University of Venda
Creating Future Leaders

Strategy to Enhance Sustainable Family-Centered Prevention of Mother-to-Child Transmission (PMTCT) Interventions in Limpopo Province, South Africa

by

Fhulufhedzani Constance Malindi

Student Number: 11543360

Thesis Submitted in Fulfillment of the Requirements for the Degree:

Doctor of Philosophy

Department of Advanced Nursing Science
School of Health Sciences
Faculty of Health Sciences
University of Venda

Promoter	Co- Promoter
Prof M.S. Maputle	Prof LH Nemathaga

31 August 2018

DECLARATION

I, **Fhulufhedzani Constance Malindi**, declare that the research project entitled "**Strategy to Enhance Sustainable Family-Centered Prevention of Mother-to-Child Transmission (PMTCT) Interventions in Limpopo Province, South Africa**", submitted for the **Doctor of Philosophy (PhD)** degree at the **University of Venda** is my own work. All the sources that I have used or cited have been indicated and acknowledged by means of complete references. This research project has never been submitted previously for any degree to any other institution.

Fhulufhedzani Constance Malindi **:** .....

Student Number: 11543360

Date Signed **:** .....

DEDICATION

This thesis is dedicated to:

- *My late father, Mutshutshu Alfred Malindi Thagwana, and my mother, Mbangiseni Nyawasedza Malindi Thagwana.*

- *My loving and supportive children, Fhumulani, Thilivhali, Rudzani and Mikovhe. Thank you for your love and support during this study. I love you so much. Nothing in this world can ever replace you.*

- *My grandchildren, Mukonazwothe, Phathutshedzo, Rudzani, Dembe, Ndimuhulu and Fhulufhedzani.*

- *My girls, Thulisile and Livhuwani.*

ABSTRACT

Background: Family-centred approaches to Prevention of Mother-to-Child Transmission (PMTCT) interventions present an important direction for sustainability and prevention of pediatric infections while improving overall family health. Despite numerous opportunities to sustain and expand the existing PMTCT interventions, Mother-to-Child Transmission (MTCT) still occurs. This is evidenced by the number of under-five children who are admitted in hospital being infected by the Human Immunodeficiency Virus (HIV) between the ages of 6 weeks to 18 months, whereas the Polymerase Chain Reaction (PCR) results was non-reactive at six weeks.

Purpose: The purpose of this study was to develop a strategy to enhance family-centered interventions for PMTCT sustainability in the selected districts of Limpopo Province, South Africa.

Phase 1: The study was conducted in phases. In Phase 1, which was empirical, the following objectives: to explore the risks that contribute to MTCT between the ages of 6 weeks and 18 months; to explore the perceptions of family members regarding family support in PMTCT interventions; and to explore the factors that affect the provision of family support in PMTCT interventions**. Phase 2:** was development of the strategy and validation of the strategy.

Methods: The exploratory sequential mixed method was used to conduct the study, where qualitative data were collected and analyzed first; followed by collecting, analyzing and interpreting the quantitative data. The population comprised the following groups: mothers of babies between 6 weeks and 18 months who are living with HIV/AIDS, family members were represented by male partners, grandmothers or mother's in_-law and health care professionals working at the PHC Heath Centers

or clinics rendering PMTCT services. In the qualitative design, participants were selected by non-probability purposive sampling and data were collected through one-to-one interview and focus group discussions. Data were analyzed utilizing the open-coding method. In the quantitative design, participants were selected by using simple random sampling and data were collected by means of self-administered survey questionnaires with structured close-and open-ended questions. The population were midwives from Capricorn, Mopani and Vhembe districts PHC clinic. Data were analyzed using the Statistical Package for the Social Sciences (SPSS), Version 22 and descriptive statistics. In Phase 2**,** findings from the data were used to develop an intervention strategy. The strategy was developed through the use of Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. The developed strategy was validated by using a quantitative design.

Ethical Measures: Reliability, validity and trustworthiness were observed throughout the study.

Keywords: PMTCT, MTCT, HIV/AIDS, mothers of under-five, family support, sustainability, interventions, strategy, family-centered care

ACKNOWLEDGEMENTS

My God, my Lord, for His unconditional love, which far surpasses my mere knowledge. He gave me the strength, courage and the power to go on with this study. That was far over and above all that I can ask or think, beyond my highest prayers, desires, thoughts, hopes or dreams.

I would like to express my sincere gratitude to the following people and institutions:

- Prof MS Maputle, for her love, patience, supervision, support, encouragement and expert guidance throughout the study.
- Prof LH Nemathaga, as co-supervisor, for her support, inspiration and insight.
- Staff in the Department of Advanced Nursing Science, University of Venda, for their motivation, help and understanding.
- Special thanks to my colleagues and fellow PhD students for consistent support and morale-boosting throughout the study.
- Particular appreciation to my friend, my interpreter and my colleague Mrs Kobela Mothapo for support and encouragement.
- Mrs T Malwela my daughter, my editor, for support, guidance and encouragement.
- I am grateful to the University of Venda for financial support and the University of Venda librarians for assisting me with the literature search.
- Participants in this study who provided me with information willingly.

- I am especially grateful to the William Eadie Health Centre managers and staff, for the support and encouragement.

- Primary Health Care Midwives, who helped me so much while I was collecting data.

- My four sisters, Mercy, Tondani, Luambo and Shoni, and my three brothers Edward, Phumudzo and Phathu, who also encouraged me to continue to study and to set an example in the family.

- Mikovhe, Mbofho and Ndivhuwo, thank you for computer lessons, even in the middle of the night.

- My family, that is, my children, Fhumulani, Thilivhali, Rudzani and Mikovhe; my girls, Thulisile and Livhuwani; and my grandchildren, Mukonazwothe, Phathutshedzo, Rudzani, Dembe, Ndimuhulu and Fhulufhedzani, for their love, support and encouragement.

- My parents in Christ who are also my pastors, Dr TS Muligwe and his wife, Rev MP Muligwe, for their love, unwavering encouragement and support. They are true sources of motivation.

- My mother, Mbangiseni Nyawasedza Malindi Thagwana, for her love, support and encouragement in her own special way.

- My uncle, Rev OT Malindi, and his wife, Maria Malindi, for their encouragement and support.

- Professor D.C. Hiss, for editing and typesetting assistance (Annexure R).

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS AND ABREVIATIONS

3TC	Lamivudine
AFASS	Acceptable, Feasible, Affordable, Sustainable and Safe
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV(s)	Antiretroviral Drug(s)
AZT	Zidovudine
CD4	T-Lymphocyte Cell Bearing CD4 Receptor
Cr	Creatinine
D4T	Stavudine
DoH	Department of Health
EFV	Efavirenz
ELISA	Enzyme-Linked Immunosorbent Assay
FDC	Fixed-Dose Combination
FGD	Focus Group Discussions
FTC/3TC	Emtricitabine/Lamivudine
HAART	Highly Active Antiretroviral Treatment/Therapy
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
IFCC	Institute for Family-Centred Care
LFT	Liver Function Test(s)
MCWH	Maternal, Child and Women's Health
MTCT	Mother-to-Child Transmission
NVP	Nevirapine
PCR	Polymerase Chain Reaction (Test)
PESTLE	A mnemonic which in its expanded form denotes P for Political, E for Economic, S for Social, T for Technological, L for Legal and E for Environmental Factors that give a bird's eye view of the whole environment from many different angles that one wants to check and keep a track of while contemplating on a certain idea/plan. (http://pestleanalysis.com/what-is-pestle-analysis/)
PHC	Primary Health Care
PLWHA	Person(s) Living with HIV/AIDS
PMTCT	Prevention of Mother-to-Child Transmission
SDGs	Sustainable Development Goals

SPSS	Statistical Package for the Social Sciences
TDF	Tenofovir Disoproxil Fumarate
VL	Viral load
WHO	World Health Organization

CHAPTER 1

Overview of the Study

1.1 Introduction

The family-centred interventions represents the most appropriate and cost-effective model for responding to the challenges of Human Immunodeficiency Virus (HIV) prevention, treatment and care (Betancourt, 2010). The family-centred approach has been reported to be a vehicle to help family members (couples, grannies, and elderly children) as well as mothers and their infants to receive health care at the same consultation, regardless of service point (Department of Health, 2015). When implemented, the provision of appropriate care to women before and during pregnancy, motherhood and integrating maternal and child care services is achieved.

Family-centred approaches to HIV prevention and care present important direction for preventing pediatric infection while improving overall family health. Despite numerous opportunities that exist to expand sustainability of Prevention of Mother-to-Child Transmission (PMTCT) interventions, babies continue to be admitted at hospital with an HIV-positive status while at 6 weeks the Polymerase Chain Reaction (PCR) test was non-reactive.

The Department of Health (DoH) statistics reported that there are 518 802 children of 0-14 years who are living with HIV in South Africa. It has further been pointed out that the neonatal mortality rate is 17/1000, the infant mortality rate is 43/1000 while the under-five mortality rate is at 62/1000 (DoH, 2010). Traditionally, PMTCT of HIV

programmes have been narrowed in scope focusing on biomedical interventions during the prenatal period rather than considering HIV as a family disease. This limited focus restricted the programmes effectiveness and the opportunity to broaden prevention measures as it has been largely overlooked (Betancourt, Abrams, McBain & Fauzi, 2010). Efforts to involve fathers in family-based PMTCT counselling, infant feeding counselling and general decision-making on these aspects are not widely practiced. However, additional research to explore this phenomenon is important. Failure to implement the family-centred approach represents a last opportunity to effectively combat vertical transmission of HIV to children, a largely preventable infection (Benancourt *et al*., 2010). This study will, therefore, strive to develop a strategy to enhance family support on the sustainability of PMTCT interventions.

1.2 Background to the Study

The concept of 'Family-Centred Approach" was formally defined in 1982 by the *Association of Care of Children's Health* in response to the growing desire for a new approach to care for children with special health needs (Leeper, Montague, Friedman & Flanigan, 2010). The family was originally assumed to include healthy adults as caregivers of the child. Family-centred care is now described as programmes where 'adult and pediatric services are provided together in a single setting' (Leeper *et al*., 2010). Shields (2010) defined family-centred care as a way for the children and their families within health services which ensure that care is planned around the whole family, not just an individual child/person and in which all the family members are recognized as care recipients (Shields, 2010;).

The family-centred approach has been utilized globally by health care personnel as it was believed that it will facilitate broader implementation of PMTCT programmes, addressing the comprehensive needs of women—particularly those in need of their health as well as of children and other family members. The need for the programme

has been increasingly acknowledged by international organizations like the World Health Organization (WHO) which outlined in its *PMTCT Strategic Vision 2010-2015* that priority will be given to strengthening linkages between PMTCT, HIV care and treatment services for women, their children and other family members in order to support an effective continuum of care (Benancourt *et al*., 2010).

Nearly 150 000 children are living with HIV in Uganda, and the majority of these children are under the age of five years (Luyirica, Towly, Achan, Mhangi, Senyimba, Lule & Muhe, 2013). Vertical transmission accounts for an estimated 18% of new infections nationally, and an estimated 53% of HIV-infected women were reported to receive antiretroviral drugs (ARVs) to prevent MTCT (Luyirica *et al*., 2013). While 60% of HIV-exposed children are tested within 6 weeks to 18 months after birth, there is high loss to follow-up amongst exposed children as the paediatric services have been reported to lag behind adult care both in Uganda and internationally (Luyirica *et al*., 2013). The family-centred approach has been reported to be the programmes recognized to integrate HIV services within the broader Primary Health Care (PHC) system. The approach facilitates the provision of a comprehensive, one-stop service package for families and increases access to paediatric services as it includes spouse/sexual partner, children, family and community members (Luyirika *et al*., 2013).

1.2.1 Provision of PMTCT Programmes

The PMTCT treatment guidelines have evolved considerably over time in Sub-Saharan Africa following the first recommendations for ARV drugs for PMTCT in 2000 with a short-course prophylaxis starting late in pregnancy or during labour, including single dose of Nevirapine (NVP) for mothers and infants (DoH, 2000). The guidelines were revised in 2004 and again in 2006 wherein the emphasis was on giving the mothers ARV to improve their quality of life. Pregnant women with CD4 cells of less than 200 cells/mm^3 were given Azidothymidine (AZT 300 mg) as

prophylaxis from 28 weeks gestation and a single dose of NVP during labour and delivery.

Infants were given prophylaxis of NVP syrup 0.6 ml daily for one week. The family support is crucial, for mothers to adhere to the giving of drugs to their infants (Gourlay, Birdthistle, Mburu, Iorphenda & Wringe, 2013). Globally, PMTCT interventions have reduced the risk of MTCT to less than 2% in developed countries whilst in developing countries PMTCT reduced MTCT by 5%. Since the conception of PMTCT in South Africa, there is almost 90% reduction of MTCT, but there are still a number of children who are being admitted to the hospitals being affected by HIV/AIDS, with the under 5 mortality rate of 62/1000 (DoH, 2010). In South Africa, ARVs have reduced MTCT because, in the past, the statistics of MTCT were as high as 55% while now it is 3.6% (DoH, 2014). Without intervention, 25-35% mothers will transmit HIV to their infants at 6 months post-delivery. About ±30% of babies of ages between 6 weeks to 18 months are admitted in the hospital being HIV-positive (Woldesenbet, Goga & Jackson, 2012).

1.2.2 Involvement of Family Members in PMTCT Interventions

Vertical transmission accounts for new infection nationally, and about 29.5% of the total number of all pregnant women is living with HIV/AIDS (Brittain & Stinson, 2014). To involve family in PMTCT, the South African Government introduced couple counselling and testing. However, in Limpopo Province there was a low uptake of these programmes, as male partners are usually unable to accompany their partners to the clinic since most of them are working (Brittain & Stinson, 2014).

It was also reported that partner participation was associated with positive outcomes, such as practice of safe sex, adherence to treatment, non-violent behavior and higher acceptance of post-test counselling among pregnant women, as well as spousal communication about HIV and sexual risk. Partner participation can

be utilized as an entry point for utilizing other PMTCT programmes to both male and female participants. This has been found to increase adherence and retention among all participants (women, men and children) because of support within the family unit (Kalembo, Du Yukai, Zgambo & Qiu Jun, 2011)). In the study conducted in Nigeria, it was reported that none disclosure of sero-positive status to the family members was influenced by perception of fear, stigma and discrimination. Failure to disclose influences non-adherence to safe sex behaviour and ARVs and this hindered the success of PMTCT sustainability (Iwelunmor .Ezealonue, Aihihenbuwa, Obiefune, Ezealonuwe & Ogedegbe, 2014). Non-disclosure was reported to influence adherence, choice and maintenance of infant feeding.

While some pregnant women and mothers of under-fives want to disclose their status, they fear divorce, spread of the information, stigma and deterioration in the relationship with spouse (Iwelunmor *et al*., 2014). The study conducted in Zambia and Kenya identified family-centred approach (male partner involvement) as an intervention to that can improve PMTCT sustainability (Kalembo et al, 2011). The study seeks to enhance family-centred support in sustainability of PMTCT intervention in the selected districts of Limpopo Province, South Africa.

1.3 Problem Statement

Despite the implementation of PMTCT interventions as well as the recent increase in the coverage of the PMTCT nationally, MTCT in South Africa was still high in terms of South Africa's aim to reduce MTCT to less than 2% at 6 weeks and less than 5% at 18 months. Presently, records reveal that MTCT is at 3.6% at 6 weeks (DoH, 2015). The researcher is currently working at one of the health care centres that render PMTCT interventions with the experience of 10 years. The researcher was informed by the alarmingly high statistics of the MTCT rate amongst babies of the ages between 6 weeks and 18 months

Information on PMTCT interventions, namely, practice of safe sex while breastfeeding, adherence to the chosen infant feeding, adherence to ARV treatment for mothers and exposed babies are given to pregnant women and mothers of under-fives who are living with HIV during clinic visits. However, there were babies who tested PCR-negative at 6 weeks, but admitted in different hospitals being HIV-infected. This indicates the non-adherence to PMTCT interventions for HIV-exposed babies between 6 weeks and 18 months. The PMTCT records at the facility revealed that most babies come for 6 weeks PCR, but very few babies are brought back for HIV testing at 18 months. It has also been found that ±30% of infected babies are admitted to hospitals with HIV-related infections. The researcher was motivated to determine the risk factors contributing to MTCT to babies between 6 weeks and 18 months and to develop the strategy to enhance family-centred support for sustainability of PMTCT interventions.

1.4 Research Purpose

The purpose of this study was to develop a strategy to enhance family-centred support for sustainability of PMTCT interventions at the selected districts of Limpopo Province, South Africa.

1.5 Objectives of the Study

The objectives of the study were:

1.5.1 Phase 1

The 1st and second objectives were done using qualitative strands whilest the third objective was done using quantitative strand

- To explore the risks factors that contribute to MTCT between the ages of 6 weeks and 18 months after birth.

- To explore the perceptions of family members regarding support provided to sustain PMTCT interventions.
- To identify the factors that affect the provision of family-centred support of PMTCT interventions by the health care professionals.

1.5.2 Phase 2

- To develop a strategy to enhance family-centred support for sustainability of PMTCT interventions in Limpopo Province, SA.
- To validate the developed intervention strategy.

1.6 Research Questions

The following questions guided the study:

- What are the risks factors that contribute to MTCT between the ages of 6 weeks and 18 months?
- What are the perceptions of family members regarding support provided to sustain PMTCT interventions?
- What are the factors that affect the provision of family-centred support to sustain PMTCT interventions by health care professionals?
- How can the data obtained be used to develop the strategy to enhance family-centred support for sustainability of PMTCT interventions in Limpopo Province?

1.7 Significance of the Study

The researcher believes that the findings of this study may assist in the enhancement of family support to sustain PMTCT interventions. It is also assumed

that findings of this study may contribute to achieving Sustainable Development Goals (SDGs):

- SDG 1

  End poverty in all its forms everywhere by encouraging women and girls to wait until they are working or are financially independent before they consider pregnancy to prevent gender inequality. As a result, this could contribute to a reduction of MTCT to babies between age of 6 weeks and 18 . Ensure healthy lives and promote well-being for all at all ages. PMTCT will be promoted in order to ensure healthy lives for mothers and their children between the ages of 6 weeks and 18 months.

- SDG 3

  Promote gender equality and empower all women and girls. Women and girls will be empowered to take decision on PMTCT interventions.

The findings of this study were used to develop a strategy aimed at enhancing family-centred support that will facilitate sustainable PMTCT interventions. The community may utilize the findings of this study as a tool for the formation of family support groups for mothers who are living with HIV/AIDS.

The results of this study could be utilized by the *Maternal Child Health Directorate* for future planning of care for mothers who are living with HIV/AIDS. Health care workers may apply the recommendations of this study in the management and continuity of care of families of mothers of under-fives who are living with HIV/AIDS.

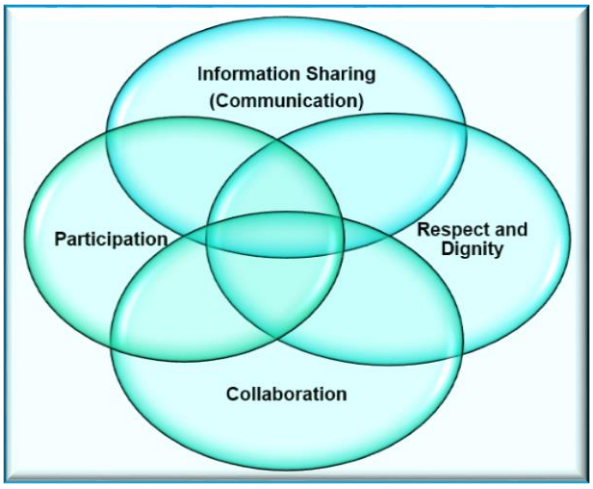
Recommendations that will emanate from this study may influence the DoH to strengthen the development of policies and guidelines that will be used by PHC nurses in supporting spouses/partners and family members to support mothers living with HIV/AIDS.

The findings of the study may assist researchers to develop other strategies to enhance the sustainability of family-centred approaches for PMTCT interventions.

The study was conducted in 3 districts of different ethnic groups in order to get a cross-cultural perspective of the topic.

1.8 Theoretical Framework Influences

The points of departure for this research study were an adapted family-centred care conceptual framework. This conceptual framework that was used to guide this study arose from the *Institute for Family-Centred Care (IFCC)* (Bamm, Rosenbaum & Lewin as quoted in Roger, 2006). The IFCC offers an innovative approach to the planning, delivery and evaluation of health care, and is grounded in the mutually beneficial partnership among health care providers, patients and families (IFCC, 2008).



Source: The Institute for Family-Centred Care (2008)

Figure 1.1: Core concepts of Family-Centred Care

The framework consists of four core concepts: dignity and respect, information sharing, participation and collaboration (IFCC, 2008). According to the IFCC (2008),

the core concepts were clarified as:

1. **Dignity and Respect**-Health care practitioners listen to and honor patient and family perspectives and choices. Patient and family knowledge, values, beliefs and cultural backgrounds are incorporated into planning and delivery of care.

2. **Information Sharing**-Health care practitioners communicate and share complete and unbiased information with patients and families in ways that are affirming and useful. Information is timely, complete and accurate.

3. **Participation**-Patients and families are encouraged and supported to participate in care and decision-making at any level they choose.

4. **Collaboration**-Patients, families, health care practitioners and hospital leader's collaborate in policy and programme development, implementation and evaluation; in health care facility design and in professional education, as well as in the delivery of care.

Dignity and respect would direct the health care professionals to listen to the HIV-positive mothers of babies between 6 weeks and 18 months, and the families' choices and perspectives regarding their support for the implementation of PMTCT interventions and to act on them accordingly. Also, the patient and her family's knowledge, beliefs, values and cultural backgrounds are integrated into the planning and delivery of care. Information sharing requires health care practitioners to

communicate and share unbiased and complete information with patients and their families.

Such information was provided in a timely, complete and accurate manner so that patients and their families were able to actively engage in care and decision-making. Participation includes encouraging patients and families to engage in decision-making and care to the extent to which they choose. Collaboration involves health care leaders consulting with patients and their families to develop policies and programmes, implementation and evaluation of care and professional education. The concept of family-centred care was introduced to the public more than 4 decades ago, stressing the importance of the family in a child's well-being.

This theory is influenced by cultural and political factors, interacting with other philosophies in the area of interest. Its evolution is an area of interest and it is a dynamic process of development and growth. It can be traced back when Carl Rogers began practicing client-centred therapy in psychiatric wards 70 years ago. It is a continuing process in which the therapist treats the individual as a person of worth and significance and respect the silence capacity and right to self-direction (Lindsay, 2001).

The key idea is mutual influence of the treatment process. Family-centred care, family dynamics and individual function and participation in social life stressing the importance of the family in children's well-being (Lupton & Fenwick, 2001). The family-centred care theory allows equal partnership in the health care system, including the extended family. In this study, the family-centred care theory will be utilized as it includes the involvement of the whole family to take care of each other, especially when they are dealing with dreaded disease, and there is a need for continuity of care.

The family is the natural and fundamental group unit of the society and the state, is applicable for system in general (Shields & Tanner, 2004). A family represents the most valuable source of support and important insight behaviour and coping strategies of the individual. Serious illness or injury bring with it inevitable distraction of family dynamics and fine equilibrium. The ability of a family to reorganize and reduce stress, provides a healthy environment for all members of the family and initiate the healing process which differs from one family to another. This unique pattern has to be respected and addressed appropriately (Makean, Thurston & Scott, 2005).

This theory provides the family with a useful tool that takes into account stressors, strength, perception, coping and adaptation strategies. It increases the lifespan of families dealing with serious health conditions and encourages participation in community life. Emotional and spiritual support system provided by extended families, friends, religion and health care system by providing the best support and limitation of the illness (Family-Centred Care approach provides an important conceptual foundation for the contemporary model of healing service delivery) (Raina, O'Donnel & Rosenbaum, 2005).

