lae

Partisipante nia asinatura:

Partisipante nia naran:

Partisipante nia no kontaktu no hela fatin (karik apropridade):

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on type the date on which the final approval was granted AUTEK Reference number type the AUTEK reference number

Note: The Participant should retain a copy of this form.

Appendix F: Question guide for FGDs

Appendix (F)

Question Guide Focus Group Discussions (FGDs)

In its effort to explore the FP barriers, the FG discussions with the women in Timor-Leste is considered appropriate to gather the information related to the topic. Therefore, the researcher wanted to explore the following questions. There are three major themes, knowledge, attitude and practice.

A selection of questions will be posed, drawing upon this list.

☐ **Knowledge on FP:**

1. What or where do you often get or hear information about family planning?
2. Do you know what family planning is about?
3. How many type of modern and natural family planning method?
4. Do modern family planning methods benefits women's health?
5. What is the best time for women to get pregnant after the first child born?

☐ **Attitude towards FP:**

1. How do you view modern and natural FP services?
2. Is family planning method helps you to space your children or prevent from pregnancy?
3. Do you think it is necessary for women to utilise modern or natural FP?
4. Do you think FP method being useful to the family or couple?

☐ **Practice towards FP:**

1. Have you ever used any modern or natural family planning before?
2. Will you use modern or natural FP method to help prevent or space your next pregnancy?
3. What type of FP method do you like to use in the future?
4. Why some women in Timor-Leste do not want to use modern or natural family planning method?
5. Will you encourage/advice any other women to utilise the modern or natural methods?
6. What are the factors or barriers influences you from utilising the FP methods?

Appendix G: AUT Ethics Committee approval

**AUTEC Secretariat**

Auckland University of Technology
 D-88, WU406 Level 4 WU Building City Campus
 T: +64 9 921 9999 ext. 8316
 E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

24 March 2017

Amanda B Lees
 Faculty of Health and Environmental Sciences

Dear Amanda B

Re Ethics Application: **17/40 Exploring Timor-Leste rural women's knowledge, understanding and attitudes to family planning**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 24 March 2020.

As part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through <http://www.aut.ac.nz/researchethics>. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 24 March 2020;
- A brief report on the status of the project using form EA3, which is available online through <http://www.aut.ac.nz/researchethics>. This report is to be submitted either when the approval expires on 24 March 2020 or on completion of the project.

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to obtain this. If your research is undertaken within a jurisdiction outside New Zealand, you will need to make the arrangements necessary to meet the legal and ethical requirements that apply there.

To enable us to provide you with efficient service, please use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

All the very best with your research,

Kate O'Connor
 Executive Secretary
 Auckland University of Technology Ethics Committee
 Cc: gomesita@yahoo.com