Families are considered experts in what helps and hurts. Families are also recognized as central or the constant in the child's life and a primary source of strength and support. The family-centred approach is an innovative approach to the planning, delivery and evaluation of heath care that is grounded in mutual beneficiary partnership. A family is the most reliable unit to provide support, uniqueness and partnership that form the care of general family-centred approach. The implementation of the family-centred approach decreases depression rate and improves satisfaction. It provides education and counselling, thus enabling informed decision-making. It also improves effectiveness, efficacy and reduce burden and it encourages patient to share common values (Madigan *et al*., 2006).

In this study, *Family-Centred Care* was used; where the family is involved in the support of mothers of under-five year old children who were living with HIV post-partum and during infant feeding. The family-centred care theory was used to support the mothers of under-fives to register themselves in PMTCT programmes and act as a support system in their taking of ARVs. The theory was utilized in this study for sustainability of PMTCT interventions, as it was said that family is the institution where both adults and children receive support (Safran, Karp & Coltin, 2006).

1.9 Definition of Terms

1.9.1 Family-Centred Care

Family-centred care is when there is a sharing of information by health care professionals, patients and family members in order to be actively engaged in care and decision-making, equal involvement in support and decision-making (IFCC, 2008). In this study, family members were involved in decision-making, caring and support of mothers of babies between 6 weeks and 18 months in PMTCT interventions.

1.9.2 PMTCT Interventions

PMTCT interventions refer to the action or process of action taken to improve a medical disorder in PMCT of HIV (DoH, 2014). In this study, intervention means a process of action taken to improve family support in PMTCT interventions.

1.9.3 Mother-to-Child Transmission of HIV (MTCT)

Mothers of children between the ages of 6 weeks and 18 months who are HIV-positive (DoH, 2014).

1.9.4 HIV-Positive

Denotes a test performed on an individual that is positive for the human immunodeficiency virus (HIV) (The Merck Manual of Medical Information, Home Edition, 1997). In this study, a mother is said to be HIV-positive after counselling and testing have been done and the results of the HIV tests are positive. The mother of the child who is between 6 weeks and 18 months is a member of a family where there is a male partner, grandmother and the children.

1.9.5 Enhanced Sustainability

Enhance refers to increase of further improvement of the quality or value of somebody or something (Concise Oxford English Dictionary, 2004). Sustainability refers to strengthening or supporting physically or mentally, or to keep something going over a time or continuously (Concise Oxford English Dictionary, 2004). In this study, enhance means or refers to a system that will assist family members to support the mothers of under-fives who are living with HIV, and sustainability means the method to be used to sustain PMTCT in order to prevent MTCT in children of the ages between 6 weeks and 18 months.

1.9.6 Intervention Strategies

Strategies refer to a plan designed to achieve a particular long-term aim (English Reference Dictionary, 2007). In this study, strategies means a plan designed for the family members to give support in PMTCT interventions.

1.10 Research Setting

Research setting refers to the specific place or places where data are collected, or the physical location and condition in which data collection takes place in a study

(Brink, van der Walt & van Rensburg, 2013). The Limpopo Province is situated in the North Eastern corner of South Africa and shares borders with Botswana, Zimbabwe and Mozambique. The province is considered poor (Baron, Day & Monticello, 2007). The province is divided into five districts: Mopani, Sekhukhune, Capricorn, Waterberg and Vhembe.

According to the census of 2011, the province has an estimated population of 5,693,564. Mopani, Vhembe and Greater Sekhukhune are the most rural communities (refer to Figure 3.1, Chapter 3). The study was conducted in selected Health Care Centres and Primary Health Care (PHC) facilities in Capricorn, Mopani and Vhembe Districts.

The researcher was informed by the alarmingly high statistics of the MTCT rate amongst babies of the ages between 6 weeks and 18 months, and Tshitamboni *Men's Forum* was purposely selected at Vhembe district, of Limpopo Province in South Africa. These districts were selected for their ethnic differentials—Vhembe (Venda), Mopani (Tsonga) and Capricorn (SePedi).

1.11 Research Design

In this study, a mixed methods approach that combines qualitative and quantitative research methods was used. Mixed methods are defined as the class of research where the researcher applies either qualitative or quantitative approaches, techniques, methods, concepts or language into a single study (Bitmap, Grey, Mulaudzi & Wright, 2010). Klopper & Creswell (2012) indicated that mixed methods research design is a procedure of collecting, analyzing and mixing both qualitative and quantitative research methods in a single study in order to understand a research problem.

Mixed methods were used when qualitative and quantitative collectively provide an

improved understanding of the research problem than it could be the case individually. When one approach to research (qualitative or quantitative) does not adequately address the research problem or answer the research question, then mixed methods can be used. It is also used to incorporate a qualitative component into a quantitative study. It moves from one phase of a study to another.

The researcher's point of departure was an exploratory sequential design where the qualitative data were collected and analyzed followed by quantitative data collection and analysis, then the interpretation of the results. The analyzed qualitative and quantitative data results were used to build the subsequent quantitative phase.

The study was conducted in two phases wherein **Phase 1A** the researcher designed and implemented a qualitative strand that included collecting and analyzing data from mothers, partners and grandmothers/mothers-in-law. In **Phase 1B**, the researcher conducted a quantitative design by collecting data from the health professionals using the Logic model (inputs, outputs, activities, processes and systems) to determine factors that affected the provision of PMTCT interventions. In **Phase 2**, the researcher developed a strategy and validated the developed strategy.

1.12 Summary of Research Approach

The research approach used in this study is briefly outlined below (See also Table 3.1, Chapter 3). The study was divided into two phases, viz., Phase 1 and Phase 2. Phase 1 comprises 3 objectives (see section 1.5.1) and Phase 2 encompasses 2 objectives (see section 1.5.2). Phase 1 used both qualitative and quantitative research designs, whereas Phase 2 involved a SWOT analysis and a quantitative research design. In Phase 1, the study populations for Objective 1 included all mothers of babies between 6 weeks and 18 months who are living with HIV at selected facilities. Objective 2, study population was made up of all male partners who are members of the *Tshitamboni Men's Forum and* grannies/mothers-in-law

who visited the selected facility, whereas for Objective 3, the study population was represented by all heath care professionals who are rendering PMTCT programmes at selected facilities.

In the case of Phase 2, the study population for Objective 4 incorporated data from health professionals, mothers of under under-5-year-old children living with HIV and family members; and for Objective 5, it included stakeholders who are involved with PMTCT in the Limpopo Province. Sampling approaches, data collection methods and analyses are detailed in Table 3.1 of Chapter 3 which delineates these methodologies, including non-probability purposive sampling, probability simple random, Fish-bowl technique, probability sampling, simple random sampling, in-depth semi-structured interviews, semi-structured Focus Group Discussions (FGD), questionnaires, open-coding qualitative data analysis and descriptive statistics, using the Statistical Package for the Social Sciences (SPSS).

1.13 Organization of the Chapters

1.13.1 Chapter 1

Provides an overview of the study and includes the background, problem statement, purpose, objectives, research question, and significance of the study, theoretical framework, and definition of terms, research settings, and research design, summary of research approach and organizational of chapters.

1.13.2 Chapter 2

Covers the literature review which was done after data collection.

1.13.3 Chapter 3

Summarizes the research methodology. The mixed method was used, that is, qualitative and quantitative approaches. The research methods, research design,

research setting, population, sampling, data collection methods, data analysis of both quantitative and qualitative research.

1.13.4 Chapter 4

Is a discussion of the research findings that describe interventions to enhance family support for PMTCT: grandmothers' perspectives, mothers' perspectives, male partners' perspectives and health care practitioners' perspectives?

1.13.5 Chapter 5

Covers the development of the intervention strategy. Strength, Weakness, Opportunities and Threats (SWOT) was used to analyze the data. Political, Economic, Social, Technological, Environmental factors and Laws (PESTLE) were used. The intervention strategies were developed by building from Strength, Overcoming Weaknesses, Exploring Opportunities and Minimizing Threat (BOEM).

1.13.6 Chapter 6

Encompasses the conclusion, brief summary of the study and limitations of the study and validation of the developed strategy.

1.14 Conclusion

This chapter dealt with the orientation of the study, background of the study, problem statement, purpose, research objectives, research questions, significance of the study, theoretical frame work influences, definition of the terms, research settings, research design, summary of research approach and organization of chapters.

CHAPTER 2

Literature Review

2.1 Introduction

A literature review is an organized written presentation of what has been published on a topic by scholars. The purpose of the review is to convey to the reader what is currently known regarding the topic (Burns & Grove, 2005, cited by Brink, van der Walt & Ransburg, 2013). The review should describe literature that identifies the research problem with the work of other studies and aims to avoid duplication in the study. In this study, the researcher utilized journals, books, internet reports and extracts ranging from the year 2005-2015 pertaining to family-centred approaches in PMTCT sustainability. However, not much literature is available on the research topic.

The literature will be discussed under the following headings:

- History of PMTCT, policies and guidelines.
- Risks that contribute to MTCT to babies between the ages of 6 weeks and 18 months.
- Perceptions of family members regarding support in PMTCT interventions
- Factors that affect the provision of family support in PMTCT interventions

2.2 History of PMTCT

In South Africa, a comprehensive package for a Prevention-of-Mother-to-Child-

Transmission (PMTCT) programmes was introduced in 2001 as a pilot programme and later in response to a Constitutional Court ruling, as a full-scale National programme where policy guidelines for the standards of care were developed (DoH, 2008). The National PMTCT programme became available in PHC facilities countrywide where the package included: Primary HIV prevention programmes for women of childbearing age, routine HIV counselling and testing to pregnant women, safe infant feeding counselling and support, safe obstetric practices, single dose Nevaripine (sdNVP) to the mother and infant as well as the provision of infant formula to women who chose this route and they are able to do it safely in an acceptable, feasible, affordable and sustainable manner. This programme was expected to reduce HIV transmission by 50% (DoH, 2008).

On the 1st December 2009, on World AIDS Day, the Honorable President Jacob Zuma announced new key interventions to improve antiretroviral treatment (ART) access to special groups, namely: all HIV-infected infants, HIV-positive pregnant women with CD4 less or equal to 350/mm^3. The aim was to decrease the disease burden, to address maternal and child mortality and to improve life expectancy (DoH, 2010). More than 2.6 million people were initiated on ARVs by mid-2014. In 2013, there was a rollout of Fixed Dose Combination (FDC) pills. The FDC pill is a combination of Tenofovir Disoproxil Fumarate (TDF), Emtricitabine/Lamivudine (FTC/3TC) and Efavirenz (EFV) and is used as first line regimen (DoH, 2013).

In August 2014, the Minister of Health, Dr Aaron Motsoaledi, announced that the threshold for initiation for ART will rise to 500 cells/mm^3 CD4 and the PMTCT programmes will adopt the B+ approach, which entitles every pregnant woman to lifelong ART, regardless of CD4 count or WHO clinical staging which will be effected on January 2015 (DoH, 2015). Greater achievements have been made, close to 100%. PMTCT is offered in almost all health facilities in South Africa (98%). The percentage of HIV-pregnant women receiving ART to reduce MTCT has steadily

increased from 83% in 2009 to 87.1% in 2012.

The MTCT has decreased to well below the target of 7.5% to 2.7% in 2012. This decrease was brought by a range of interrelated, evidence-guided strategic and operational plans, monitoring initiatives, policies and guidelines paving the way for South Africa to attain its objective of reducing mortality from HIV (DoH, 2015). Globally, the aim is to reduce the MTCT incidence of HIV infection in children by 90% by 2015. Despite the implementation of PMTCT programmes as well as the recent increase in the coverage nationally, MTCT in South Africa is still high in relation the South Africa's target to reduce MTCT to less than 2% at 6 weeks and less than 5% at 18 months. The country's MTCT at 6 weeks of age was 3.6% (DoH, 2008). It is thus necessary to investigate novel approaches to improve sustainability of PMTCT programme outcomes (DoH, 2008).

2.3 Current Protocols and Guidelines

2.3.1 Management of HIV-Exposed Infant from 0 to 6 Months

The PMTCT Guidelines (DoH, 2015) provide for the management of high risk under-fives as a way to improve the health status of exposed infants. It indicates that immediately after birth HIV-exposed infants should be initiated into the prophylaxis and the PCR HIV test conducted. This is prioritized for high risk infants, namely: low birth weight, below 2.5 kg, premature infants, infants born to mothers with viral load (VL) of above 1000 copies/ml, infants of mothers who were on ART below 4 weeks prior to delivery, infant of mothers who were unbooked or diagnosed HIV-positive during labour or shortly after delivery, infants of mothers with TB/HIV co-infection at any point during pregnancy and infants who are symptomatic at delivery.

The guidelines further clarify that any infant with an HIV-positive birth result must be urgently referred to or discussed telephonically for ART initiation. Infants whose

mothers' VL is more than 1000 copies/ml are supposed to be given NVP and AZT for another 6 weeks, and breastfeeding and feeding counselling reinforced. Exclusive breastfeeding must be administered with no water, or other solids. NVP should be extended to 12 weeks if the mother have received ART less than 4 weeks before delivery, unbooked, diagnosed on labour or at delivery and if the mother was diagnosed during breastfeeding (DoH, 2015). This has a very important bearing for this study because the mother is expected to practice and to adhere to these interventions while at home with the support of family members. At 18 months, all HIV-exposed infants not on ART should have a rapid test to confirm HIV status conferred by 6 week PCR or the HIV-PCR performed 4 weeks post the 12 weeks NVP prophylaxis or 6 weeks breastfeeding test (DoH, 2015). It is during this period that most babies are identified as HIV-positive, if there was non-adherence to PMTCT interventions.

2.3.2 Risks that Contribute to MTCT to Babies of Ages 6 Weeks and 18 Months

2.3.2.1 Gender Inequalities

Women are the first to know their HIV-positive status when they visit the clinic for Reproductive Health Services or Antenatal Care Services. They experience the challenge of disclosing their HIV-positive status to their husbands and/or family members. Gender inequality has been reported as a barrier for women to disclose their HIV-positive status. Undisclosed HIV-positive status usually affects women in relation to adherence to PMTCT interventions. Gender inequalities in sexual relationships is associated with increased risk of HIV-infection as women do not control or have a say when it comes to sexual matters or even negotiate safe sex (Brittain & Stinson, 2014). If the woman is breastfeeding, this may increase the risk if MTCT to the baby. Gourlay *et al*. (2013) indicated that most women in Sub-Saharan Africa are unable to negotiate condom use because of gender inequality. Ninety two

percent (92%) of men initiate sex in a relationship and women feel powerless to refuse to have sex or to negotiate safe sex.

It was also reported that women avoid talking about safe sex with their partners because they feel embarrassed to start the conversation on these issues. Some even feel that their partners may accuse them of infidelity. Women were reported to fear negative reactions from their partners, including abandonment and violence (Gourlay *et al*., 2013; Kalembo *et al*., 2011). As a result, this may increase the risk of MTCT. Differentials in gender power dynamics affect the behaviour and ability of pregnant women or breastfeeding mothers who are living with HIV/AIDS to protect themselves, as well as to access treatment, whilst they expose their babies to be infected with HIV. Lack of support by family members during this period may expose the infected women not to adhere to PMTCT follow-up and even to ART (Bassel *et al*., 2008).

Women's decision about childbearing and childrearing and health are deeply influenced by the support of their partners, the community, social norms and beliefs regarding HIV/AIDS (UNAIDS, 2011). Gender norms may affect the various components of PMTCT services and utilization, delivery and efficacy. In Sub-Saharan Africa social and cultural norms grant men the power to decide the nature of sexual relationships, the decision to use condoms rested with the male partner (Ferquher, Desgree-du-lou *et al*., 2009). Men associate condom use with infidelity and consider it not appropriate for use within the context of a committed relationship (Falnes *et al*., 2011), whilst women refuse to ask their partners to use condoms in fear of their partners' reaction (Falnes *et al*., 2011). In most studies, gender inequalities have been reported as a barrier for family support of the sustainability of PMTCT interventions.

2.3.2.2 Non-Disclosure

Brittain & Stinson (2014) reported that efforts to reduce MTCT led to increasing numbers of women discovering that they are HIV-positive during pregnancy which may be particularly traumatic as there is little time to deal with the diagnosis while simultaneously preparing for the birth of the child. Women are likely to discover their HIV-positive status before their partners as a result of being routinely tested at Antenatal Care (ANC) services, but hiding their diagnoses lead to greater risk of MTCT if they are unable to adhere to their ART regimen correctly because they fear disclosure which always result in lack of family support to sustain implementation of PMTCT interventions. Despite this concern, a study that was conducted in Tshwane, Pretoria, found that 59% of female participants who were diagnosed during pregnancy had disclosed their HIV-positive status to their partners and the majority of 81% had disclosed it by three month postpartum. Fear of disclosure represents a major barrier to accessing family support (Brittain *et al*., 1014).

In order for the male partner and the family members to become involved in PMTCT with the women, they must first have been informed of their HIV status. Disclosure was reported as a prerequisite for male partners or family members to support the pregnant women and mothers of under-fives who are living with HIV. Non-disclosure maybe a significant barrier to family support (Makin, Forsyth, Visser, Sikkema, Neufeld & Jeffry, 2008). Non-disclosure by women who are living with HIV was also confirmed by a study conducted in Tanzania where only 41% of participants disclosed their HIV-positive status to their male partners (Makin *et al*., 2008).

In the study that was conducted in Nigeria, 91.3% of female participants have reported that they have disclose their HIV-positive status. In contrast, a study that was conducted in Tshwane South Africa found that only 59% of newly diagnosed HIV-positive pregnant women had disclosed their HIV-positive status to at least one person at the time of interview. Very few women reportedly disclosed in order to obtain support for PMTCT activities and the major reason put forward for non-

disclosure were fear or the mother is not yet ready to disclose (Roxby, Matemo & Drake, 2013). Fear of abandonment, rejection, losing the marriage and fear to be blamed were cited as a major causes of non-disclosure. Non-disclosure led to failure of adherence to ARVs and PMTCT interventions regimen, which is the main cause of MTCT during the breastfeeding period.

When women fail to disclose their status to family members, it prevents them from giving support and for her to receive the necessary support. There is fear of termination of a relationship, fear to be ostracized from their families and neighbors were reported to be the main causes of women's inability to utilized PMTCT programmes (Mapisi, 2006). It is assumed that fear due to non-disclosure contributes to lack of family support in PMTCT sustainability.

The study that was conducted by Iwelunmor, Ezeanoluwe, Airhihenbuwa, Obiefune, Ezeanoluwe & Ogedegbe (2014) indicated that pregnant women usually fail to adhere to ART due to perceptions of fear of being identified as HIV-positive, fuelled by stigma and discrimination, and other negative perceptions. Fear of rejection, stigmatization and violence prevent women from utilizing PMTCT programmes. Women feared partners' reactions to HIV testing; disclosure of results was a significant barrier to assessing PMTCT services.

Fear of how the partner and the family members will react, abandonment, lack of economic support, fear of stigmatization, rejection, discrimination, violence, upsetting the family members, avoiding accusation of infidelity predisposed women who are living with HIV not to receive support from the family members. The strongest predictor of willingness to accept an HIV test and to engage themselves in PMTCT programmes were reported to be encouraged by the women's perceptions that her husband would approve of her testing of HIV, and those who have their husbands' approval are six times more likely to be tested and to do routine PMTCT

(Bajunirwe & Muzoora, 2009).

Lack of family support increases the non-disclosure of HIV-positive results and also increasing barriers to assessing the PMTCT services (Bajunirwe & Muzoora, 2009). The above challenges have been reported as a barrier for the family's failure to support the women who are living with HIV. It was also reported that in a family where the women are having family support they are willing to accept an HIV test with the perception that their husbands will approve of the testing and they are 6 times more likeky to be tested and to do routine PMTCT and testing is more acceptable (Banjunirwe *et al*., 2009).

Studies that were conducted in various countries in Africa have found that the rate of women's disclosure of their HIV status to their partners is low. In the study that was done in Pretoria reported that only 48% of HIV-positive pregnant women with partners have disclosed their status to their partners and increased to 67% at 3 month postpartum. Disclosure to a male partner has been recognized as a factor that influence adherence to ARV and to MTCT (Britain *et al*. 2014)

Giving formula feeding while other women are breastfeeding discloses the mother's status and some of the mothers are still in denial. Formula feeding ads to the pain and frustration that the women already have. Grandmothers were also reported to have a concern if the mother decided not to breastfeed the baby (Reproductive Rights, 2009). Gourlay *et al*. (2013) indicated that disclosure of HIV status and fear of disclosure to partner or family member (particularly grandmothers and mothers-in-law) were reported to be a major barrier to family support to sustainable PMTCT interventions. They also reported that women fear to disclose their HIV status as they fear to be blamed for potentially dying and leaving an orphan baby.

Fear of disclosure was reported to be contributory factor (especially to married

women or those who are living with male partners) to use prophylaxis or access to ART. Fear of disclosure was reported to prevent HIV-positive women from attending HIV clinic and initiating treatment, or from seeking the administering of infant prophylaxis. The same study also reported that pregnant women who did not disclose their HIV status were not likely to take their medication, putting their babies at risk of contracting HIV/AIDS (Gourlay, 2013).

2.3.2.3 Non-Disclosure During Post-Partum Period

MTCT is a largely preventable infection, but only if effective strategies are applied, the rate of MTCT transmission can be lowered (UNAIDS, 2009). MTCT is the main mode of vertical transmission, without intervention, 25-35% mothers will transmit the HIV to their infant six months post-delivery (Woldenet, Goga & Jackson, 2012). Non-disclosure may result in non-adherence to ARVs. It also brings the possibility of children living away from the mother's household and end up staying with other relatives who do not know the status of the child or the child is brought to the clinic by the grandmother who does not know the child's HIV status. The adherence to PMTCT regimen may be impossible and would increase the risk of MTCT. The study conducted by Leeper *et al*. (2013) indicated that 33% of adults do not know their children's HIV status.

In the same study, it was reported that family members who are on ARVs have been reported to adhere to their own treatment and their children's and they are more likely to attend scheduled visits. However, those family members who are not supporting each other or the mother did not disclose her HIV status, usually their children are lost for follow-up. Children whose family members were participating in PMTCT programmes were reported to thrive well whilst those whose parents did not participate the death rate was reported to be high (Leeper *et al*., 2013).

In Uganda, less than 1% of HIV-exposed infants in the programmes died before testing and infants who had greater risk of infection were those whose mothers did not participate in PMTCT programmes resulting in paediatric death at the onset of Highly Active Antiretroviral Treatment/Therapy (HAART). Most deaths occurred within 6 months of treatment, but where family members were receiving treatment at the same site, they were well-positioned to serve as allies in the care of the high-risk child (Abraham *et al*., 2005). Betancourt *et al*. (2010) indicated that during postpartum, if the mother of an under-five had failed to disclose her HIV status even

if she had access to PMTCT regimen in timely manner, she may not have the capacity to effectively adhere to regimen, particularly if she is afraid to disclose her HIV status due to fear of stigma, domestic violence or if there is lack of appropriate social and family support. The same study also reported that mothers who have not disclosed their HIV status to the male partner and other family members may have difficulty pursuing an alternative to breastfeeding (Betancourt *et al*., 2010). Another study indicated that disclosure is still a barrier to family support in PMTCT sustainability as some infants are brought to the clinic by a caregiver or by a granny who does not know anything about the HIV status of the baby or the mother (Kalembo *et al*., 2011)

2.3.2.4 Infant Feeding During the First Six Months

Infant feeding has been identified as a major problem in African countries. Mothers-in law or the grannies play a major role in influencing feeding options of the baby in a family. Customarily, babies are given traditional herbal solutions as a way of protecting them from illness. Forceful feeding is also an acceptable way of feeding the baby, and the babies are given soft porridge immediately after the baby has been discharged from the health care facilities. These practices expose the babies to mixed feeding which predisposes them to MTCT during the first 6 months of life. It is very much important for health care workers to involve grannies in infant feeding counselling with the aim of ensuring PMTCT intervention sustainability.

According to the *Mother, Child Health and Nutrition* booklet (DoH, 2014), the baby should be breastfed for six months without giving the baby anything else. This means exclusive breastfeeding, where the baby is not given any other foods or liquids such as water, animal milk, tea, baby formula milk or porridge. Mothers are also advised not to use baby feeding bottles or dummies to feed the baby and only to give medicines prescribed by a doctor or Nevirapine syrup. Exclusive breastfeeding reduces the risk of HIV transmission compared to mixed feeding

(mixed feeding means breastfeeding and also giving other milk or foods).

In the study that was done by Coovadia *et al*. (2007) comparing of exclusive formula feeding (EFF) or exclusive breastfeeding (EBF), “mixed feeding,” the practice of giving breast milk and any other liquid or food simultaneously, confers the highest risk of morbidity and mortality. Not only are infants deprived of the benefits of full breastfeeding, mixed feeding can increase HIV transmission up to two-fold over the approximate 20% risk of HIV acquisition during EBF (Iliff *et al*., 2005). Antigens in non-breast milk are thought to cause inflammation in the infant gut, making it more vulnerable to HIV infection (Smith & Kuhn, 2000).

Mothers must ensure that nipples are not cracked or bleeding by breastfeeding properly (good attachment). The mother of the baby must be on ARVs whilst the baby is being breastfed (DoH, 2014). The health care worker will give the mother ARV medicine for the baby to be given every day for six weeks as the ARV medication reduces the chances of the baby getting HIV. If the mother is on lifelong ARVs, the baby may stop ARVs after 6 weeks and continue with breastfeeding until the baby is twelve-months old.

If the mother is not on lifelong ARVs, the mother should give the baby ARVs until the mother stops breastfeeding for one week after the baby stop breastfeeding. If the baby is HIV-positive it is best to breastfeed exclusively for six months, start complementary feeds and continue breastfeeding for two years or longer. The baby should start on lifelong treatment (ART). It is also indicated that to prevent MTCT the mother who is breastfeeding must ensure to use condoms during sexual intercourse to prevent any new infection (DoH, 2014).

Family members influence how infants are fed. Where possible or acceptable, feeding counselling should include family members/home supporters to help women

implement their feeding choices. The South Africa National PMTCT programmes has adopted an approach to infant feeding that seeks to maximize child survival by: Infant feeding counselling to the pregnant women/mother, including her individual ability to meet the Acceptable, Feasible, Affordable, Sustainable and Safe (AFASS) criteria (DoH, 2008):

- **Acceptable:** The mother perceives no barrier to choosing and executing feeding choices for cultural, or social reasons, or for fear of stigma and discrimination.

- **Feasible:** The mother (the family) has adequate time, skills, knowledge, or other resources to prepare and feed the infant, and the support to cope with family, community and social pressures.

- **Affordable:** The mother and the family, with available community and/or health systems support, can pay for the purchase/production, preparation and use of the feeding option, including all ingredients, fuel, clean water and equipment's, without compromising the health and nutrition spending of the family.

- **Sustainable:** Availability of continuous and uninterrupted supply and dependable system distribution for all ingredients and commodities needed to safely implement the feeding option, for as long as the infant needs it.

- **Safe:** Formula milk will be correctly and hygienically prepared using clean hands, using clean, safe water and clean utensils. Nutritionally adequate quantities of formula milk would be regularly available. Clean water and fuel will be regularly available. Formula milk will be fed using clean hands and utensils, preferably with cups rather than bottles (DoH, 2008).

The family-centred care is important to achieve AFASS and to sustain the PMTCT interventions.

2.3.3 Perceptions of Family Members Regarding Family Support in Implementing PMTCT Interventions

2.3.3.1 Socio-Economical Support

One of the reported barriers that hinders family support to sustain PMTCT intervention is socio-economic difficulties. Male partners are the providers for financial support. However, they do not have time to attend ANC with their partners. The study by Dutkie (2010) indicated that for a male partner to spend time at the facilities, waiting for their partner to be examined means they would do that at the expense of a day's income. Another study reported that charging user's fee in Uganda also prevents male partners from participating in PMTCT programmes as a family (Kalembo at al 2011).

Kalembo *et al*. (2011) further pointed out that men who are educated and financially stable do not have a problem in supporting and accompanying their partners to attend ANC. Transport is also reported to be one of the barriers for family members to participate in PMTCT programmes as most of them are unemployed and they are depending on a pension fund. Long distances and frequency of collecting prophylactics, particularly in rural areas, were reported as barriers for the family to participate in PMTCT interventions, resulting in family members, especially male partners, failing to support the mother (Dutkie, 2010).

Kalembo *et al*. (2011) indicated that in South Africa and Uganda, there is a problem of travelling long distance to the clinic or hospitals, with poor roads and under-developed transport systems. The cost of getting to the hospital is high, thus creating a challenge for men and all family members to participate or accompany the mother for PMTCT counselling (since most of them have few resources to travel and live a long distance from the clinic or hospital). The same study suggested provision of transport to testing sites and provision of testing to non-governmental organizations and provision of home-based testing and provision of ART in order to

enhance family support (Kalembo *et al*., 2011).

2.3.3.2 Male Partner Involvement

Kalembo *et al*. (2011) indicated that men are decision-makers in African families, and they are the ones who make important decisions that have a big impact on the health of women. Their involvement in PMTCT programmes has increased the PMTCT uptake, thus reducing HIV infection in children. However, the programme is facing a lot of challenges as there is limited male involvement. Without working with men, changes will be very difficult. Risk behaviour changes among couples where both partners have disclosed their HIV status, but due to lack of partner involvement, disclosure is still a challenge. It was also reported that one major factor that increases the willingness that prevent some women to accept HIV testing is the need to seek their partner's consent or accent (Kalembo *et al*., 2011).

The study that was conducted in Uganda found that husbands' consent for HIV testing increases their own or their wives' willingness to disclose the status. It was also indicated that women's utilization of PMTCT is influenced by participation of a male partner. In Sub-Saharan Africas, women's economic vulnerability and dependence on their husbands, coupled with traditional male superiority over a women increase their vulnerability to HIV by controlling their ability to negotiate the use of condoms. Usually, women fear to be suspected or accused of infidelity—traditionally it is a disgrace for a married woman to be involved in extra-marital affairs.

Dutkie (2010) reported that multiple sexual partner's results of one individual is a proxy indicator of the HIV-positive status of another sexual partner. Multiple concurrent sexual partners has been identified as one of the drivers fueling the HIV epidemic and hindrance of family-support to PMTCT. Men were reported to be likely to have more than 8 sexual partners in their lifetime. The number of sex partners

increased with increasing wealth quantities. Another barrier that was reported was that men who have multiple sexual partners do not want to be seen accompanying their women who are pregnant because they do not want to be seen by their concubines. Extramarital relationships or multiple sexual partners were cited as the barrier for male partners to be involved in family support in PMTCT sustainability. Non-use of condoms by infected women while breastfeeding is one of the identified causes of MTCT (Dutkie, 2010). Nyondo (2013) indicated that lack of male involvement in the PMTCT programmes contributes to women dropping out of PMTCT programmes. Male participation in PMTCT improves the sustainability and promotes a positive attitude towards the PMTCT services.

Male involvement in PMTCT is considered crucial in family settings where men are the main decision-makers as is the case in most African countries. The husband who is the head of the household greatly influences the women's ability to seek health care or to implement health practices and interventions. The same authors reported that male partners have a role in women's risk of acquiring HIV and also in her uptake of HIV testing and MTCT prevention programmes. The success of PMTCT of HIV thus depends on cooperation between parties as a male partner has a strong influence on PMTCT sustainability (Nyondo, 2013).

Dutki (2010), in her study, reported that male involvement is an important recommendation in the implementation of the PMTCT programmes. However, a lack of clear and direct benefits for men, women focus-health facilities and services and multiple sexual partners and presence of traditional healers influence men's perceptions about participation in ANC-based PMTCT programmes. She also indicated that men's health status behaviour affect women's reproductive health.

Involving men increases their awareness, acceptance and support of the partner's needs, choices and rights. In terms of HIV prevention all methods, except for female

condom use, are male controlled, therefore, it is necessary to involve men to provide a positive climate to address emerging issues in sexual and reproductive health, empowering men regarding reproductive health helps them to be more sensitive to women's needs and therefore supportive in participating in PMTCT sustainability, thus reducing MTCT. The study recommended paying attention to men's health and their well-being as a way to increase male involvement in PMTCT sustainability (Reproductive Rights, 2005).

In the study conducted by Kalembo *et al*. (2011) it was reported that in Sub-Saharan Africa support and care are seen as women's work. Social and religious norms prohibit male to attend female health services and widespread attitude that female reproductive health is not the male's responsibility. ANC were perceived by many fathers as outside their responsibilities. Men were also reported as decision-makers and have power over their wives' actions and this result in men resisting women's efforts to influence them to be involved in PMTCT sustainability.

Another barrier that was recognized was community perceptions that men who participate in ANC are seen as jealous men or men who are being controlled by their wives (Kalembo *et al*. 2011). The same study reported that antenatal services are traditionally and programmatically a women's domain, hindering family support in PMTCT sustainability. Men were also reported to have said that they do not want to be seen walking with their partner as the community perceived that such men to be under their wives control (Dutki, 2010).

Kalembo *et al*. (2012) suggested that the health facilities may utilize weekends in order to make the clinic more male or couple friendly, or introducing specific clinics for couples who are expecting a baby as an effective way of enhancing family-centred support in PMTCT sustainability. In the same study, it was also reported that health care workers can also make male partners not to visit the clinic, but follow

them at shebeen, bars, and church and encourage husbands of pregnant women to accompany their pregnant women to attend ANC. It was also reported that services should be brought closer to the people for easy access, and that male participation can be increased in a non-health service setting, e.g., shebeen bars, car wash areas or in churches (Kalembo *et al*., 2012). In all if not most of the previous studies, male partner involvement was reported to be the best method to increase sustainable PMTCT interventions which is the best method to reduce MTCT to under-five children. The majority of parents who register themselves in PMTCT programmer are mothers. Leeper *et al*. (2010) reported that in London, United Kingdom, before the family support programmes started, there was inadequate use of the services where only 18% of fathers attended the clinic to give support, but in five years description of the programmes only 17% chose to remain untested (Leeper *et al*. (2010).

In Malawi, the rate of male involvement remains low with a report of 23% of antenatal women being accompanied by their male partners. It was also reported that male participation in PMTCT increases disclosure, and when the mothers are supported it increases adherence to ART, and reduces MTCT (Nyonde, 2013). However, Betancourt *et al*. (2010) indicated that partner participation was associated with positive outcome, such as greater use of ART and higher acceptance of post-test counselling, as well as increased spousal communication about HIV and sexual risk. She also reported that when couples receive post-test counselling together there is a greater acceptance of HIV results and greater use of alternative infant feeding (Betancourt *et al*., 2010).

2.3.3.3 Influence of Grandmothers and Mothers In-Law to Sustain Implementation of PMTCT

Benancort *et al*. (2010) indicated that pregnant women and mothers of under-five who are living with HIV are afraid to disclose to the partner and other family

members, particularly grandmothers and mothers-in-law, they are afraid of being blamed for bringing the disease into the family and for bearing a diseased baby and to be discriminated against. In cases where the mother is working or attending school, grandmothers and mothers-in-law take care of the baby, feeding and taking the baby to the clinic with no information of the baby's HIV status or medications to be given to the baby. If the mother fails to disclose the HIV status, it was reported that it was more likely for the mother and the baby to take medication for her own health or to give baby's medication to the grandmother or mother-in-law. Without disclosure of the HIV-positive status, grannies and mothers-in-law fail to sustain the PMTCT interventions (Benancort *et al*., 2010). These findings were also confirmed by Growly *et al*. (2013) who indicated that non-disclosure is the number one contributory factor of non-adherence to ARVs. Moreover, Kalembo *et al*. (2011) indicated that affected children are usually brought to the clinic by grannies who do not know the HIV status of the baby. The above information shows that it will be difficult for the government to eradicate transmission of HIV from mother-to-child unless the health care workers involve the whole family to achieve implementation of PMTCT interventions. Lack of support for PMTCT sustainability is due to lack of information (Benancourt *et al*., 2010; Kalembo *et al*., 2011).

General sceptics towards facilities or modern medicine among community or family members, and strong roles of elders and their beliefs influence decision to use traditional healers and medicines alongside in place of ARVs. Cultural ways of feeding such as giving water in the morning or traditional medication in the place nutritional food or mixed feeding exposes the baby to MTCT (Gourlay *et al*., 2013).

Whilst Brittain *et al*. (2014) indicated that grannies and community members have a great influence on the choice of feeding the children where sometimes mothers are forced to breastfeed the baby under the pressure of what is expected of her from the society. The issue of expressing breast milk and store the milk in the refrigerator is

also not yet acceptable by the society due to the fact that breastmilk is assumed to be like waste product (e.g., feces or urine) (Brittain *et al*., 2014). The influence of grannies is also identified as a barrier for family support to sustain the implementation of PMTCT strategies.

2.3.4 Factors that Affect the Provision of Family Support in PMTCT Interventions as Perceived by Health Professionals

2.3.4.1 Constrained Resources

Gourlay *et al*. (2013) reported that health care workers are reported to be failing to influence the family to support the mothers of under-fives. They are reported to be overwhelmed by high patient volume, contributing to long waiting time. They give brief or poor counselling sessions (especially when the counsellor has to counsel the whole family) top-up by integration of services. As a consequence, they usually turned the family back as they view the family as an additional burden (Gourlay *et al*., 2013; Kalembo *et al*., 2013). The shortage of health care workers and increased number of pregnant women attending ANC demotivate men from attending ANC with their spouses because they have to wait for a long time before they are attended to (Kalembo *et al*., 2013).

UNICEF also reported that the ongoing shortage of health care workers in rural areas, fueled by additional programmes, increases the negativity of health care workers towards family-centred care (UNICEF, 2006). Gourlay *et al*. (2013) further reported that there is a shortage of cadre of health care workers. Since the PMTCT programme was launched, guidelines keep on changing and without mentors, nurses working in this programme end up confused, stressed by workload without recognition, hence they fail to include the family to support PMTCT programme (Gourlay *et al*., 2013).

Health care workers are overwhelmed with the high patient volume, contributing to

long waiting times, brief or poor counselling sessions. A high patient volume was cited as a barrier for the family to be involved in PMTCT programme. This observation was also confirmed by other studies that high workload, high turnover of staff without replacement and high loss of follow-up and poor coverage of PMTCT were reported as a major reasons for failure to implement a family-centred approach in PMTCT programmes (Gourlay *et al*., 2013).

The shortage of staff fueled by poor welfare of the health care providers is the demotivating factor for them. The family-centred approach is underused resulting in failure to curb MTCT. On the recommendations by Kalembo *et al*. (2007), it was suggested that the government should improve welfare of the health care workers so that they will be motivated to carry out their duties wholeheartedly. More staff should be recruited to reduce waiting times for ANC attendance as it is one of the barriers for males to accompany their wives to the ANC clinic. Kalembo *et al*. (2007) indicated that the government should also hire more male nurses as it was reported that male nurses are the best candidate to influence male partners to be involved in PMTCT programmes and to encourage men to accompany their wives to ANC clinic (Kalembo *et al*., 2007).

At the PHC level, the operational manager has a lot of responsibilities, with so many programmes to run, as a result they are overworked and other staff members tend to shift responsibilities with high absenteeism, hence the poor implementation of family-centred care. Lack of ownership of the programmes and shifting of tasks were reported as barriers for family support in PMTCT sustainability (Gourlay *et al*., 2013; Tomlinson, 2010).

Dutki (2010) reported that infrastructure is also a barrier for a family to be involved in counselling to enhance sustainability of PMTCT interventions. The clinic structure cannot accommodate the whole family in a cubicle, and there is no privacy as most

of the clinic structures are designed with no area where the male partner may feel comfortable and respected. Kalembo *et al*. (2011) concurred that there is lack of adequate space at the ANC facilities. In the same study, it was also reported that lack of integration of ART clinic and ANC which is usually in a separate building discourage families to engage themselves in PMTCT programmes (Kalembo *et al*., 2011; Dutki, 2010).

Shortage of supplies was cited as a barrier. Kalembo *et al*. (2012) reported that there is poor procurement and supply management. Lack of time by male partners (since most of them are working to support the family), fueled by the shortage of medication, discourage males from accompanying their pregnant women to attend ANC. For example, in 2013 it was announced that by the first of April 2014, ARV will be given to all pregnant woman who tested HIV-positive, irrespective of CD4 cell counts, and blood results, but on that date, ARVs were not yet supplied to the PHC clinic causing problems between heath care users and heath care workers (DoH, 2013).

The Swaziland DoH guidelines reported that to improve family-centred approaches there must be integration of stock supply with supplementary feeds to women who opted for non-breast-feeding for their infants which discourages the family to support PMTCT interventions (Swaziland DoH, 2009). Implementation of routine infant testing at 6 weeks needs a well-functioning stock supply and well-established procurement for PCR kits. Women with family support seem to be more likely to attend their scheduled medical visits compared to those who do not have family support. Most affected children without participating parents in PMTCT are found to be rated high when it comes to death rates (Leeper *et al*., 2010).

2.3.4.2 Health Care Workers' Attitudes

Staff-client interaction is a contributory factor of low family support in sustainable

PMTCT interventions. Clients experience negative staff attitudes at the facilities, limiting the opportunities to receive prophylactics or ARVs. Women were reported to fear scolding by the nurses for home delivery as a result, they fail to bring the baby for Nevirapine prophylaxis. Health care workers were also reported to breach confidentiality by sharing patients' HIV-positive status with their friends or relatives. Hostile attitudes of heath care workers have been reported as a barrier to family support in PMTCT sustainability (Gourlay *et al*., 2013). Mistreatment of the spouses of pregnant women by health care workers made them feel uncomfortable and embarrassed. In the same study, it was also reported that health care workers exclude the male partners from the session where their wives were examined and they have to wait outside without any information of what is happening to their pregnant wives (Kalembo *et al*., 2011).

Staff at heath care facilities still consider partner testing as a new and an additional burden. Additionally, there is persistently low community awareness and acceptance of the importance of partner testing arising from the misconception that PMTCT is meant for females only due to failure of nurses to educate the community. Hence, there is lack of family support for PMTCT sustainability (Ethiopia National PMTCT Guideline, 2012).

Brittain & Stinson (2014) identified the possible negative impact of health care workers as a potential reason for males failing to support their wives. They reported that a study that was conducted in Uganda and in Khayelitsha, Cape Town, found that men who accompanied their partners to ANC clinic were forced to wait outside.

In Tanzania, it was reported that many men have been turned away by staff when they attempted to attend ANC clinic with their partners. It was also reported that in Zambia midwives were trained in encouraging males to support their partners, but the environment was not conducive for male participation. The health care providers'

attitudes and services which are not male friendly have also been reported as barriers for males to support their partners in PMTCT sustainability (Brittain *et al*., 2014).

In South Africa, couple counselling was introduced with the aim of involving male partners to support their wives in PMTCT uptake programmes; however, male partner involvement remain slow. Brittain *et al*. (2014) reported that lack of male partner and family involvement contributes to low support and sustainability of PMTCT interventions.

2.3.4.3 Lack of Staff Training

Kalembo *et al*. (2011) indicated that to improve the family-centred approach in PMTCT intervention sustainability, refresher courses to update nurses working in PMTCT programmes should be conducted on a regular basis, so that they can make PMTCT services more male-friendly for men to support their partners. Dutkie (2010) indicated that there is lack of accurate knowledge by health care workers concerning the family-centred approach to PMTCT programmes. Hence, there is lack of family support for pregnant women and mothers of under-fives who are living with HIV. In the same study, it was also reported that there is a huge shortage of trained staff. It was further noted that lack of training of health care workers contributed to lack of family support to implement the sustainable PMTCT interventions.

Kalembo *et al*. (2011) reported lack of revision material policy to reflect global guidelines on PMTCT and paediatric treatment and care. Policies are always not disseminated well. Health care workers at the workplace are almost always not aware of changes or existing guidelines. Another study reported that there is lack of standardized operational guidelines to support the implementation of comprehensive PMTCT and to involve family with a weak health system (Dutkie, 2010).

2.3.4.4 Continuity of Care

The study conducted by Kalembo *et al*. (2007) found that there is no measure in place to do follow-up on infants referred for ART with no appointment dates set for follow-up or subsequent visit. There is no policy for unexposed infants to undergo PCR testing. Some infants are brought to the clinic by grandmothers who do not know anything about their HIV-positive status of the mother or the caregiver who also does not have a clue of what is happening. Dutki (2010) also reported that there is a weak linkage and poor referral system from the community to the facilities, making it difficult for the family to participate in PMTCT sustainability. In the same study it was reported that lack of referral links or a tracing system contribute to low PMTCT sustainability and utilizing of ARVs by the family (Kalembo *et al*., 2007; Dutki, 2010).

2.4 Conclusion

The aim of the study was to develop intervention strategies to enhance family support in PMTCT interventions in Limpopo Province, South Africa. The background context of the research study was introduced. Current protocols and guidelines for the management of HIV-exposed infants from 0 to 6 months and risks that contribute to MTCT to babies of ages 6 Weeks and 18 months were outlined. These included gender inequalities, non-disclosure of an HIV-positive status and infant feeding options that predispose babies to MTCT. Important to consider also were the perceptions of family members regarding family support in implementing sustainable PMTCT intervention. These factors embodied socio-economic support, male partner invlovement, and influences of grandmothers and mothers in-law to sustain implementation of PMTCT. Factors that affect the provision of family support in PMTCT interventions as perceived by health professionals were presented, including constrained resources, health care workers' attitudes, lack of staff training and continuity of care. The next chapter will give an overview of the research

methodology used in this study.

CHAPTER 3

Research Methodology

3.1 Introduction

This chapter is a description of the research design, research setting, methods of data collection and data analysis that were used in Phase 1 of this study. Both qualitative and quantitative research methods are discussed. The qualitative design was used in Phase 1A to collect data from mothers of babies between 6 weeks to 18 months, grandmothers and male partners. The quantitative design was implemented in Phase 1B where data were collected from heath care personnel. The chapter will also include discussion of measures to ensure trustworthiness, ethical considerations, strategy development and validation of the developed strategy. In this study, triangulation of the research methods and data collection methods was used because data were collected through interviews and the use of a questionnaire.

3.2 Research Design

In this study, mixed methods that combine qualitative and quantitative research methods was used. Mixed methods are defined as the class of research where the researcher applies both qualitative and quantitative approaches, techniques methods, concepts and language into a single study (Bitmap, Grey, Mulaudzi & Wright, 2010). Klopper & Creswell (2012) indicated that the mixed methods research design is a procedure of collecting, analyzing and mixing both qualitative and quantitative research methods in a single study in order to understand a research problem. Mixed methods are used when qualitative and quantitative collectively

provide an improved understanding of the research problem than it could be the case individually.

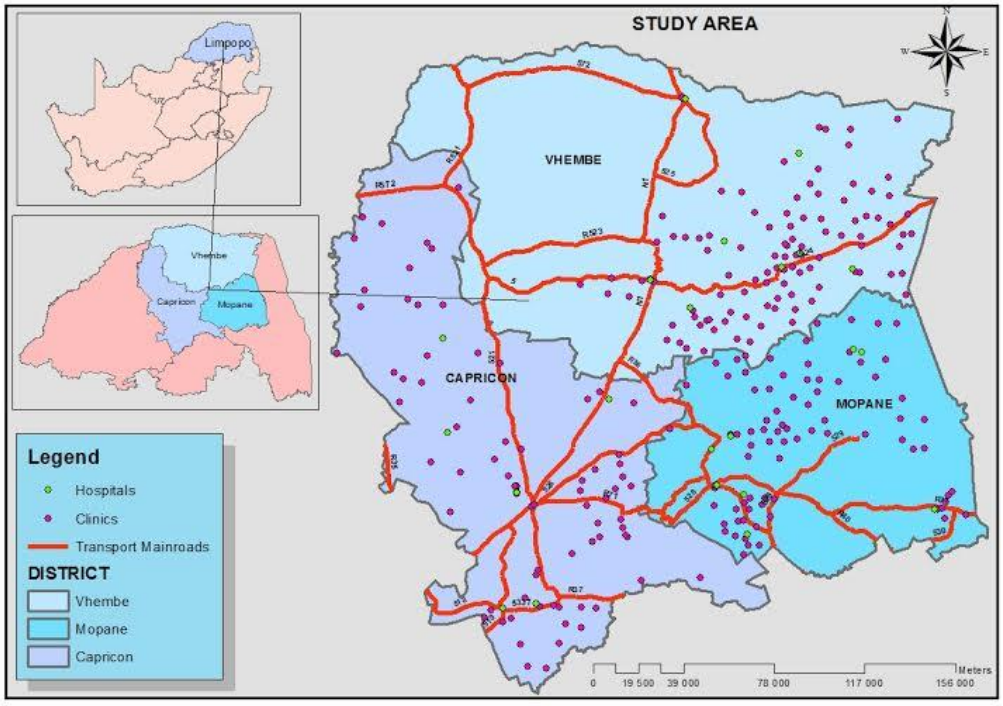
When one approach to research (qualitative or quantitative) does not adequately address the research problem or answer the research question, then mixed methods can be used. It is also used to incorporate a qualitative component into quantitative study. It moves from one phase of study to another. The researcher's point of departure was an exploratory sequential design where the qualitative data were first collected and analyzed followed by quantitative data collection and analysis and, thereafter, the interpretation of results. The analyzed qualitative and quantitative data results were used to construct the subsequent quantitative phase.

The study was conducted in two phases: In Phase 1A, the researcher designed and implemented a qualitative strand that included collecting and analyzing data from mothers, partners and grandmothers/mothers-in-law; In Phase 1B, the researcher conducted a quantitative design by collecting data from the health professionals using The Logic model (inputs, outputs, activities, processes and systems) to determine factors that affect the provision of PMTCT interventions; In Phase 2, the researcher developed a strategy and validated the developed strategy.

3.3 Research Setting

Research setting refers to the specific place or places where the data are collected, or physical location and condition in which data collection takes place in a study (Brink, van der Walt & van Rensburg, 2013). The Limpopo Province is situated in the Northeastern corner of South Africa and shares borders with Botswana, Zimbabwe and Mozambique. The province is considered poor as most of the people are unemployed (Baron, Day & Monticello, 2007). The province is divided into five districts: Mopani, Sekhukhune, Capricorn, Waterberg and Vhembe. According to the census of 2011, the province has an estimated population of 5,693,564. Mopani,

Vhembe and Greater Sekhukhune are the most rural communities (Figure 3.1). The study will be conducted in selected Health Care Centres and Primary Health Facilities in Capricorn, Mopani and Vhembe districts. The researcher, informed by high rate of MTCT amongst children aged 6 weeks and 18 months, and amongst the related Non-Governmental Organizations (Tshitamboni Men's Forum), purposely selected Vhembe district, of Limpopo Province in South Africa. These districts will be selected for their ethnic differentials. Vhembe (Venda), Mopani (Tsonga) and Capricorn (SePedi).



Source: Department of Environmental Affairs

Figure 3.1: Limpopo Province districts, hospitals and clinics

3.4 Research Method

Table 3.1 summarizes the research approach used in this study.

3.4.1 Phase 1A: Qualitative Design

A qualitative exploratory descriptive and contextual research design was used for objectives 1 and 2 which are:

- To explore the risks that contributes to MTCT between the age of 6 weeks and 18 months.
- To determine the perceptions of the family members regarding support provided to sustain PMTCT interventions.

Table 3.1: Summary of the research approach

Phases	Objective	Research design	Population	Sampling approach	Data collection	Data analysis
1	1	Qualitative	All mothers of under 5s living with HIV at selected facilities Family members: grannies/mothers-in-law who visited the selected facility	Non-probability Purposive sampling	In-depth semi-structured interview	Open coding method
	2		All male partners who are member Tshitamboni men's forum		Semi-structured through Focus Group Discussion (FGD)	
	3	Quantitative	All heath care professionals who are rendering PMTCT programmes at selected facilities	Probability simple random, Fish-bowl technique	Questionnaires	Descriptive statistic SPSS 22.0
2	4	SWOT analysis approach	Data from health professionals, mothers of under 5's and family members			SWOT analysis matrix
	5	Quantitative	Stakeholders who are involved with PMTCT Limpopo Province	Probability sampling Simple random sampling	Checklist-from the developed strategy	SPSS 22.0

According to Barker *et al*. (2005), qualitative research approaches use language as their raw material in order to examine participants' thoughts, feelings, behaviour or linguistic strategies. In this design, the researcher was committed to discovery

through the use of multiple ways of understanding. A qualitative design was chosen because it is flexible, adaptable and capable of being learned during the course of data collection (Stommer & Wills, 2004).

De Vos *et al*. (2011) defines the qualitative design method as strategies of inquiry, or tools that can be used in research. The qualitative researcher is more concerned with understanding than explanation (Brink, 2011). In qualitative design, researchers make decisions in planning the study and developing their own strategies or tools as an aid or guideline (de Vos *et al*., 2011). A qualitative design will be more appropriate and effective for this research study as the researcher will be exploring the risks that contribute to MTCT during the ages of 6 weeks and 18 months, and to determine the perceptions of the family members regarding support provided to sustain PMTCT interventions. Qualitative designs focus on the qualitative aspects of meaning, experience and understanding and thus analyze human experiences from the viewpoint of the research participants in the context in which the action takes place (Brink, 2011).

In a qualitative design, the researcher will use measurement and focus on interpretative, non-numerical narrative interpretation (Polit & Beck, 2006). The researcher is interested in this design because the goal is to understand behaviour or actions within their naturally occurring context of the PMTCT programmes. Exploratory and descriptive research design will be used.

3.4.2 Exploratory Design

De Vos *et al*. (2011) indicated that an exploratory design is normally done when the researcher encounters an issue that is already known and has a description to it, but is prompted to ask why things are the way they are. It is also referred to as a casual question. Therefore, such a study builds an exploratory and descriptive research, but goes on to identify the reason why something occurred. An exploratory design seeks

to develop initial understanding of phenomena and attempts to test predictions and hypotheses in order to identify causes of events and the factors or mechanisms that produce them (de Vos *et al*., 2011). This method is often used when the problem is unclear or the subject is new to the researcher. In an exploratory design, the researcher used the initial qualitative phase designed to shed light on various ways in which a phenomenon is manifested and is an underlying process (Polit & Beck, 2008).

3.4.3 Descriptive Design

According to Polit & Beck (2008), the main objective of a descriptive design is the accurate portrayal of the characteristics of persons, situations, or groups, and the frequency with which certain phenomena occur. Descriptive designs present a picture of the specific details of a situation and focus on how or why questions. In this study, the researcher describes the risks that contribute to MTCT between the ages of 6 weeks and 18 months and determines the perceptions of the family members regarding support provided to sustain PMTCT interventions. The study was conducted in a natural setting where human behaviour and events occur, in PMTCT programmes. The focus of qualitative research were on participants' perceptions and experiences (Creswell 2009; Burns & Grove 2011; Hansen, 2006; Polit & Beck, 2009).

3.4.4 Population

Population refers to the entire aggregation of individuals having some common characteristics that the researcher is interested in studying (Polit & Beck 2008).

In this study, the population were composed of three groups:

- **The first group** were comprised of all mothers of under-fives who were HIV-positive and attending Child Health Care Services in the selected

health facilities in Vhembe, Mopani, and Capricorn districts of Limpopo Province, South Africa.

- **The second group** involved all the male partners who are married, the female partner may or may not be HIV-positive. The male partner should be a member of the Tshitamboni mens forum in Vhembe district as it was purposely selected.

- **The third group** included all grandmothers or mothers-in-law who were bringing their grandchildren to the facility for consultation at well-baby clinic. The child may/or may not be HIV-exposed or -positive.

3.4.5 Sampling

Sampling refers to the process of selecting a portion of the population to represent the entire population (Polit & Beck 2008). According to Burns & Grove (2005), sampling refers to the process of selecting subjects, events, behaviour or elements for participation in a study.

3.4.5.1 Sampling of Health Facilities

Non-probability purposive sampling was used to sample the health facilities; health centres and surrounding clinics in the Vhembe, Mopani, and Capricorn districts. Purposive sampling method means that the researcher select participants that can inform the researcher a great deal about the purpose of the study (Burns & Grove 2009). The researcher was informed by the high statistical MTCT rate amongst babies of 6 weeks and 18 months. Out of 20 Health Centres and 299 PHC clinics in Vhembe, Capricorn and Mopani districts, only 6 Health Centres and 21 PHC clinics were sampled for data collection. Purposive sampling of the *Tshitamboni Men's Forum* was purposively selected in Vhembe district.

3.4.5.2 Sampling of Participants

Purposive sampling method was used in this study to select the participants. According to Polit & Beck (2008), purposive sampling or judgmental sampling is based on the belief that the researcher's knowledge about the population was used to handpick sample members. In this study, non-probability method was used and the researcher used purposive sampling. The researcher used her own judgement to select subjects that represent the phenomena being studied or who are knowledgeable about the question at issue. Purposive and convenience sampling methods was used to select participants who were mothers of under-fives who are HIV-positive, grandmothers and mothers-in-law caring for grandchildren between the ages of 6 weeks and 18 months, and married male partners who were members of the *Tshitamboni Men's Forum*.

3.4.5.3 Inclusion Criteria

According to Neuman (2011), inclusion or exclusion criteria are parameters in which the study is limiting or excluding participants according to set characteristics. In this study, the researcher interviewed participants as presented in Table 3.2, which summarizes the inclusion criteria of the identified groups. Immigrants or foreigners were excluded from the study as follow-up interviews would deemed difficult in case they leave the country.

Table 3.2: Inclusion criteria of the identified groups

Mothers of under-5-year-olds who are HIV-positive	Grandmothers/mothers-in-law	Male partners
Tested HIV-positive Having a baby who is between 6 weeks and 18 months Practicing infant feeding of her choice To be 21 years and above Agree to participate in the study	Caring for the grandchild of age between 6 weeks and 18 months Visit the health facility for the consultation or well-baby clinic Agree to participate in the study	Married A registered member of Tshitamboni men's forum Agree to participate in the study

3.4.5.4 Sample Size

Sample refers to a subset of a population, selected by researchers to participate in a research study (Polit & Beck, 2008). According to de Vos (2005), a sample comprises elements of the population considered for actual inclusion in the study. In qualitative research, when purposive sampling is used, the researcher does not know in advance how many participants will be needed. However, data was collected until data saturation was reached (Brink, 2011). Data saturation occurred when no new information is obtained from the participants (Brink, 2011). When visiting the district, the researcher ensured that all the groups are identified for data collection. The numbers were as follows; 28 mothers of babies between 6 weeks and 18 moths who were HIV-positive (10 from Vhembe, 9 Mopani and 8 Capricorn Districts. 15 grannies/mothers-in-laws (5 from each district) and one FGD from Vhembe district that consist of 10 members in a group and data was collected from different groups until data is saturated. 30 members were interviewed.

3.4.6 Data Collection

Data collection refers to the systematic gathering of information relevant to the research purpose or specific objective, question or hypothesis of the study (Burns & Grove, 2009). The data gathering method for qualitative design will be in-depth-individual interview for mothers and grandmothers/mothers-in-law. The following objectives were covered:

- To explore the risks that contributes to MTCT between the age of 6 weeks and 18 months, and
- To determine the perceptions of the family members regarding support provided to sustain PMTCT interventions.

This was done on a one-to-one interview between researcher and participants. The

researcher visited the identified site and secured an appointment for interview of participants. On the day of data collection, the researcher requested the manager for the utilization of an available office space for data collection. After the consultation the sampled participants were requested to come to the office, explanation information about the study was given and an informed consent form requested to be signed. The researcher established rapport with participants by paying attention to what the participants were saying. Discussions were preceded by a casual conversation in a relaxed conversational manner. Listening and interviewing skills were used by listening intently to the participants' stories (Polit & Beck, 2005). The researcher probed to ensure that the objective was covered, by giving compliments to encouraging the participant to carry on, for more clarification on points which were not covered by the participants in the answers provided. The researcher used a voice recorder during the interview after obtaining informed consent from the participants.

The researcher also took field notes during the interviews. The researcher observed the non-verbal communication/gestures when conducting the interview and jotted them in the field notes. The researcher strived for a positive closure to the interview, which was done by providing the participants with a summary of the interview, thus giving them an opportunity to clarify, refine or correct the interviewer's summary (Polit & Hungler, 2006). Probing was used in order to encourage the participants to produce more in-depth information about the study.

3.4.6.1 Semi-Structured Questions for Mothers

- In your opinion, what are risks are factors that contribute to MTCT between the age of 6 weeks and 18 months? Probing was done focusing on: protection during breastfeeding (safe sex) adherence, feeding of the baby, breast engorgement and cracked nipples.

- What support do you receive from family members (male partner and grannies) when you are practicing the PMTCT?

3.4.6.2 Semi-Structured Questions for Ggrandmothers/Mothers-in-Law

- In your opinion, what are risks are factors that contribute to MTCT between the age of 6 weeks and 18 months? Probing was done focusing on traditional way of feeding the baby such as forceful feeding, giving of traditional medication and issue of giving the baby expressed breastmilk.

- What support will you provide to your daughter or daughter-in-law, with regard infant feeding?

3.4.6.3 Semi-Structured Questions for Male Partner (FGD)

- What are your views as a male partner regarding risks that contribute to MTCT between the ages of 6 weeks and 18 months? Probing was done focusing on using protective measures and safe sex, couple counselling and testing.

- In your own opinion, what support will you provide to your partner with regard to PMTCT interventions?

- In your own opinion, what support will you provide to prevent MTCT between the ages of 6 weeks and 18 months?

To cover the same objectives from the male partners, the researcher explained the purpose of the study and secured an appointment with the coordinator of the Tshitamboni men's forum who then organized the married males who are members of the organization to participate in the study. Data were collected through Focus Group Discussion (FGD) interview (de Vos *et al*., 2011). The anticipated/expected number of participants ranged from 5-12 per session.

Participants were selected because they have certain characteristics in common that related to the topic of the focus group or the group is focused in some kind of collective activity. On the day of data collection, the researcher created a tolerant environment amongst the group and encouraged participants to share perceptions, points of view, experiences, wishes and concerns without pressurizing participants to reach consensus (Monett *et al*., 2005 cited in de Vos *et al*., 2011). This method was often useful in allowing participants to share their thoughts with one another. A semi-structured interview guide was used during the group session (Annexure K). A minimum of one session per day was conducted. The researcher created an environment favorable for conversation by warmly thanking the participants for their willingness to participate. The researcher explained the purpose of the interview to the participant to ensure that ethical measures such as guarantees of beneficence, and participants' rights to withdraw from research are applied (Rossow 2003). Permission to use a voice recorder was sought from the participants.

The interview was conducted in the language best understood by participants, which was Tshivenda. Data were recorded and transcribed verbatim in the local language then translated into English by language experts. The interview lasted not more than 45 minutes. For the post-interview phase (for the qualitative research), the researcher listened to the tape-recorded interview and checked it for audibility and completeness (Polit & Beck 2010). All taped data were careful labelled with identified numbers and the date data were collected. Immediately after the interview, the researcher made field notes on the observation made during interview. The field notes helped the researcher remember and explore the process of interview (de Vos *et al*., 2011).

3.4.7 Data Analysis

Qualitative researchers look for patterns or relationships. There are no universal rules for analyzing and presenting qualitative data. Qualitative data analysis requires

a lot of work as there are many pages of narrative materials (Polit & Beck, 2008). During data reduction the richness and evidentiary of data were maintained. The data analysis was an active and interactive process. The analysis of data were started at the time of data collection and not at the end of data collection, as qualitative researchers begin analysis early in a research project, while data is still being collected. Tesch's 8 steps of open-coding of data analysis was used (Creswell, 2014):

1. **Get a Sense of the Whole**

   The researcher first listened to the audio tapes and transcribed the interviews onto paper by writing them down word-by-word. The researcher read the transcripts (Annexures O-Q) carefully. The ideas that came to mind were jotted down.

2. **Pick One Document**

   The researcher picked the most interesting document which is also short and read through it again, trying to make sense out of it and wrote thoughts in the margin.

3. **List the Topics**

   When the researcher completed this task for several participants, a list was compiled of all topics. Similar topics were clustered together to form columns that might be arranged into, major, unique topics and leftovers.

4. **Go Back to the Data**

   The researcher took the list and returned to the data. The topics were

abbreviated as codes, and written next to the appropriate segments to the text.

5. **Describe the Topics**

The researcher abstracted the most descriptive wording for the topics and turned them into categories. The researcher reduced the total list of categories by grouping together topics that related to each other. Lists were drawn between categories to show relationships.

6. **Abbreviate the Categories**

The researcher made a final decision on abbreviations for each category and ordered codes alphabetically.

7. **Assemble the Data**

The data material belonging to each category were then assembled in one place and a preliminary analysis performed.

8. **Recode the Data, If Necessary**

The researcher recoded existing data, where necessary (Creswell, 2009)

3.4.8 Trustworthiness

Trustworthiness is a method of establishing validity and reliability of qualitative research, and it is achieved when it accurately represents the experience of the study participants. It measures the truth value of the study. It encompasses the four criteria which are credibility, dependability, confirmability and transferability (Speziale & Capenter, 2007; Polit, Beck & Hungler, 2009).

3.4.8.1 Credibility

It refers to confidence in the truth of the data. It involves two aspects: first, carrying out the investigation or study in a way that its believability is enhanced, and, second, taking steps to demonstrate credibility (Polit *et al*., 2009: 314). In this study, credibility was achieved by:

- Prolonged engagement where the researcher spent as much time with the participants during appointment until data saturation is attained. The investment of sufficient time will also ensure building of trust and rapport with the participants.
- Referential adequacy was ensured by using a voice recorder.
- Peer debriefing was ensured by asking a colleague with similar status who is outside the study and who understand the nature of the study to review the perceptions, insights, and analysis.
- Data triangulation was ensured by using different data-collection methods. The researcher collected data through field notes, in-depth individual interviews and questionnaire.
- Member checks were done to ensure the credibility of the study. Member checks refer to providing feedback to the study participants regarding preliminary findings and interpretations and securing the participants' reaction. The participants were asked about their responses during the data collection and also at the end when data had been collected and analyzed to confirm if their responses were well interpreted (Polit *et al*., 2009).

3.4.8.2 Dependability

This refers to data stability over time and over conditions (Polit *et al*., 2009). In this study, dependability was ensured by doing an enquiry audit where a scrutiny of the data and relevant supporting documents will be done by an external reviewer, which will also ensure conformability.

3.4.8.3 Confirmability

Confirmability refers to the objectivity or neutrality of the data, such that two or more people would agree about the data's relevance or meaning (Polit *et al*., 2009). Babbie & Mouton (2007) indicated that the confirmability audit trail is an adequate trial that should be left to enable the auditor to determine if the conclusions, interpretations, and recommendations can be traced to their sources and if they are supported by the inquiry. The researcher ensured confirmability by developing an audit trail which is a systemic collection of documentation, in this case the field notes and the voice recordings that allow an independent auditor to come to conclusions about the data.

3.4.8.4 Transferability

Transferability refers to the extent to which the findings from the data can be transferred to other settings or groups and is similar to the concept of generalizability (Polit *et al*., 2009). Thick description refers to a rich, thorough description of the research setting, and the transactions processes observed during the inquiry (Polit *et al*., 2009). The researcher described the research setting richly and thoroughly, what transpired and the non-verbal clues observed during the interviews will be thoroughly described in the study.

3.5 Phase 1B: Quantitative Design

3.5.1 Non-Experimental Descriptive Design

Quantitative non-experimental descriptive research design was used for objective 3 which was to identify factors that affect the provision of family-centred support for PMTCT interventions at the selected health facilities. Quantitative research is a means of testing objective theories by examining the relationship among variables and these variables can in turn be measured, typically on instrument, so that numbered data can be analyzed using statistical procedures. (Creswell, 2009; Burns & Grove, 2009. Creswell (2009) further explained that those who engaged in this form of inquiry have assumptions about testing theories deductively, building in protections against bias, controlling for alternative explanations, and being able to generalize and replicate the findings. Quantitative data provide frequency counts and means or averages for the variables of interest using numerical data to generalize findings (Parahoo, 2006; Maree, 2008).

3.5.2 Population

For the quantitative approach, the population comprised all health care professionals who are providing the Maternal and Child Health Care at the selected facilities. Target population is the entire set of participants about which the researcher would like to make generalizations (Brink *et al*., 2012). The target population for this study objective was professional nurses who are providing PMTCT programmes for HIV-positive women and HIV-exposed babies at facilities of the selected districts.

3.5.3 Sampling

3.5.3.1 Sampling of Facilities

The researcher used non-probability sampling to select the facilities as described under qualitative design (Brink *et al*., 2012).

3.5.3.2 Sampling of Health Care Professionals

Probability simple random sampling was used in this study. The Fishbowl technique was used to select the participants. The researcher wrote small papers of which half were written 'Yes' and half were written 'No' and put them in the bowl. The health care professionals who are providing PMTCT programmes on the day of data collection were requested to pick a piece of paper from the bowl each. Whoever picked up a piece of paper written 'Yes' was included in the study if s/he agrees and whoever picked up a piece of paper written 'No' was excluded from the study. The pieces of papers were put back into the bowl after each draw of participants (Brink *et al*., 2012).

3.5.3.3 Inclusion Criteria

All health care professionals who have been working in PMTCT programmes for more than a year on the day of data collection were included in the study. These participants were included in the study as they have experience of PMTCT programmes provision. The sample size is largely a function of the purpose of the enquiry, the quality of the informants, and the type of sampling strategy used (Newman, 2007). The sample comprised of 1 health care professional per selected district.

3.5.4 Data Collection

Data collection was done at the health facility where the researcher requested for an office during the lunch hour of the health care professional. In this study, data were collected using self-administered questionnaires. A questionnaire is referred to by Babbie (2007) as a document containing questions and/or other types of items designed to solicit information appropriate for analysis. The basic objective of a questionnaire is to obtain facts and opinions about a phenomenon from people who are informed on the particular issue (de Vos *et al*., 2012).

The questionnaire comprised closed-ended questions that were orderly ranked according to Likert scales and a checklist. The questionnaire comprised of the biographic data section and approach the Logic model (inputs, output, activities, processes, systems) were used to identify factors that affect the provision of family-centred support of PMTCT interventions at the selected facility. The focus were on PMTCT interventions, the logical relationships among the resources that were invested, and the activities that take place, and the benefits or changes that result were determined (Annexures L and M). The researcher administered the questionnaires to the participants that met the inclusion criteria on the day of data collection after getting the signed informed consent from them. The participants were given about 20 to 30 minutes to complete the questionnaire and those that need help in explanation of the questions and filling in the questionnaire were helped. The participants were thanked after collection of questionnaires.

3.5.5 Data Analysis

Burns & Grove (2011) defined data analysis as the technique used to reduce, organize and give meaning to data. According to Polit & Beck (2008), data analysis is a systematic organization of research data and the researcher will use techniques such as coding, the process of translating verbal data into categories or numeric form. Data were analyzed by a statistician using the Statistical Package for Social Sciences (SPSS) 22.0 for Windows software. Data were analyzed quantitatively using descriptive statistics to synthesize and describe data as the study had a representative sample. Graphics, pie charts, tables and figures were used to display the results.

3.5.6 Validity and Reliability

Validity refers to the degree to which an instrument measures what it is supposed to be measuring (Polit & Hungler, 2006). Wood & Ross-Kerr (2006) defined internal

validity as the extent to which the results of the study can actually be attributed to the action of the independent variable and not to something else. When an instrument is valid, it truly reflects the concept it is supposed to measure (LoBiondo-Wood & Haber, 2009). Validity was ensured by giving the questionnaire to experts on the subject—colleagues and supervisors—to analyze the items to see if they represented the content adequately and in the correct proportions.

Reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring (Polit & Hungler, 2006). LoBiondo-Wood & Haber (2009) and Brink *et al*. (2012) define reliability as the extent to which the instrument yields the same results on repeated measures. They explained that it is concerned with consistency, accuracy, precision, stability, equivalence and homogeneity. The questionnaires were piloted at local clinics before the actual data collection. Data were collected from participants with characteristics required for the study. The researcher did not influence the completion of the questionnaires. The participants were responding to the same questions and were given the same time to respond to the questionnaire.

3.6 Phase 2

3.6.1 Development of the Strategy

This phase addresses objective 4 which was to develop the strategy to enhance family-centred support for sustainability of PMTCT interventions in Limpopo Province, South Africa. The researcher adapted the strategy development approach by Hill & Westbrook (1997). The Strength, Weaknesses, Opportunities and Threats (SWOT) Strategy with emphasis on **P**olitical, **E**conomic, **S**ocial, **T**echnological, **L**egal and **E**nvironmental (PESTLE) analysis were used to develop the strategy.

A SWOT analysis (alternatively, SWOT matrix) is a structured planning method used

to evaluate the strengths, weaknesses, opportunities and threats involved when enhancing the family-centred support for sustainability of implementation of PMTCT interventions. Furthermore, a SWOT analysis should be developed as a collaborative with a variety of contributions made by mothers, family members and health care professionals as participants.

These contributions were reflecting the core principles of FCC (Roger, 2006). The design of a SWOT analysis by one or two community workers is limiting to the realities of the forces specifically external factors, and devalues the possible contributions of community members (Hill & Westbrook, 1997). The following steps were conducted in developing the strategy:

- SWOT with PESTLE analysis matrix were developed from the data that emerged from participants.
- PESTLE was the tool that helps in the broader understanding of the big picture of the socio-cultural and the environment of where PMTCT programmes implemented in order to build the vision of the future.
- PESTLE analysis assists one to avoid taking action that causes failure for reasons beyond your control (Birkenmaier, 2001).

In this study, the PESTLE was analyzed within SWOT. Matrix following SWOT analysis and the strategy was developed.

❖ Step 1

In this step, the Strengths of PESTLE of enhancing the family-centred support for sustainable implementation of PMTCT interventions were identified.

❖ Step 2

Step 2 identified those characteristics that place the situations of enhancing the

family-centred support for sustainable implementation of PMTCT interventions at a disadvantage or hinders those (Weaknesses in PESTLE). These were identified.

- Step 3

In this step, Opportunities in PESTLE for participants to exploit to its advantage and can become helpful in assisting the institution to enhance family-centred support for sustainable implementation of PMTCT interventions will be identified (Birkenmaier, 2001: 24).

- Step 4

Threats in PESTLE or participants in the environment that could hinder the enhancement of family-centred support for sustainable implementation of PMTCT interventions will be identified (Birkenmaier, 2001: 24).

- Step 5

The researcher dissected the data and listed the strengths; repeated the process to list the weaknesses, opportunities and threats. The SWOT matrix was developed according to strengths, weaknesses, opportunities and threats. The following four questions have been posed:

- How can we maximize the use of our strength?
- How can we overcome the identified threats?
- What do we need to do to overcome the identified weaknesses?
- How can we take advantage of our opportunities?

Prioritization was conducted and the next step was used to turn the results into actionable outcomes. The Build, Overcome, Explore and Minimize (BOEM) approach was used. This was the approach used to develop the strategy. The strategy of enhancing family-centred support for sustainable implementation of PMTCT interventions was developed by building strength, overcoming weaknesses, exploring opportunities and minimizing threats.

3.6.2 Validation of the Strategy

The last objective (5): To conduct validation of the developed intervention strategy was achieved. Validation is defined as building the system in the right way. One objective of validation was to ensure the systems behave as defined by its

specifications. Validation also ensures that the system is free of errors introduced by developers during the implementation step (Houben, Lenie & Vanhoof, 1999). Validation was undertaken to check the applicability of the strategy.

A quantitative design was used for the validation of the strategy. The population comprised all stakeholders who are involved with Maternal and Child Health, namely; managers of Maternal, Child and Women's Health (MCWH) Unit, coordinators of PMTCT, health care professionals who were providing PMTCT programmes and mothers of the under-fives in Limpopo Province. The researcher validated the strategy by consulting the stakeholders and checked if the strategy was acceptable, applicable and can be used to enhance the family-centred support for sustainable implementation of PMTCT interventions. A checklist was developed from the developed strategy and used to validate the strategy. Data were analyzed through descriptive statistics.

3.7 Ethical Considerations

Ethics is a set of moral principles which is suggested by an individual or group, and is widely accepted and offers rules and behavioural expectations about the most correct conduct towards participants, employers, sponsors, other researchers, assistants and students (Polit & Beck, 2008).

3.7.1 Permission to Conduct the Study

Permission to conduct the study was obtained from the following structures Tfrom:

- University of Venda Higher Degrees Committee and Research Ethics Committee (Annexure A)
- Department of Health and Social Development Research Committee (Annexures B and C)

- Managers of the District hospitals (Annexures D-F)

3.7.2 Informed Consent

Informed consent means that participants will have adequate information regarding the research; are capable of comprehending the information; and have the power of free choice; enabling them to consent voluntarily to participate in the research or decline participation (Polit & Beck, 2008). A thorough explanation (Annexure G) of what the study entailed was given to the participants before they signed the consent forms (Annexure H). The participants had been made aware that they were not forced to participate in the study. The participant were also informed that they could withdraw from participating in the study.

3.7.3 Right to Information

The researcher was obliged to provide the participants with relevant and adequate information when obtaining consent. At a minimum, participants should have information about the purpose and scope of the study, and how the results were used and how their anonymity were protected (Streubert & Carpenter, 2007). The participants were made aware that they are free to terminate/withdraw from the study at any time. The research subject's privacy is protected if the subject is informed and consents to participate in a study and voluntarily shares private information with a researcher (Burns & Grove, 2011). The participants were made aware that the information on the tape and the field note were kept confidential by only sharing them with those who are involved with the research and was not used to victimise anybody. Anonymity and confidentiality were ensured by not using names on questionnaires and also during interviews (Polit & Beck, 2008).

3.7.4 The Principle of Beneficence

In this study, there were no danger that the participants could be exposed to danger

physically, psychologically, socially or economically. The participants were debriefed and permitted to ask questions or state complaints. The benefits from the research were fully explained to the participants and that there are no direct personal benefits. The participants were made aware that the findings of the study will be published and shared internationally for the improvement of the maternal and child care (Polit & Beck, 2008).

3.7.5 The Right to Self-Determination

The right to self-determination is based on the ethical principle of respect for persons, which states that humans are capable of self-determination or controlling their own destiny. Thus, humans should be treated as autonomous agents, who have freedom to conduct their lives as they choose without external controls (Burns & Grove, 2011). In this study, the right to self-determination was applied to participants by respecting their rights to consent to be included in the study and not coercing them to take part in the study. The researcher did not deceive the participants in participating in the study. The participants were made aware that they were totally free to participate or not participate in the study.

3.7.6 The Right to Fair Treatment

The right to fair treatment is based on the ethical principle of justice. This principle states that each person should be treated fairly and should receive what s/he is due or owed (Burns & Grove, 2011). In this study, participants were treated fairly and with respect throughout the course of study.

3.7.7 The Right to Privacy

Privacy is the freedom people have to determine the time, extent and general circumstances under which their private information will be shared with or withheld from others. Private information includes that which concerns a person's attitudes,

beliefs, behaviours, opinions and records (Burns & Grove, 2011). In this study, the privacy of participants was ensured by informing the participants fully about the study, they were also aware that they must participate voluntarily with a signed consent.

3.7.8 The Right to Anonymity and Confidentiality

Complete anonymity exists when the participant's identity cannot be linked, even by the researcher, with the individual's responses (Burns & Grove, 2011). In this study, anonymity was ensured by not writing names on the questionnaires during quantitative data collection and by not mentioning names in the qualitative data collection. Confidentiality is the researcher's management of private information shared by the participant (Burns & Grove, 2011). In this study, confidentiality was ensured by explaining to the participants that even though they agreed to participate in the study they were free not to answer some of the questions that they do not feel free to answer and they were assured that the shared information would only be shared with people who are involved in the study.

3.8 Conclusion

Chapter 3 of this study dealt with the detailed description of the research design and method. The exploratory sequential mixed method was used to conduct the study, where qualitative data were collected and analyzed first; followed by collecting and analyzing quantitative data then interpretation. Phase 1: The objectives were to explore the risks that contribute to MTCT between the ages of 6 weeks and 18 months, to explore the perceptions of family members regarding family support in PMTCT interventions, and to explore the factors that affect the provision of family support in PMTCT interventions. Population for qualitative strands comprised the following groups: mothers of under-five who were living with HIV/AIDS, grandmothers/mothers-in-law, male partners and health care professionals.

Participants were selected by non-probability purposive sampling, data were collected through one-to-one interviews and focus group for male partners. Data were analyzed utilizing open coding method. For quantitative design objective to identify factors that affect the provision of family-centred support for PMTCT interventions at the selected health facilities. Participants were health care providers and were selected by using simple random sampling and data were collected by means of self-administered survey questionnaires with structured close and open ended questions. Data were analyzed using Statically Package for Social Sciences (SPSS), Version 23 and descriptive statistics. Ethical measures, reliability, validity and trustworthiness were considered throughout the study

CHAPTER 4

Results and Discussion

4.1 Introduction

The previous chapter outlined the study, research design and methodology. In this chapter, the mixed method, exploratory sequential design was used where qualitative data were collected and analyzed followed by quantitative data. Analysis was done considering the theory of Family-Centred Care (FCC) where there were information sharing and active participation between the health care practitioner and the family members with the prevention of risk of Mother-to-Child Transmission (MTCT).

The study was conducted in two phases: In Phase 1A, the researcher implemented a qualitative strand that included collecting and analyzing data from mothers, male partners and grandmothers. The objectives of the study were:

- To explore the risk that contributes to MTCT between the age of 6 weeks and 18 months.
- To determine the perceptions of family members regarding support provided to sustain PMTCT interventions.
- To determine factors that affects the provision of PMTCT interventions between the age of 6 weeks and 18 months
- To identify the factors that affect the provision of family-centred support of PMTCT intervention by the health care professional.

4.2 Presentation of the Findings

4.2.1 Description of the Sample

4.2.1.1 Demographic Profile of Mothers of 6 Weeks to 18 Months Babies

Table 4.1 summarizes the demographic profile of mothers of 6 weeks to 18 months babies for the various districts, i.e., Vhembe, Capricorn and Mopani, in terms of age, parity, marital status, disclosure (and o whom), educational level, employment status, and support received. Participants from Vhembe District (n=10) ranged in ages from 21 o 38 years, were mostly married and unemployed, with educational grades 10 to 12, parity 1 to 4, disclosed their HIV-postive status to either their mothers, mothers-in-law, grandmothers, sisters, husbands or boyfriends from whom they also received support. These participant demographics reflected almost similarly for the Capricorn and Mopani districts.

4.2.1.2 Demographic Profile of Grandmothers

Table 4.2 summarizes the demographic profile of grandmothers of the Vhembe, Capricorn and Mopani districts. Grandmothers from Vhembe District (n=5) were pensioners aged between 60 and 70 years all cared for children of their daughters and/or daughters-in-law, and 3 of the 5 participants had some knowledge of PMTCT. Participants from Capricorn District were either pensioners (2 of 5) or aged between 46 and 58 years. All the participants looked after their grandchildren (i.e., children from their daughters and/or daughters-in-law) and 4 of the 5 participants had knowledge of PMTCT. Participants from Mopani district were mostly pensioners, ages ranged from 48 to 65 years, and they cared for their daughters' and/or daughters-in-law's childern. Only 2 of the 5 participants had knowledge of PMTCT.

4.2.1.3 Demographic Profile of Male Partners

Table 4.3 summarizes the demographic profile of male partners (n=15).

Table 4.1: Demographic profile of mothers of 6 weeks to 18 months babies

Vhembe district: Mothers of 6 weeks to 18 months babies (n=10)							
Participant	**Age**	**Parity**	**Marital status**	**Disclosure/to whom**	**Educational level**	**Employment**	**Support**
1	21	P1G1	Single	Yes (grandmother)	Grade 11	Scholar	Grandmother
2	31	P2G2	Single (stable relationship	No	Grade 12	Employed	None
3	33	P3G3	Married	Yes (mother & boyfriend)	Grade 12	Unemployed	Mother & boyfriend
4	29	P3G3	Married	Yes (husband & mother)	Grade 12	Unemployed	Mother & husband
5	38	P4G4	Widower	Yes (Sister)	Grade 10	Self-employed	Sister
6	40	P3G3	Single	No	Grade 10	Employed	None
7	33	P2G3	Married	Yes (Husband)	Grade 12	Unemployed	None
8	34	P2G2	Married	Yes (Husband & mother-in-law)	Grade 11	Unemployed	Mother-in-law & husband
9	38	P4G4	Married	Yes (husband & family)	Grade 11	Unemployed	Husband & family
10	38	P4G4	Married	Yes (husband & family)	Grade 11	Unemployed	Husband & family

Continued/…

Table 4.1: Mothers of 6 weeks to 18 months babies (continued)

Capricorn district: Mothers of 6 weeks to 18 months babies (n=8)							
Participant	**Age**	**Parity**	**Marital status**	**Disclosure/to whom**	**Educational level**	**Employment**	**Support**
1	33	P3G3	Married	Yes (husband)	Grade 2	Part time	Husband
2	28	P3G3	Married	Yes (husband)	Grade 4	Unemployed	Husband
3	29	P2G3	Married	Yes (husband)	Grade 11	Unemployed	Husband
4	39	P3G3	Married	Yes (husband)	Grade 12	Unemployed	Husband
5	34	P3G3	Single	No	Grade 8	Unemployed	None
6	26	P2G2	Single	Yes (mother & siblings)	Grade 12	Employed	Mother & siblings
7	32	P3G3	Married	Yes (Husband)	Grade 11	Unemployed	Husband
8	30	P2G2	Single (stable relationship	Yes (Partner)	Grade 12	Employed	Partner

Continued/…**Table 4.1:** Mothers of 6 weeks to 18 months babies (continued)

Mopani district: Mothers of 6 weeks to 18 months babies (n=9)							
Participant	**Age**	**Parity**	**Marital status**	**Disclosure/to whom**	**Educational level**	**Employment**	**Support**
1	40	P4G4	Married	Yes (husband)	Grade 5	Unemployed	Husband
2	30	P3G3	Single	Yes (Mother & siblings)	Grade 10	Unemployed	Mother & siblings
3	42	P4G4	Married	Yes (mother, husband & siblings)	Grade 10	Unemployed	Mother, husband & siblings
4	34	P4G4	Married	Yes (husband)	Grade 10	Unemployed	Husband
5	38	P4G4	Married	Yes (Husband)	Grade 7	Unemployed	None
6	32	P1G1	Single	No	Grade 11	Unemployed	None
7	30	P3G3	Married	Yes (Husband & family)	Grade 09	Unemployed	Husband & family
8	32	P2G2	Married	Yes (Husband)	Grade 11	Unemployed	Husband
9	29	P3G3	Married	Yes (husband & parents)	Grade 11	Employed	Husband & parents

Table 4.2: Demographic profile of grandmothers

Vhembe district: Grandmothers (n=5)				
Participant	**Age**	**Daughter/daughter-in-law**	**Looking after child**	**Knowledge of PMTCT**
1	70	Her daughter	Yes	No
2	On pension	Her daughter	Yes	No
3	60	Daughter in law	Yes	Yes
4	65	Daughter in law	Yes	Yes
5	62	Daughter in law	Yes	Yes

Capricorn district: Grandmothers (n=5)				
Participant	**Age**	**Daughter/daughter-in-law**	**Looking after child**	**Knowledge of PMTCT**
1	On pension	Daughter in law	Yes	No
2	50	Her daughter	Yes	Yes
3	46	Her Daughter	Yes	Yes
4	On pension	Daughter in law	Yes	Yes
5	58	Her daughter	Yes	Yes

Mopani district: Grandmothers (n=5)				
Participant	**Age**	**Daughter/daughter-in-law**	**Looking after child**	**Knowledge of PMTCT**
1	58	Her daughter	Yes	No
2	On pension	Her daughter in law	Yes	No
3	48	Her daughter	Yes	Yes
4	65	Her daughter in law	Yes	Yes
5	On pension	Her daughter	Yes	No

Table 4.3: Demographic profile of male partners

Participant	Age	Marital status	Employment	Level of education	Use of protection
1	55	Married	Employed	Diploma	No
2	60	Married	Unemployed	Primary	No
3	45	Married	Unemployed	Primary	No
4	56	Married	Self employed	Grade 12	No
5	52	Married	Employed	Diploma	No
6	54	Married	Employed	Degree	No
7	48	Married	Self employed	Secondary	No
8	42	Married	Employed	Degree	No
9	40	Married	Self employed	Secondary	No
10	38	Married	Employed	Honors	No
11	50	Married	Employed	Degree	No
12	45	Married	Employed	Diploma	No
13	48	Married	Employed	Diploma	No
14	56	Married	Employed	Degree	No
15	38	Married	Employed	Diploma	No
n=15					

The male partners ages ranged from 38 to 60 years and all were married and did not use protection during sex. Two of the participants were unemployed (13.3%) whereas the majority were either employed (10 of 15, 66.7%) or self-employed (3 of 15, 20%). Their education level ranged from primary school to secondary and tertiary qulaifications.

4.2.1.4 Demographic Profile of Health Professionals

The demographic profile of the health professionals (n= 27) who participated in the study are reflected in Figures 4.1 to 4.3. All the health professionals (100%) were female (Figure 4.1) and had either completed a Nursing Education qualification (4.35%) of Midwifery qualification (95.65%) (Figure 4.2). Health professionals' experience in years in PMTCT clinics were 8-10 years (8.70%), 5-7 years (73.91%) and 2-4 years (17.39%), respectively (Figure 4.3).

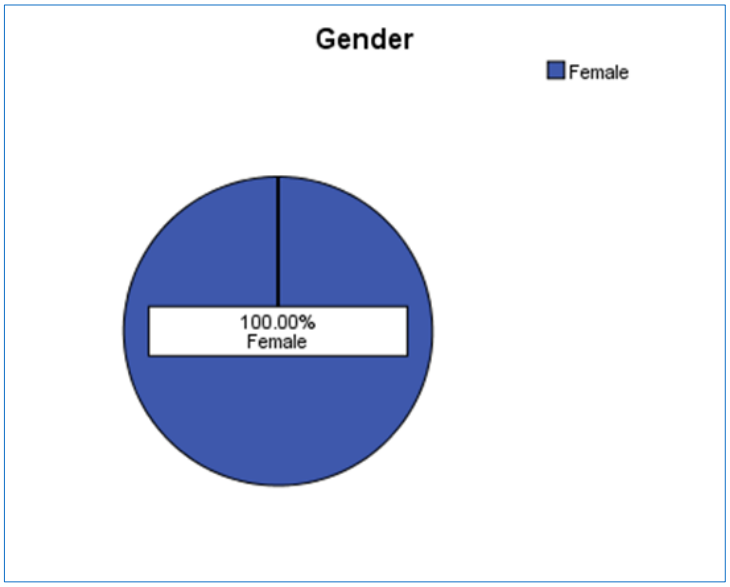


Figure 4.1: Gender of health professionals

Figure 4.2: Professional qualifications of health professionals

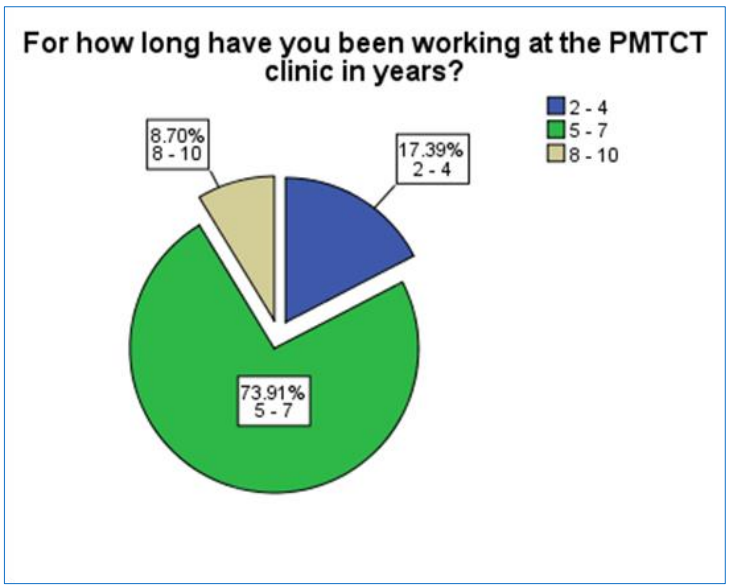


Figure 4.3: Health professionals' experiences in PMTCT clinics

4.2.2 Presentation of Quantitative Results

In Phase 1B quantitative design was conducted by collecting data from health care professionals. These are summarized in Figures 4.4 to 4.14.

4.2.2.1 Age Groups of Children Who Had Undergone HIV-PCR Screening

Figure 4.4 shows the age groups of children who had undergone HIV-PCR screening tests over the past two years at the time of the study. Children aged 6 weeks represented the majority (70%) of those who had come to the clinics for PCR HIV testing, whereas those aged 18 months (25%) had also undergone PCR screening and the remainder were defaulters (5%).

4.2.2.2 Age Group of Children Who Had Tested PCR-Positive for HIV

Figure 4.5 depicts the age groups of children who had tested PCR-positive for HIV. The majority were defaulters (82.6%) whereas the remainder (17.4%) showed no positive PCR response for HIV.

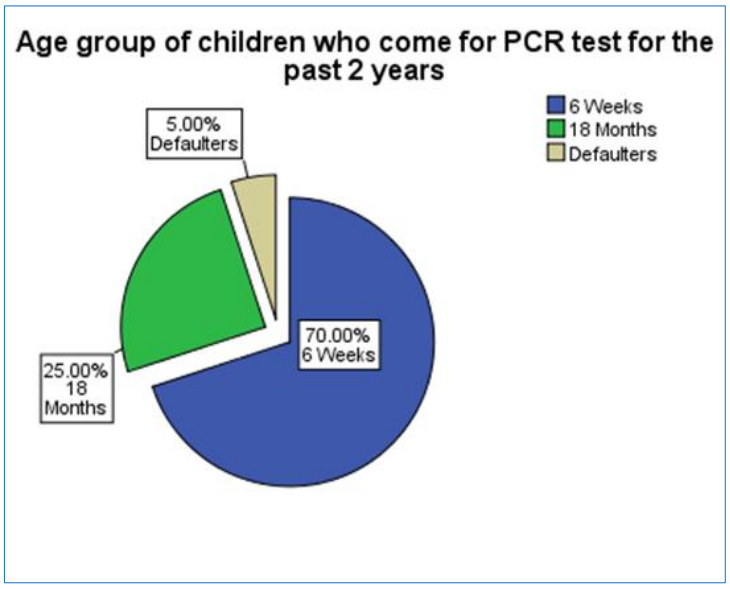


Figure 4.4: Age groups of children who had undergone HIV-PCR screening

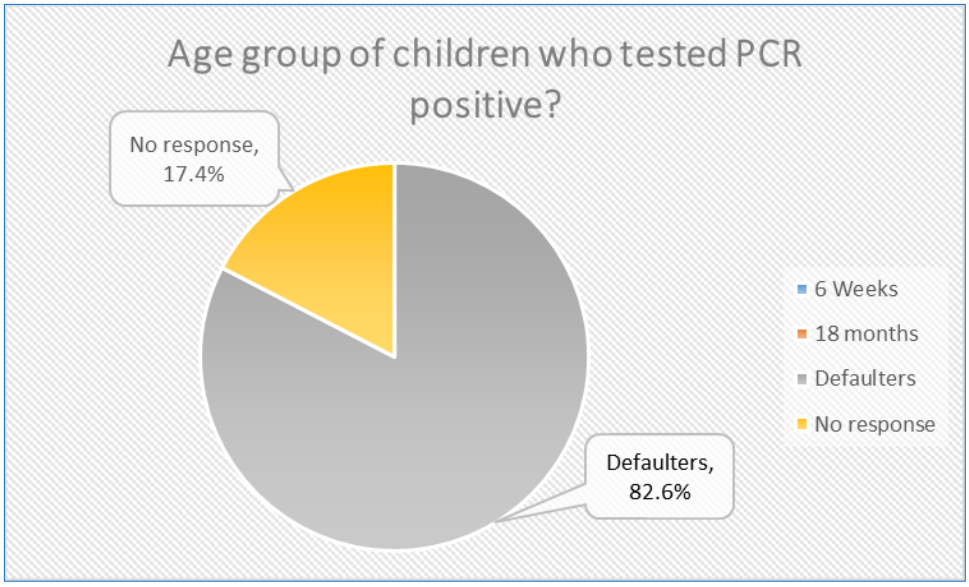


Figure 4.5: Age groups of children who had tested PCR-positive for HIV

4.2.2.3 Children Accompanied by Parents and/or Grandparents for PMTCT Interventions

Figure 4.6 shows that of the participants 33.7% mothers, 31.3% grandparents and both parents (4.6%) accompanied children for PMTCT interventions.

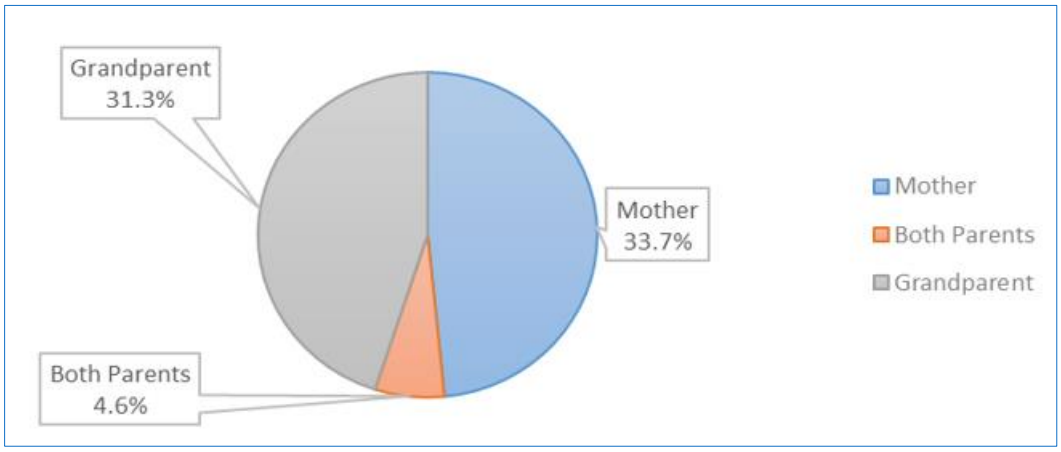


Figure 4.6: Children accompanied by both parents and/or grandparents for PMTCT interventions

Figure 4.7 shows that all heallth professionals (100%) indicated that health

education programmes were available to them.

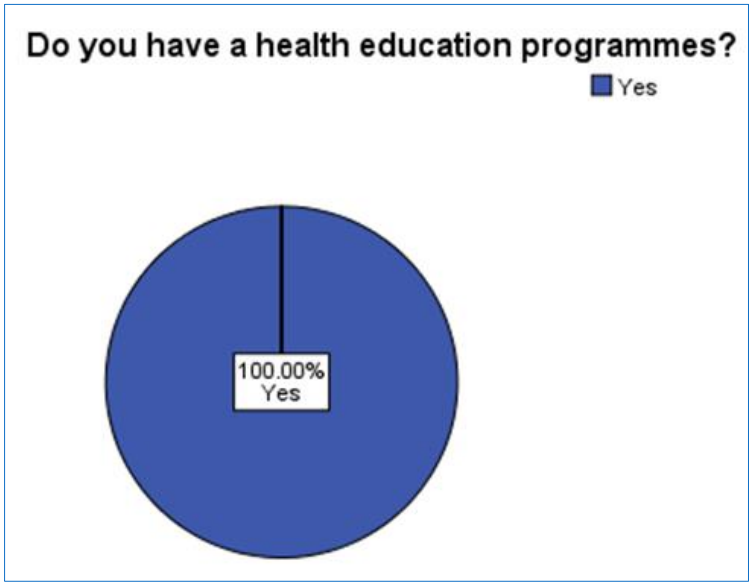


Figure 4.7: Availability of health education programmes for health professionals

4.2.2.4 Age Groups of Children Whose Mothers Attended Ongoing MTCT Counselling

Figure 4.8 summarizes the age groups of children whose mothers attended ongoing counselling regarding risk of MTCT. While 9% of mothers defaulted MTCT counselling, the majority (90%) of mothers of children aged 6 weeks attended compared to 19% of mothers of children aged 18 months and 77% of mothers of children aged 12 months.

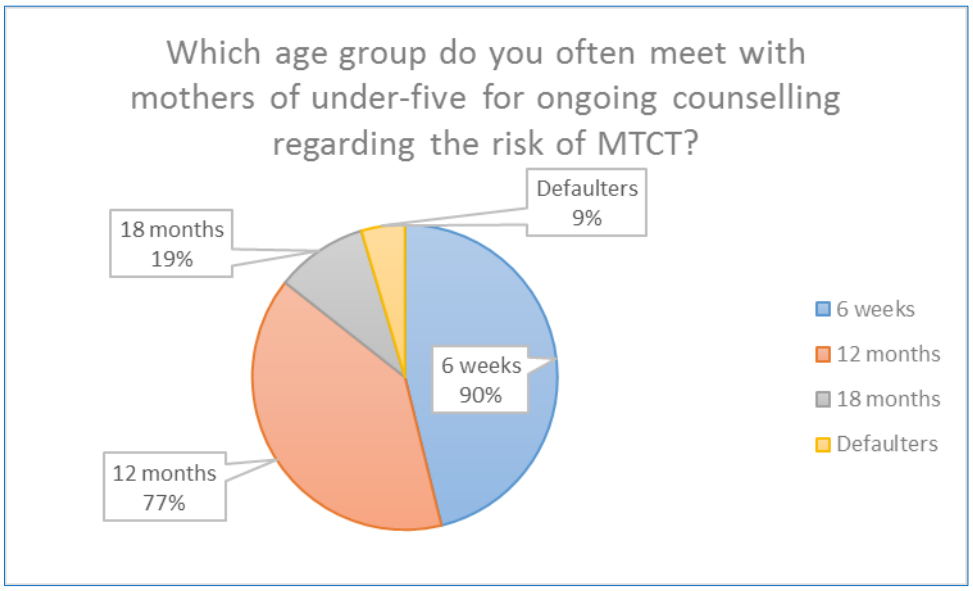


Figure 4.8: Age groups of children whose mothers attended ongoing counselling regarding risk of MTCT

4.2.2.5 Inclusion of Family Members in Feeding of Babies during MTCT Counselling

Figure 4.9 shows that all health professionals (100%) indicated that they included family members (husbands, partners, grandparents. Mothers and mothers-in-law) in the feeding of babies during MTCT counselling.

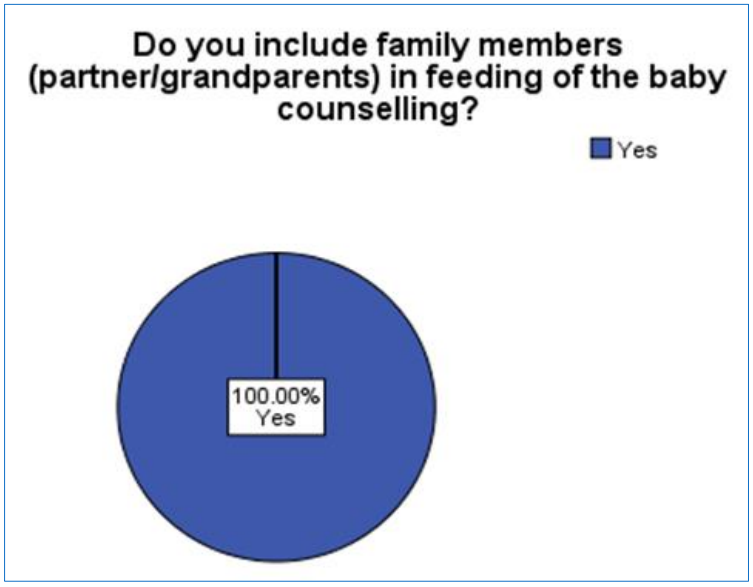


Figure 4.9: Inclusion of family members in feeding of babies during MTCT counselling

4.2.2.6 Involvement of Family Members in Caring of Babies Born to HIV-Positive Mothers during MTCT Counselling

Figure 4.10 shows that 78% of health professionals involved family members in the caring of babies during MTCT counselling, whereas 9% did not. Other health professionals did not respond (13%).

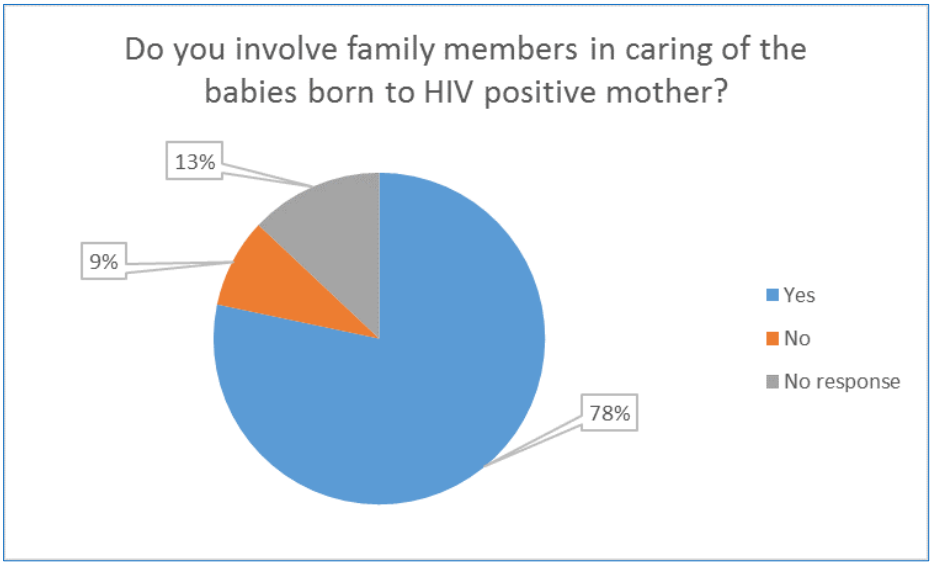


Figure 4.10: Involvement of family members in caring of babies born to HIV-positive mothers during MTCT counselling

4.2.2.7 Space to Accommodate Family Members during PMTCT Interventions and Counselling

Figure 4.11 indicates that 91% of healh professionals indicated that the space to accommodate family members during PMTCT inrerventions and counselling was adequate while 8.7% replied “No” to the question.

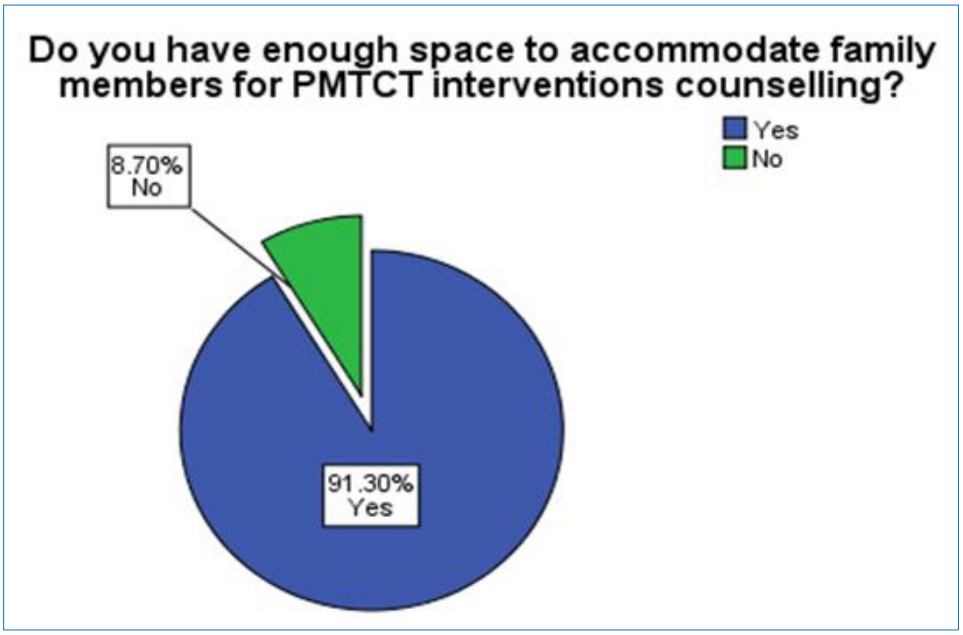


Figure 4.11: Space to accommodate family members during PMTCT interventions and counselling

4.2.2.8 Appropriateness of Space for PMTCT Counselling

Figure 4.12 shows that 87% of participants thought that the space for PMTCT counselling was not appropriate, whereas 13% indicatec that it was appropriate.

4.2.2.9 Willingness of Family Members to be Involved in PMTCT Interventions and Counselling

Figure 4.13 indicate that all participants (100%) indicated “Yes” to the question whether family members were willing to be involved in PMTCT interventions and counselling sessions.

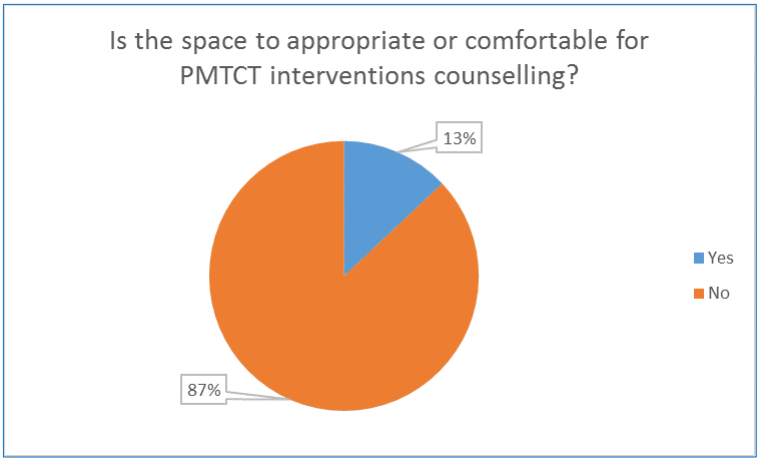


Figure 4.12: Appropriateness of space for PMTCT counselling

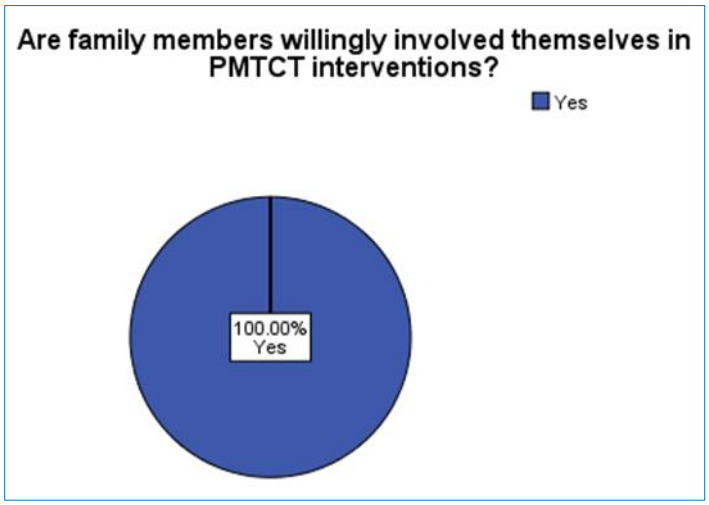


Figure 4.13: Willingness of family members to be involved in PMTCT interventions and counselling

4.2.3 Presentation of the Qualitative Results

In Phase 1 of the study, qualitative data were collected from three different groups (mothers, grandmothers, male partners) from 3 districts, namely: Vhembe, Capricorn and Mopani. Data analysis followed the 8 steps of Tesch's inductive, descriptive open-coding technique (Creswell, 2014) which was discussed in Chapter 3.

4.3 Discussion of the Findings

Participants expressed themselves in their own mother tongue and the information was translated to English by an expert. In this study, 4 main themes, 10 themes and 29 sub-themes emerged from the raw data (Table 4.4). Appropriate quotations from the raw data, literature control and the quantitative research strand results were included to substantiate the discussion of the themes.

4.3.1 Main Theme 1: Interventions to Enhance Family Support for PMTCT: Grandmothers' Perspectives

Traditionally, grandparents' opinion, beliefs and other cultural practices related to curing childhood illness for both mother and the baby were reported to predispose the baby to the risk of MTCT. Whilst midwives who are rendering PMTCT programmes were reported to implement PMTCT in all PHC clinics, babies are still at the risk of MTCT due to some traditional practices. Sujatha (2014) reported that some traditional practices and cultures put the babies at risk of MTCT, such as splashing blood from the umbilical cord to the mouth of the baby.

Mixed feeding which is done while performing traditional immunization (*uthusa*) were reported to predispose babies to MTCT because babies were given soft porridge mixed with traditional herbs which corrode the inner membrane of the stomach and expose the baby to MTCT (Njai & Dixei, 2013). Aberigo *et al*. (2012) reported that grandmothers will first eliminate the bitterness of the breastmilk (*colostrum*), especially those mothers who are giving birth for the first time. Boys were reported to spend four days whilst girls spend three days before they start to breastfeed. During this period, the babies will be given water, traditional herbs or wet nursing. Water mixed with herbs corrodes the inner lining of the gut and predisposes the baby to the risk of MTCT whilst wet nursing predisposes the baby to the risk of MTCT as the HIV status of the person who is wet nursing is not considered (Njai & Dixei, 2013).

Table 4.4: Themes and sub-themes reflecting interventions to enhance family support for PMTCT

Main themes	Themes	Sub-themes
1. Interventions to enhance family support for PMTCT: grandmothers' perspectives	1.1 Practices of grandparents related to MTCT	1.1.1 Existing traditional practices related to curing childhood illness and lack of maintaining sterility for both mothers and infants during cultural practices in curing diseases 1.1.2 A description of religious practices used for MTCT prevention for mothers and infants 1.1.3 Traditional medicines used to treat childhood illnesses is believed to prevent death
	1.2 Knowledge of grandparents who cares for children whose mothers are HIV+	1.2.1 Lack versus existence of knowledge by grandparents related to the protection of children against MTCT and religious practices to prevent MTCT 1.2.2 Existing ideas by grandparents that nurses and doctors lack knowledge related to the treatment of defined cultural illnesses
	1.3 Feeding practices assisting in preventing the risk of MTCT	1.3.1 Initial different feeding practices and preparation of solid food which include herbs and over the counter medicines and their importance from birth to 18 months outlined 1.3.2 Expressed breast milk and storage of breastmilk in the family refrigerator viewed by grandparents as an unacceptable practice 1.3.3 Working mothers and mothers who are attending school depend on grandmothers to babysit an feeding of their babies
2. Interventions to enhance family support for PMTCT: mothers' perspectives	2.1 Views of mothers related to factors contributing to risk or prevention of MTCT from birth to 18 months	2.1.1 Unsafe sex during breastfeeding predisposes babies and increases their risk of MTCT 2.1.2 Lack of knowledge versus existing of knowledge related to the risks of cracked nipples to MTCT, cultural and modern way of treating cracked nipple 2.1.3 Lack of adherence to chosen feeding option and ARVs leads to risk of MTCT.

Continued/…

Table 4.4: Themes and sub-themes reflecting interventions to enhance family support for PMTCT (continued)

Main themes	Themes	Sub-themes
	2.2 Factors related to disclosure of HIV+ status to partners and family members	2.2.1 Lack of disclosure of HIV+ status result from fear of stigma and discrimination 2.2.2 Disclosure of HIV+ status to male partners lead to negative or positive behavioural change
2. Interventions to enhance family support for PMTCT: mothers' perspectives	2.3 Existing known facts related to adherence to ARVs	2.3.1 Lack of adherence to ARVs resulting from denial of HIV+ status 2.3.2 Lack of financial resources lead to lack of adherence to ARVs
	2.4 Existing support related to prevention of risk for MTCT	2.4.1 Existence versus lack of support related to prevention of risk for MTCT experienced from relatives and male partner 2.4.2 Provision of support to encourage adherence to ARVs 2.4.3 Lack of support experienced from partners out of wedlock
3. Interventions to enhance family support for PMTCT: male partners' perspectives	3.1 Views related to support by male partners for HIV+ female partners during pregnancy, labour and postnatal period	3.1.1 Support to female partners by male partners viewed as a good practice whilst culturally is viewed as weakened manhood and is culturally unacceptable 3.1.2 Provision of support to pregnant and postnatal women allocated to old ladies in the family 3.1.3 Male partners discouraged and restricted towards carrying for their female partners and the children because is viewed as a taboo
	3.2 Practices leading to support versus lack of support by male partners to their wives	3.2.1 Cultural laws are viewed as problematic because they interfere with married couple's lives 3.2.2 Nurses' attitudes lead to lack of male partners' provision of support to their wives 3.2.3 Long waiting hours a contributing factor to male partners not to support their wives 3.2.4 Security services problematic because they refuse entrance to the health care institution's premises

Table 4.4: Themes and sub-themes reflecting interventions to enhance family support for PMTCT (continued)

Main themes	Themes	Sub-themes
4. Experiences of Providing PMTCT by Health Care Professionals	4.1. Factors that affect the provision of family support in PMTCT interventions as perceived by health professionals	4.1.1. Constrained resources 4.1.2. Health care workers' attitudes 4.1.3. Lack of staff training 4.1.4. Continuity of care

The discussion below will reflect how traditional practices predispose babies to the risk of MTCT. Practices of grandparents related to risk of MTCT were identified. Knowledge of grandparents who care for children whose mothers are HIV-positive are discussed from the data. Feeding practices that predispose the babies to the risk of MTCT were also identified, and support provision for HIV-positive daughters and daughters-in–law in preventing risk of MTCT were found to be difficult as grandmothers do not know their HIV-positive status.

4.3.1.1 Theme 1.1: Practices of Grandparents Related to MTCT

Table 4.5: presents theme 1 and its sub-themes developed from data collected.

Table 4.5: Practices of grandparents related to MTCT

Themes	**Sub-themes**
1.1 Practices of grandparents related to MTCT	1.1.1 Existing traditional practices related to curing childhood illness and lack of maintaining sterility for both mothers and infants during cultural practices incurring disease 1.1.2 A description of religious practices used for MTCT prevention for mothers and infants 1.1.3 Traditional medicines used to treat childhood illnesses is believed to prevent death

Traditionally, grandparents are regarded to have knowledge, experience, and have responsibility to help, teach and give guidance to the mothers about taking care of the baby and also performing traditional practices which help with the curing of childhood illness. There are different practices done by grandparents which expose the babies to the risk of MTCT, such as removal of vaginal warts which is called *Gokhonya* in Tshivenda, *Themo* in Sotho and *Regoni* in Tsonga. These practices are done by examining the mother and cutting the vaginal warts, burning the cuts mixed with *muti* (traditional medicine) and incising the baby on the occiput, and smearing the mixture on the open cuts. Lack of knowledge about cross infection expose the baby to the risk of MTCT as data reported that there was no washing of hands in between cutting of the mother and incising of the baby, during data

collection there was no clear information about sharing of the razor between the cutting of the mother and the baby, thus exposing the baby to the risk of MTCT. Under this theme, sub-themes are presented in the sections that follow.

4.3.1.1.1 Sub-Theme 1.1.1: Existing Traditional Practices That Are Related to Curing of Childhood Illness and Lack of Maintaining Sterility for Both Mothers and the Infant During Cultural Practices in Curing Disease

Data indicated that in all 3 districts participants reported that they all perform removal of vaginal warts in the vagina of the mother, that is removal of *Gokhonya* in Venda, *Themo* in Sepedi and *Regoni* in Tsonga. This procedure of removal of vaginal warts were reported to be done when the baby is sick or is identified when the baby is weak and unable to look up. Others call it that the baby is shy to look at the people. Participants reported that in all village there is an old lady who specialize in diagnosing the women, she checks the vagina if there are those warts, then she cuts the warts, burn them, mixed with muti, cut the baby on the occiput and smear the mixture.

The findings indicated that during the procedure of removing *Gokhonya* (removal of vaginal warts which can only diagnosed by the traditional healers or old lady who specializes in diagnosing and removal), does not practice sterility. It was reported that there was no washing of hands between cutting of the vaginal warts, burning of the cuts and mixing with *muti*, and cutting of the baby's occiput in the red sport and smearing of the mixed muti on the open cuts. The following are the direct quotations that were cited by participants:

- Participant 3 from Capricorn district:

> *The traditional healer will search for growth or warts like in the vagina of the mother. A razor blade is used to remove it. Small pieces of growth or warts will then be taken and burned and mixed with muti (traditional medicine), and the traditional healer will cut the baby on the red sport that*

appear on the occiput and apply the prepared muti with burned cuts of warts. The mother will be given some muti to squat on the burning muti, and then from there the baby will be well.

- Participant 2 from Mopani district:

There was no washing of hands during cutting of the mother's warts and cutting of the baby on the occiput.

- Participant 1 from Vhembe district supported the statement:

Maybe the virus was killed when they burn the cuts, but there was no washing of hands in between the procedure. The traditional healer does not put on gloves and no hand washing is done.

Literature indicated that there are different cultural practices that are being practiced to newborn baby as a way to protect the baby from disease or to prevent the death of the baby which is done according to ethnic group. In the study that was done by Kalembo (2013), it was reported that elderly women prepare herbal medicine combining green crushed leaves that is soaked in water and given to the baby to drink in the morning and in the evening and that herbs are also used to bathe the baby as a way to protect the baby from evil spirits, witchcraft and evil eye.

Traditional healers were also reported to do the incision and smear with powdered remedy from burnt herbal medicine as a way to protect the baby. Whilst traditional birth attendants were reported to prepared *hiziri* (combining herbal plants, charcoal, piece of elephant dung to protect the baby). They also use a piece of dried wood burned by lightning, so that the person who touches the baby with evil thoughts will be striked by lightning.

Sujata (2014) indicated that grandmothers' traditional beliefs influence mothers to give home remedies such as using oil massage before first bath, applying ashes, soot, or dry cow dung. In the same study, it was reported that mothers expose the babies to sunlight until the skin turns yellowish. Grandmothers were reported to

apply *kagal* (mixture of different herbs) on the baby's face to prevent bad eye. It has also been indicated that babies are given charm water to drink to protect the baby from evil spirits (Njai & Dixey, 2013). Literature further indicated that there are different cultural practices that are being practiced on newborn babies as a way to protect them from childhood illness or to prevent them from acquiring disease. Culturally, they believe that an empty cradle should not be moved (Reshma *et al*., 2014). Other cultural practices reported removing of coated tongue by using cloth that was soaked in the baby's urine. The first stools of the baby were also reported to be placed under the carpet, whilst the umbilical blood was reported to be plashed on the mouth of the baby and on the back of the baby thus exposing the baby to risk of MTCT (Sujatha, 2014).

Traditional methods to protect the infants usually expose the baby to infection as most herbal medicines are prepared in an unsterile area, washing of herbs before preparation is not well-established and the herbs are usually contaminated with heavy metals which usually cause allergic reactions. Traditional healers use incision or cut the baby with a razor and smear the powdered traditional medicine to an open area and this practice is fueled by lack of washing hands and lack of knowledge about cross-infection.

These traditional practices expose the baby to the risk of MTCT (Karuma, 2012). Health care practitioners were reportedly giving health education to the mothers, but the mothers were confused as they don't know which information to use as their grandmothers come with the information that is different than the one received from the health care facilities (Karuma, 2012).

The researcher concluded that child health care must not involve only the mothers as they don't have a say when it comes to childhood illness—grandmothers are the ones who are regarded as being knowledgeable and experienced in taking care of

the mother. There is a need of radical knowledge impartation to the grandmothers and traditional healers in order to eradicate the risks of MTCT. The researcher established that traditionally there is lack of knowledge with regard to cross-infection, washing of hands and practicing on protective measures.

4.3.1.1.2 Sub-Theme 1.1.2: A Descriptive Of Religious Practices Used for MTCT Prevention for Mother And Infant

The interview statement indicated that some religions also practice this removal of vaginal warts using their religious ways, where the elderly ladies check the baby in the same way they check the mother and the baby traditionally. They indicated that after cutting the vaginal warts from the mother, they put the cuts in the bucket that is having their religious tea (mixture of coffee and salt) after that the baby will be pricked with their needle by the religious leader who is a man, then the elderly ladies bathe the baby in the prepared tea and the cuts from the mother, and they reported that the baby will be smeared with coffee mixed with salt. After that the baby is reported to be free from *Gokhonya*. The mother is also declared to be free from *Gokhonya*. The following are some of the quotes from the participants:

- Participant 4 from Capricorn district:

> *The pastor will use boiled needle to prick the baby on the back of the occiput when the baby stat to bleed the pastor will smear coffee mixed with salt and he will give another tea to give to the baby to drink, that tea will also be utilized to splash on the head of the baby, back and chest of the baby.*

- Participant 5 from Vhembe district supported:

> *The old ladies in church are the ones who check the mother if she is having vaginal warts by instructing the mother to sleep on the back with legs wide open for the old lady to examined her vagina. If she is having them, the old lady will cut the warts and put the cuts in a bucket with prepared tea that have been prayed for. Then the baby will be washed with that tea mixed with raw cuts and the remaining tea will be given to the mother to wash the area and the mother will be given coffee and salt to*

apply on the vagina.

Sujatha (2014) reported that there is a strong relationship between type of a family, religious, traditional practices and beliefs that are done for caring and protecting the baby and the mother. Other researchers reported that after delivery, the baby is given charm water prepared by someone who knows *Holy Quran* by quoting the verse, write it in a paper and put the paper in water which will be given to the baby to drink to protect the baby from evil spirits (Njai & Dixey, 2013). Selda Hizel *et al*. (2014) also reported that after the mother gave birth she has to undergo 3 calls of prayer which lasted 12 hours each. Kalembo (2013) reported that from 1930 to 1960 missionaries interfered with traditional practices and traditional medicine by replacing them with objects such as *Hirizi* which protects the baby from witchcraft, infectious disease, evil eye and all undesirable things that may attack the baby. Religious practices were introduced for the same purpose, that is, protecting and management of childhood illness.

Whilst the traditional healers were using traditional medicine and herbs, religious people were using holy water and things like quoted scriptures written in a paper and immersed in water which was given to the baby to serve only two purposes, that is, to protect and manage childhood illness. When the baby is given holy water to protect, that practice actually puts the baby at risk of MTCT. The gut or the digestive system of a baby who is less than 6 months is not yet fully developed. Any other food that is not breastmilk may corrode the gut, exposing the baby to the risk of MTCT. Papers with quoted *Quran* verses are usually unsterile, with the immature immune system predispose the baby to risk of MTCT (Kalembo, 2013).

The researcher found that traditional and religious practices play a big role in caring for the newborn. The type of family, their religious practices play a big role in preventing or exposing the baby to the risk of MTCT.

4.3.1.1.3 Sub-Theme 1.1.3: Traditional Medicines Used to Treat Childhood Illness Is Believed to Prevent Death

Most of the participant indicated that traditional medicines prevent death to the babies as it is believed that Western medicine, doctors and nurses cannot treat *Gokhonya*. They reported that childhood illness can only be treated traditionally. All the ethnic groups, i.e., Venda, Tsonga and Pedi verbalized that this *Gokhonya*, *Regoni* or *Themo* can only be treated traditionally as it can prevent the death of a baby. The following quotes were mentioned by the participants:

- Participant 5 from Mopani district:

> *Regoni is the number one killer of babies if not diagnosed and treated in time. Unfortunately the diagnose and treatment can only be done by elderly ladies who are expert in Regoni or traditional healer, the western medicine cannot treat Regon.The doctors and nurses are also unable to diagnose and treat. If the baby is not treated early the baby may die.*

- Participant 7 from Vhembe district supported:

> *If Gokhonya is there and if it is not removed, the baby may die. Gokhonya kills, it shows by pimples or warts in the vagina and the baby will have red spot below occiput and the baby will be always looking down. The baby will be shy to look at people. The traditional healer will cut warts like on the vagina mixed with muti, burned them, and then they cut the baby on the or below occiput and smear the medication.*

Literature revealed that grandmothers and mothers-in-law have influence in caring of the newborn and they believe that if the baby is not given traditional medicine the child may die. Njai & Dixey (2013) indicated that grandmothers consult traditional healers to give them traditional medicine to give to the newborn to prevent evil spirits which may kill the baby, whilst Selda *et al*. (2014) reported that after the mother has given birth she has to undergo 3 calls of prayer which lasted 12 hours each.

Aberigo *et al*. (2012) also indicated that in Ghana babies are given herbal concoctions to feed the baby before initiation of breastfeeding. Boys were reportedly

given herbal concoctions for 4 days whilst girls spent 3 days before they are given breast milk as a way to prevent death (Aberigo *et al*., 2012). Those religious and traditional practices such as spending 36 hours praying while the baby is fed water or herbal concoctions predispose the babies to the risk of MTCT. Considering the underdeveloped gastrointestinal tract with unmeasured herbal concoctions, prepared in an unsterile area, expose the baby to diarrheoa and bacterial infection. All this water and herbal concoctions were reported to interfere with the function of ART and exposing the baby to the risk of MTCT (Kalembo, 2013). The researcher realized that there is a lot of information that is given to the mother by grandmothers to elicit fear in the mothers so that the grandmothers will be able to perform their traditional rituals without disturbance from the mother.

4.3.1.2 Theme 1.2: Knowledge of Grandparents Who Are Caring for Children Whose Mothers Are HIV-Positive

The sub-themes that emerged from this theme are presented in Table 4.6

Table 4.6: Knowledge of grandparents who are caring for children whose mothers are HIV-positive

Theme	Sub-themes
1.2 Knowledge of grandparents who are caring for children whose mothers are HIV+	1.2.1 Lack versus existence of knowledge by grandparents related to the protection of children against MTCT and the religious practices to prevent MTCT 1.2.2 Existing ideas by grandparents that nurses and doctors lack knowledge related to the treatment of defined cultural illnesses 1.2.3 Knowledge of the importance and indications of the herbs to be used during feeding

Zhang *et al*. (2011) reported that grandmothers are regarded as being knowledgeable with matters that involved raising of the children, but they lack knowledge of the risk of MTCT as most of traditional practices expose the babies to the risk of MTCT. They believe that the baby must be given herbs mixed with meal, thus introduction of solids before the baby is six months. This practice corrodes the

gut of the baby exposing the exposed baby to HIV (Zang *et al*., 2011). Grandparents display lack of knowledge with regard to risk of MTCT during the performance of traditional practices such as removal of vaginal warts. Grandmothers lacked knowledge of cross-infection and, as a result, they put the babies at the risk of contracting the virus. Most of the grandmothers reported that their daughters or their daughter-in-law did not disclose their HIV-positive status. Lack of knowledge about the risk of MTCT whilst traditionally they are regarded to know everything about the issues of childhood illness, their influence of taking the baby to their traditional healer for traditional rituals performance, mixed feeding and forceful feeding predispose babies to the risk of MTCT. Therefore, without the involvement of grandmothers, and giving health education to the mothers together with grandmother, all the efforts of implementation of PMTC programmes will be a wasted endeavour.

4.3.1.2.1 Sub-Theme 1.2.1: Lack Versus Existence of Knowledge by Grandparents Related to the Protection of Children Against MTCT and the Religious Practices to Prevent MTCT

Participants display lack of knowledge related to the protection of babies against MTCT. Data indicated that grandparents were the ones who were responsible for taking the babies to be treated by traditional healers for removal of *Gokhonya*, and *uthusa* (that is traditional immunization to a new born for protection of the baby) whilst they do not have knowledge that lack of hand washing between the cutting of the mother and the baby can put the baby at danger of inquiring the virus. From this study, participants distinguished lack of knowledge from religious practices that predispose the babies to MTCT. Data indicated that raw cuts of vaginal warts were mixed with religious tea to bathe the baby as a way to treat *Gokhonya*. Participants also didn't mention the issue of washing hands between the procedures. The following ia a quotation from one of the participants:

- Participant 5 from Vhembe district:

> *My grandchildren are treated at church, where the old ladies from church will check the baby, if the baby is weak and cannot look up to people, the baby will look like s/he is shy. The mother will be examined (u setshwa) and when they found out that the mother is having warts in the vulva. The old ladies will then cut the warts using the razor, put the cuts inside a bucket that is full of boiled tea with salt. The baby will be bathed with that tea and the baby will be given that tea to drink.*

Sujatha (2014) reported that culturally grandmothers teach the mothers to treat coated tongue with cloth soaked in baby's urine, predisposing the baby to the risk of MTCT. In the same study, they also reported that after delivery the mother is expected to splash the blood from the umbilical cord in the mouth and on the back of the baby. This traditional practice exposes the baby to the risk of MTCT (Sujatha, 2014). Grandmothers were reported to exercise extreme power in the family with regard to care of the baby with childhood illness compromising the baby with risk that contributes to MTCT. Mostly, they display lack of knowledge with regard to risk of MTCT (Aberigo *et al*., 1012).

Sujatha (2014) indicated that there is a strong relationship between religion, cultural practices and beliefs in the caring of a newborn. The babies are given holy water, herbal medication, incised to smear herbal medicine as a way to care for the baby in order to prevent and to manage childhood illness (Njai *et al*., 2013). The study that was conducted by Dr Hanifa Bachey indicated that feeding the affected baby before 6 months expose the baby to the risk of MTCT. The risk to MTCT is very high as any food or drink taken before 6 months may affect the gut of the baby in different ways such asdiarrhoea, allergies and HIV can easily invade the gut of the baby (Muheriwa *et al*., 2013).

When religion was introduced to African countries, they emphasizde that all traditional practices were evil and is part of witchcraft, but the religion failed to bring something to represent the traditional way of preventing and caring of childhood

illness. With lack of knowledge, grandmothers continued with their practices, but only changed the name from traditional practices to religious practices, different names, but providing the same purposes. Literature and quotations of the participants revealed that grandmothers lack information about PMTCT, but the society expect them to be the ones with knowledge and to give direction in the caring of the babies.

Due to lack of knowledge, traditional and religious practices expose the babies to the risk of MTCT. For PMTCT programmes to function well, midwives have to include grandmothers by health educating them on the risk of MTCT and how to prevent such risk. The researcher concluded that most of the traditional practices expose the baby to the risk of MTCT. Splashing the blood from the umbilical cord, in cases where the mother was on PMTCT programmes during pregnancy, with the thought of the baby being protected from the risk of MTCT. When grandmothers started to attend churches, when it comes to caring of a newborn they continue with their old traditional practices combining them with religious practices, maybe this is due to lack of new information with regard caring of a newborn. The nurses still have a long way to bring grandmothers on board if they really want to protect the babies against risk of MTCT.

4.3.1.2.2 Sub-Theme 1.2.2: Existing Ideas by Grandparents that Nurses and Doctors Lack Knowledge Related to the Treatment of Defined Cultural Illness

From this study, participants established that nurses and doctors lack knowledge to diagnose related traditional illnesses and they are unable to treat them. Data indicated that grandmothers are the ones who are able to diagnose *Gokhonya* and through their experience they know traditional healers who are experts with treating *Gokhonya*. The following are some of the quotations from the participants.

- Participant 4 from Capricorn district:

(*Themo) is the childhood illness that can only diagnosed and treated traditionally. Themo can only be treated by specialized old ladies who sometimes are not traditional healers but expert in diagnosing and removing it, or can be treated by traditional healers. Unfortunately the doctors and the nurses do not know how to treat Themo. If the child is suffering from Themo the elderly ladies will recognize it and usually they ask each other for confirmation. The MTCT is a new thing and Themo was there even before MTCT. I think it is difficult for us as elders.*

Gourlay (2013) reported that there is general skepticism towards facilities or modern medicine among communities and family members. The strong roles of elders and their beliefs influence decisions to use traditional healers and medicines in place of ARV (Gourlay *et al*., 2013). Grandmothers were reported to prefer traditional healers than Western medication with the mind that health care practitioners do not know how to treat some childhood illness. In the study that was conducted by Victor, Bonrie, Akeke & Srinigovendon (2009), it was reported that the grandmothers refused to take the grandchild to the doctor verbalizing that she was born before the doctor was born (older with wisdom that is more than that of the doctor).

General skepticism abounds towards facilities or modern medicine among community or family members, and strong roles of elders and their beliefs influence decision to use traditional healer and medicine alongside in place of ARVs. Cultural ways of feeding such as giving of water in the morning or traditional medication in the place nutritional food or mixed feeding exposed the baby to MTCT (Gourlay *et al*., 2013).

The researcher identified that there was a gap between the way health care professionals and the traditional healers treat childhood illness. During pregnancy, delivery and immediately after delivery nurses try their best to prepare the mother for caring of the baby and feeding of the baby to prevent the risk of MTCT. But

immediately when the mother is discharged from the hospital and when she arrives home, the grandmother will be ready with their information of caring for the baby traditionally, related to feeding of the baby and traditional immunization.

If the mother is not cooperative, grandmother were reported to intimidate the mother by telling her that nurses know nothing about the issues of caring for the baby and if she is uncooperative they will tell her that the baby will die, or they perform their traditional practices without the mother's knowledge. If the nurses do not include grandmothers, their efforts of health educating the mother is a waste of time and energy because usually mothers do not have a say when it comes to issues of caring for the baby.

4.3.1.3 Theme 1.3: Feeding Practices Assisting in Preventing the Risk of MTCT

Table 4.7 presents theme 1.3 and its sub themes developed from data collected.

Table 4.7: Feeding practices assisting in preventing the risk of MTCT

Theme	Sub-themes
1.3 Feeding practices assisting in preventing the risk of MTCT	1.3.1 Initial different feeding practices and preparation of solid food which include herbs and over the counter medicines from birth to 18 months and their importance outlined 1.3.2 Expressed breast milk and storage of breastmilk in the family refrigerator viewed by grandparents as an unacceptable versus acceptable practice 1.3.3 Working mothers and mothers who are attending school depend on grandmothers to babysit and feeding of their babies

There are different feeding practices that are performed from birth to 18 months. Issues of feeding the baby depend upon the knowledge, beliefs, and mostly the influences of the grandmother in the family. Grandmothers are regarded as the ones with experience of infant feeding. Most of the time the knowledge that the mother acquired at the clinic is not considered as grandmothers look down upon information from the clinic verbalizing that nurses are too young or ignorant about feeding of the

baby (Sujatha, 2014).

According to the grandmothers' version, babies are not supposed to be breastfed colostrum as is regarded as dirty milk. Grandmothers believe that water gives life and they prefer to give water to the baby than to feed the baby with colostrum. There are herbs that are prepared to be given to the newborn with the belief that they will settle the baby's stomach and prevent colic. After the baby is discharged from the clinic, the family traditional healer is summoned to come and immunize the baby traditionally and the traditional healer brings along herbs to be given to the baby mixed with mealie meal and water to prepare a soft porridge to feed the baby—that is mixed feeding which predispose the baby to risk of MTCT. If the baby cry is regarded as if the baby is hungry, the baby will be given soft porridge (Aborigo *et al*. 2012). Sharon Da Costa (2012) indicated that babies are given solids early—so much that in most cases babies are given solids as early as their first week after delivery. In African countries it is a taboo for a mother to express breast milk and feed the baby, whilst in Western countries it is common to express breast milk and store it in the refrigerator to feed the baby. To mothers from Western countries to breastfeed the baby in public, in front of in-laws or visitors is an unacceptable behaviour (Sharon Da Costa, 2012).

4.3.1.3.1 Sub-Theme 1.3.1: Initial Different Feeding Practices and Preparation of Solid Food Which Include Herbs and Over The Counter Medicines from Birth to 18 Months and Their Importance Outlined

Data indicated that there are different feeding practices where some reported to give watery soft porridge immediately when the baby is discharged from the health facility, whilst others reported that they will wait until the cord fell off. The other group of grandmothers verbalized that they started to give food at 3 months and some said they give solids when the baby starts to cry due to hunger. Participants reported that they use herbs to prevent diarrheoa and other childhood illness. Participants who

are traditionally influenced verbalized that the babies were fed (*ntswu*), water that is prepared by traditional herbs and is given to the baby replacing food or soft porridge.

Some participants reported that they buy over the counter medicine such as *Dupa*, *Umuthi wenyoni*, Grape water and Essence of life, whilst others reported to feed their babies with water, sugar and salt. Grandmothers who are caring for the babies of teenage mothers reported that in order to keep the baby quite they have to give the baby pacifiers to keep them calm as child grant is not enough to buy milk to feed the baby. Participants who are Christians reported that they feed their babies with Holy water. The water is reported that it will be sent to the pastor to pray over the water before the baby is being given the water. The following are some of the quotations from the participant:

- Participant 3 from Mopani district:

> *Ahaaa…Yes I don't want this baby to cry always that that is why I gave the baby grape water and pacifier to keep the baby busy and it will make her calm down, when the mother is at school, because milk is very expensive that is why I supplement milk with pacifier. The mother will only breast feed the baby after school.*

- Participant 5 from Vhembe district:

> *After the traditional immunization (u thusa) the traditional healer will give some roots of different herbs to assists the baby to grow well and to protect the baby from childhood illness. The roots will be placed in a calabash and water is added which will make the watery soft porridge to feed the baby or the traditional healer prepared (ntswu) this herbal solution is used to replace soft porridge. Those babies who are given soft porridge are also given herbs preparation for drinking early in the morning.*

- Participant 5 from Mopani district:

> *I am a church member and I only use water that was prayed over by my pastor and nothing else. I also give all my grandchildren gripe water and if the baby is crying, I also use "dupa" to prevent (tetanus) Nurse you know what? Things like essence of life and Umuthi we nyoni are the best*

remedy to calm the babies whose stomach are not settled.

- Participant 3 from Capricorn district:

  I usually start to give soft porridge to my grandchildren at 3/12 or 4/12. Before that my grandchildren are given breast milk and formula feeding to prevent the baby from crying due to hunger.

- Participant 3 from Vhembe district:

  Nurses usually say that the baby must start with solids foods at 6/12 but what will protect the baby while we are still waiting for 6/12? Besides these days mothers are working or attending school, and if I don't give soft porridge, the baby will cry because of hunger. Sometimes I give the soft porridge during the day when the mother is not present, but the baby will still cry as the breast milk is not enough to feed the baby until the baby feels full. This information was also confirmed by mothers:

- Participant 9 from Vhembe district:

  After the cord fell off my mother-in-law bring home our family traditional healer to immunize the baby traditionally (U thusa). The traditional healer performed all the rituals and gave me a bunch of herbs with the instructions of putting the herbs in the clay container, add water and mealie meal. On the third day a watery soft porridge was prepared for the baby to prevent childhood illness, such as abdominal discomfort, diarrheoa and colic.

Infant feeding has been identified as a major problem in African countries. Grandmothers play a major role in influencing feeding options of the baby in a family. Traditionally, babies are given traditional herbal solution as a way of protecting the baby from illness. Forceful feeding is also an acceptable way of feeding the baby, and the babies are given soft porridge immediately after the baby is discharged from the health care facilities. These practices expose the babies to mixed feeding which predispose the babies to MTCT during the first 6 months of life (Sharon Da Costa, 2012).

Grandmothers were reported to influence early introduction of solids. When the baby

cries, grandmothers usually conclude that the baby is hungry. In the same study, it was reported that babies were given solid food early due to low socio economic factors where the mother has to work and the baby remain with grandmothers. Maternal illness, insufficient breast milk, influence from friends, husbands and grandmothers influence early introduction of solids (Njai & Dixey, 2013). The *Mother, Child Health and Nutrition* booklet (DoH, 2014) indicated that the baby should be breastfed for 6 months without giving the baby anything else. This means exclusive breastfeeding, where the baby is not given any other foods or liquids such as water, animal milk, tea, baby formula milk or porridge, not to use baby feeding bottles or dummies to feed the baby, only give medicines prescribed by a doctor or Nevirapine syrup. Exclusive breastfeeding reduces the risk of HIV transmission compared to mixed feeding (mixed feeding means breastfeeding and also giving other milk or foods). In the study compared with exclusive formula feeding (EFF) or exclusive breastfeeding (EBF), “mixed feeding,” the practice of giving breast milk and any other liquid or food simultaneously, confers the highest risk of morbidity and mortality (Coovadia *et al*., 2007). Not only are infants deprived of the benefits of full breastfeeding, mixed feeding can increase transmission of HIV.

Family members influence how infants are fed. Where possible or acceptable, feeding counselling should include a family members/home supporter to help women implement their feeding choices. The South Africa National PMTCT programmes have adopted an approach to infant feeding that seeks to maximize child survival by: Infant feeding counselling to the pregnant women/mother, including her individual ability to meet the AFASS criteria (DoH, 2008). The AFASS criteria refer to acceptable, feasible, affordable, sustainable and safe.

General sceptics towards facilities or modern medicine among community or family members, and strong roles of elders and their beliefs influence decision to use traditional healer and medicine alongside in place of ARVs. Cultural ways of feeding

such as giving of water in the morning or traditional medication in the place nutritional food or mixed feeding exposed the baby to MTCT (Gourlay *et al*., 2013). Infant feeding has been identified as a major problem in African countries. Mothers-in-law or the grannies play a major role in influencing feeding options of the baby in a family.

Traditionally, babies are given traditional herbal solution as a way of protecting the baby from illness. Forceful feeding is also an acceptable way of feeding the baby, and the babies are given soft porridge immediately after the baby is being discharged from the health care facilities. These practices expose the babies to mixed feeding which predispose the babies to MTCT during the first 6 month of life. It is very much important for health care workers to involve grannies in infant feeding counselling with the aim of ensuring PMTCT intervention sustainability (Goosen, 2014).

Grandmothers were reported to be decision-makers with regard the matter of feeding of the baby. They were reported to bring their long time experiences which include practicing forceful feeding and early introduction of solids mixed with herbs. If the mother resist they quietly give the baby unhealthy supplementary feeding which predispose the baby to the risk of MTCT (Aberigo *et al*., 2012). In the same study, grandmothers were reported to give babies grape water, local herbs and traditional meaningful food which is water mixed with flour of guinea corn (Aberigo *et al*., 2012). Reshma (2014) indicated that grandparents believe that herbs are important for the health of the baby and prevention of childhood illness. She indicated that grandmothers mixed milk with *kumkumkesar* (herb to prevent colic) (Reshma *et al*., 2014).

Njai & Dixy, 2013 reported if the baby has colic or is always crying, the mother is given the roots of a plant called *kuntumangno* to chew and feed the baby with her

mouth and it is reported that the baby will sleep there and then (Njai & Dixy, 2013).Herbs were reported to be not scientifically proven. The study that was done by Bakerink *et al*. (2011) indicated that most of the exposed babies after they were given herbs developed seizures, infections, allergic reactions and liver damage.

A premature gastrointestinal tract, low immunity and herbs that are contaminated with heavy metals cause allergic reactions. It was also reported that herbs have negative interaction with ART. The herbs are not regulated—there is no assurance that the products indeed contain the ingredients written on the label (Bakerink *et al*., 2011). Mixed feeding exposes the baby to high risk of MTCT. The introduction of solids while the baby is still breastfed and is under 6 months of age irritate the gut and corrode the inner lining of the digestive system and expose the baby to MTCT. The researcher found out that grandmothers believe that the baby will never be well if it is not given herbs to prevent childhood illness. As grandmothers thinking that the baby must be protected from childhood illness they actually expose the babies to mixed feeding and put the babies at risk of MTCT. Participants display lack of knowledge about feeding practices that predispose babies to the risk of MTCT. Participants verbalized different ways of feeding their babies. Some reported that they start to feed their babies with water, sugar and salt.

Those who are traditionally immunized, reported that they feed their babies with different types of herbs mixed with water and mealie meal where they prepare soft porridge to feed the baby, those who are using religious beliefs use prayed water to mix with soft porridge and feed the baby. Regarding time frame to give solids, participants gave different opinions as some start giving solids immediately after discharged from health facility, while others wait for 3 months or 4 whilst few manage to breastfeed up to 6 months before they give solids. Mixed feeding was reported as common practice. To add on different types of feeding, participants reported that they also feed their babies with over the counter medication

(Nwakaego, 2014). Infant feeding has been identified as a major problem in African countries. Mothers-in-law or the grannies play a major role in influencing feeding options of the baby in a family. Traditionally, babies are given traditional herbal solutions as a way of protecting the baby from illness.

Feeding practices from birth to 18 months depend on the knowledge of grandmothers as they are regarded by family members as the one with experience of feeding the baby. Grandmothers are the ones who have the right of the how and when to feed the baby. Due to lack of knowledge and looking down upon the information given to the mothers by nurses expose the babies to the risk of MTCT. Traditional ways of feeding which include early introduction of solids and forceful feeding which exacerbates the risk of MTCT (Njai & Dixey 2013). Mothers who are working and those who are attending school are mostly exposed to be given *mageu*, *danone*, youghart rooibos tea for babies thus expose the babies to the risk of MTCT. Grandmothers are also the ones who give babies pacifiers just to keep the baby from crying. Due to lack of financial support, mothers leave their newborn with grandmothers and when they cry, grandmothers give soft porridge assuming that when babies cry is due to hunger (Ibekwe, 2014).

Forceful feeding is also an acceptable way of feeding the baby, and the babies are to be given soft porridge immediately after the baby is being discharged from the health care facilities. These practices expose the babies to mixed feeding which predispose the babies to MTCT as the gut of the baby is corroded by traditional herbs that is mixed with soft porridge during the first 6 month of life. It is very much important for health care workers to involve grannies in infant feeding counselling with the aim of ensuring PMTCT intervention sustainability (Njai *et al*., 2012; Nwakaego, 2014). In quantitative results, nurses reported that they give health education to the mothers about feeding of the baby. The only chance where nurse's health educate the grandmothers is when they have brought the baby to the child

health facility. The researcher concluded that health education to the grandmothers about feeding of the baby, including them during ANC with issues of feeding plan, considering their opinion, will help with reducing of risk of MTCT.

4.3.1.3.2 Sub-Theme 1.3.2: Expressed Breast Milk and Storage of Breast Milk in the Family Refrigerator Viewed by Grandparents As An Unacceptable Versus Acceptable Practice

Participants reported that expressed breast milk is unacceptable practice. Venda-, Tsonga- and Pedi-speaking participants verbalized that expressed breast milk is nauseating and is disgusting. Participants verbalized that breast milk is like waste product such as stools, sputum or urine. Most participants agree that breast milk is good for the growth of the baby, but expressed breast milk is disgusting. For them breastfeeding is preferred. The following were quotations from the participants:

- Participant 5 from Capricorn district:

> *Breast milk is like waste products, i mean things like saliva, mucus, urine and faces. To tell the truth I cannot stand for that. Even in my family when you have just given birth and the breast milk is too much and the baby could not finish the breast milk, and is just flowing and sometimes even the T-shirts are wet with breast milk. I opt to cook and serve the mother rather than to eat food that is being cooked by the mother with a breast oozing milk all over. Breast milk has a smelling that I cannot tolerate.*

- Participant 4 from Vhembe district:

> *I will rather use formula milk thinking about expressed breast milk I feel nauseated I think it is disgusting. I may vomit and I don't know how will I stare the breast milk because in the refrigerator there will be other food. Food cannot be mixed with breast milk*

- Participant 6 from Mopani district:

> *Eish…I really don't want to see expressed breastmilk, is disgusting. Traditionally a nursing mother is not allowed to prepare food for her family for three months reason being that by that time the baby will be old enough to finish the breastmilk. It was a taboo for a nursing mother to*

cook for her husband or even to take care of the husband, this was the responsivity of the family to cook and doing house hold chores

Literature indicated that this method of expressing breast milk is not acceptable in African countries where breast milk is regarded as a waste product, such as urine, faeces or sputum (Sharon Da Costa, 2012). In Western countries expressed breast milk is acceptable because breastfeeding in public, in front of the visitor's, husband or the in-law is regarded as taboo. In Western countries mother express breast milk and put it in the refrigerator to feed the baby when they are in the area where breastfeeding is unacceptable (Sharon Da Costa, 2012).

Brittain *et al*. (2014) indicated that grannies and community members have a great influence on the choice of feeding the babies where sometimes mothers are forced to breastfeed the baby under the pressure of what is expected of her from society. The issue of expressing breast milk and store the milk in the refrigerator is also not yet acceptable by society due to the fact that breast milk is assumed to be like waste product (e.g., faeces or urine).The influence of grannies is also identified as a barrier for family support to sustain the implementation of PMTCT sustainability. However, to sustain breastfeeding is the best method as breast milk reduces the risk of MTCT.

Bachou & Mwanamigidu (2012) reported that babies who are on breastfeeding have a lowered risk for MTCT, whilst babies on formula feeding and breastfeeding are at higher risk of MTCT. Those babies who are on breastfeeding and food before the age of 6 months were reported to be at very high risk of MTCT. Formula feeding, animal milk and family foods were reported to irritate and inflame the gut and make it easier for HIV to invade the body (Bachou & Mwanamigidu, 2012).

The researcher has observed that usually when the midwives ask the mother or grandmothers about feeding, mothers give the right answer to the nurse or they give an expected answer as a way of avoiding questions from nurses. But most of the

positive answers do not corresponded with the health of the baby. During feeding counselling, mothers were found to have a clear knowledge of healthy feeding practices. Whilst when doing one-on-one counselling they tell the truth which is different from what they verbalized that they don't have control when it comes to feeding of the baby—it is an old ladies domain to give direction of infant feeding instructions.

4.3.1.3.3 Sub-Theme 1.3.3: Working Mothers and Mothers Who Are Attending School Depend on Grandmothers to Babysit and Feed Their Babies

Participants reported that they depended on grandmothers to babysit and feed their babies. It was reported that grandmothers do not accept feeding the babies with expressed breast milk. Grandmothers were reported to prefer formula feeding than expressed breast milk. Participants also reported that grandmothers feed the baby who is under 6 months with soft porridge if the baby is crying thinking that the baby is hungry. Some participant reported that babies who are cared for by grandparent are the ones that are given pacifiers, whilst other are being fed *maheu*, children's rooibos tea, Danone or water and sugar. Lack of financial support was reported to be cause of giving babies junk food. The following are some of the quotations from participants:

- Participant 6 from Mopani district:

> *My mother-in-law started to give my baby soft porridge and formula early because I was going back to work. She told me that if I don't give the baby soft porridge, formula milk or maheu the baby will be always crying*

- Participant 7 from Capricorn district:

> *Child grant is not enough to buy napkins and formula, therefore my mother feed my baby with soft porridge, children s rooibos tea, maheu and sometimes when I have money I buy danone but in the middle of the month my mother usually give my baby water, sugar and salt.*

Njai & Dixey (2012) reported that exclusively breastfeeding for 6 months is rarely practiced due to strong cultural beliefs. Increasingly, grandmothers, husband and friends influences were reported as a contributory factor. Low socio economic factors were also cited as a major cause as the mother has to work to support and buy food for the family (Njai *et al*., 2012). Nwakaego (2014) indicated that traditionally it is common to give the baby water, sugar and salt as it is believed that water gives life more than breast milk. It was also reported that honey can be added to warm water and feed the baby (Nwakaego, 2014).

Lack of financial support, involvement of grandmothers and mothers-in-law play a role in early introduction of solids (Njai *et al*., 2013). Brittain *et al*. (2014) indicated that grannies and community members have a great influence on the choice of feeding the children where sometimes mothers are forced to breastfeed the baby under the pressure of what is expected of her from the society. The issue of expressing breast milk and store the milk in the refrigerator is also not yet acceptable by the society due to the fact that breast milk is assumed to be like waste product (e.g., faeces or urine) (Brittain *et al*., 2014). The influence of grannies is also identified as a barrier for family support to sustain the implementation of PMTCT.

The researcher noticed that the issue of expressed breastmilk is still not accepted by the participants. Grandmothers display a sense of shock when the researcher talked about expressed breast milk. Grandmothers expressed a negative attitude towards expressed breastmilk. Most of the babies are being taken care of by grandmothers as their mothers are at work or they are teenage mothers who are still attending school. Due to lack of finances to buy formula in order to prevent mixed feeding, those babies whose mothers are working or attending school are at risk of MTCT.

4.3.1.4 Summary of Main Theme 1

From the book of Ruth 4:16 ‘Then Naomi took the child, laid him in her lap and cared

for him. Naomi who was Ruth's mother-in-law took the responsibility of taking care of the baby. Mothers-in–law and grandmothers have been reported to form part of helping the mother to raise children. Most of the time mothers who are giving birth for the first time depend on grandmothers and mothers-in-law for advice as they are regarded to have knowledge due to the experience they have while raising their own children.

The grandmothers' and mothers-in–law's level of education, knowledge they possess, religious beliefs and the traditional practices they believe determined how the baby will be raised up. Usually the mothers don't have a say in the matter of raising her child. This practice is also worsened by family dependency on grandmothers and the do's and don'ts from the grandmothers. Lack of knowledge about risk that predisposes the babies to MTCT also play a role in exposing the babies to the risk of MTCT. Grandmothers also display lack of knowledge with the matter of cross-infection. Traditionally, the mother does not have a say when it comes to traditional practices.

Data indicated that the how part of performing traditional practice lies with the traditional healer who cannot be challenged as she is regarded as someone who knows all. From the data collected, traditional practices with regard to treating the mother and the childhood illness predispose the baby to risk of MTCT. Even if the mothers have been taught at the clinic on how to prevent risk of MTCT, is difficult for her because when she arrives home the grandmother will be doing her job by rendering traditional ways of treating childhood illness.

Some of the mothers verbalized that they were told that if they don't cooperate the baby will die. As a result, even if the mother has knowledge, that knowledge cannot be utilized as the mother is regarded as lacking knowledge when it comes to management of childhood illness. Grandparents and mothers-in-law are regarded as

knowledgeable with regard to feeding of the baby. Their traditional knowledge of feeding the baby usually clashes with what the mother has been taught at the clinic. At the clinic, the mother will be taught to introduce solids after six months whilst traditionally the newborn baby is introduce to soft porridge on discharge from the health facilities as it was reported that traditional immunization will require the baby to be given herbs in a form of soft porridge to prevent childhood illness.

Mothers are confused by the baby who is always crying and grandmothers will be saying the baby is crying due to hunger or because the baby is not traditionally immunized. Thus, exposing the baby to mixed feeding predisposes it to risk of MTCT. Thus, mothers are experiencing lack of support from grandmothers and mothers-in-law with regard to traditional practices and feeding of the baby. Differences between the Western way of treating childhood illness and feeding of the baby versus traditional ways were reported to cause chaos for the mothers related to prevention of risk to MTCT. This chaos was also driven by fear as it was reported that mothers are told that if they don't undergo traditional practices the baby will die. With the pride that the grandmothers have (knowing better than the health care practitioner) it was reported that it really causes challenges to the mother to prevent risk of MTCT.

4.3.2 Main Theme 2: Interventions to Enhance Family Support for PMTCT: Mothers' Perspectives

Mothers' views related to interventions that contribute to risk of MTCT are discussed. Mothers had information about the risk of MTCT, but traditionally mothers were not considered decision-makers. In a family there were grandmothers who were regarded as experienced in childrearing practices. Traditionally, mothers do not have a say when it comes to the matters of taking care of the babies (Mahbubuo *et al*., 2011; Goosen, 2014). The health care workers are doing their best with regard to health educating the mother. After their discharged from the clinic, mothers equipped

with all the information on how to take care of the baby and how to protect the baby from the risk of MTCT. However, when the mother arrives at home the grandmother has her own opinion of taking care of the baby and some of those traditional practices expose the baby to risk of MTCT, includings removal of "*Gokhonya*" where the precautionary measures are not taken into consideration.

Lack of knowledge of grandmothers and undisclosed HIV-positive status by mothers increase the risk of MTCT. The female partner also faces a challenge of failure to negotiate using of condom as in African culture for women to talk about sex issues is still a taboo. This exposes the baby to risk of MTCT. Some of the mothers failed to disclose their HIV-positive status to their male partners and other family members. When the mother fails to disclose her status is difficult to adhere to and give the baby treatment. Mothers also displayed lack of knowledge with regard to issues of treating cracked nipples or engorged breasts. The issues of traditional rituals such as removal of *"Gokhonya",* cutting the baby and smearing the *muti* with lack of knowledge of cross-infection further exposes the baby to the risk of MTCT. Lack of power and lack of rights to take their own decision about caring and feeding the baby increase the burden of risk of MTCT.

4.3.2.1 Theme 2.1: Views of Mothers Related to Factors Contributing to Risk or Prevention of MTCT from 6 Weeks to 18 Months

Table 4.8 presents theme 2.1 and its sub-themes developed from the data collected.

Table 4.8: Views of mothers related to factors contributing to risk of prevention of MTCT from birth to 18 months

Theme	Sub-Themes
2.1 Views of mothers related to factors contributing to risk or prevention of MTCT from birth up to 18 months	2.1.1 Unsafe sex during breastfeeding predispose and increase risk of MTCT. 2.1.2 Lack of knowledge versus existing knowledge related to the risks of cracked nipples, cultural and modern way of treating cracked nipples 2.1.3 Lack of adherence to chosen feeding option and ARVs leads to risk of MTCT

Mothers were faced with different challenges that contributed to the risk of MTCT. Unprotected sex during breastfeeding with lack of power to negotiate condom use expose the babies to risk of MTCT. Lack of knowledge with regard to care of cracked nipples and engorged breast aggravates the risk of MTCT. Lack of adherence to ARVs and an undisclosed HIV-positive status increase the risk of MTCT. Participants reported the lack of control or traditional rights to take decision in issue of condom use. Participants reported that they are confused as they are taught by nurses at the hospital about the care of cracked nipples and engorged breasts, but when they are at home the mothers-in-law or elders who are believed to know everything about caring of the cracked nipples or engorged breast come up with their traditional ways of treatment. Mothers reported that when they come back from the clinic they are treated as novices by grandmothers. Participants reported that they don't have a say when it comes to traditional practices and if they resist they are told that the baby may die, whilst with the issue of using protection (condoms) mothers reported that they don't have a say (Sujata 2014; Tshikukwa, 2014; Gourlay *et al*., 2013).

4.3.2.1.1 Sub-Theme 2.1.1: Unsafe Sex During Breastfeeding Predisposes Babies and Increases Their Risk of MTCT

Participants reported that they have knowledge that unsafe sex predisposes their babies to MTCT, but they don't have power as their husbands refuse to use condoms. Participants also indicated that even if the male partner uses a condom there is no consistency as sometimes they use condom and sometimes they refuse to use condom. Some of the participants didn't disclose their HIV-positive status to their husbands due to fear of abandonment and being blamed for bringing the virus.

This report from female partners was also confirmed by male partners when they verbalized that when they use condoms it is like confirming to their suspicious wives

that they are really have extramarital affairs; they also reported that female partners are very sensitive to see male partners with condom. Participants stated that if you bring a packet of condoms the wife will count them if one packet is missing you have to explain yourself to the point of spending sleepless nights. Male partners verbalize that they only use condoms with their girlfriends and not their wives.

Participants reported that male partners have negative attitudes towards utilization of protective measures during sexual encounters. Most of the participants verbalized that male partners refused to use condoms with them. Those who were using condoms were reported not using condom continuously. The following are some of participants' quotations:

- Participant 6 from Capricorn district:

> *We sometimes use condom but most of the time we don't use, and when I ask him about using condom he just keep quite. Usually when I tried to talk about this he get offended. And because we are not married yet, I think the best way is to stop breastfeeding to protect the baby from being infected by the virus. Is long that we have been in this relationship and he supports me financially.*

- Participant 4 from Vhembe district:

> *Truly speaking I don't have support from my partner because he does not want us to talk about it. I have tried several times to ask him to use condom, but each time he just keep quiet and he keep on having sex with me without condom Financially he do support me with money and he buy groceries.*

- Participant 7 from Mopani district:

> *I didn't disclose my status to my husband fearing that he will blame me for bringing the disease at home. Is difficult to negotiate using of condom. We usually engage in unprotected sex and each time I just feel like screaming, I'm confused I don't know what to do. I was taught that I must condomise to protect myself and the baby, I am failing my baby.*

- Participant 1 from Vhembe district:

> *Safe sex is easy to say than to practice it. During pregnant and after delivery I was taught that I must use condom at the clinic, but when I'm at home alone with my husband is difficult to tell him about using of condom. I remember when I talk to my husband about using of condom he asks me why now he has to use condom? When I told him that nurses said is for protecting the baby he said why the nurses didn't tell him. It was like I was lying*

- Participant 8 from Mopani district:

> *Ok…you mean (Masangu) sex ok we are using condom every time we had sex, (participant laugh while putting her hands on her mouth). To be honest asking your husband to use condom is a very difficult exercise. My own husband may spend days without touching me if keep on insisting on condom use. One day he told me that he cannot use condom with me and he may only use it with his concubine.*

The mothers' quotations were supported by male partners' perspective as detailed below:

- FGD P1

> *If you start to use condom with your wife it shows that there is no trust. Protection is difficult when you are in marriage. As men we are afraid to be labelled as unfaithful men. Is difficult even to accept condom given by nurses at the clinic. We are afraid to buy condom fearing that somebody may see us and label us as promiscuous. Men are also afraid to buy condom at our local shops fearing that the cashier may tell people that we were buying condoms. The other problem is that when you buy condoms our wives usually count them; they make us to be accountable of condom used. If you happen to lose one condom that day you will never sleep. Our wives when it comes to condom they talk too much. If you have condom at home the wife will be always counting them and you have to explain to her where and who did you use the condom with. Men by nature they don't want to talk too much and they hate to explain themselves to their wives, and they feel being disrespected. Men usually hide their condoms inside their cars in a place where the wife will never find them, but as men we are free to talk about condom amongst ourselves. At my work place I am the one who feel the containers of condoms in our bathrooms, and*

each time when I check the containers will be always empty. These tell us men do use condom but not at home with their wives.

- FGD P2

Using condom at home is still a problem. If the wife comes home to tell the husband that at the clinic she was told to use condom more especially if the nurse is a women and the wife is the one who is introducing issues of condom at home, that day the men must show the wife who is the boss at this house. Condom or utilizing condom at home brings conflict, because when the wife start to talk about condom is like she is saying that the husband is not faithful. As for now condom use between couple is still a huge problem. I think it is better if this issue of condom use be taught in couples meetings.

When the husband and wife have unprotected sex (those who are HIV-positive/or one partner is positive and the other partner's status is unknown) there is reinfection of the virus. Even if one partner is on ART or both partner are on ART, if they do not use protection during sexual intercourse they keep on re-infecting each other. This act increases viral load, an increased viral load exposes the baby to risk of MTCT. Tilahum & Mahumed (2015) indicated that male partners are not willing to use condom during sexual intercourse. Male partners were reported to use violence, withdrawal of financial support, resentment, and they use controlling behaviours to force their wives to have sex without a condom (Tilahum & Mahumed, 2015). In another study, it was reported that most of the time female partners feel helpless as they do not know what to do. At the clinic they are health educated to use condoms to prevent the risk of MTCT whilst when they reach home their male partners refuse to use a condom (Twala, 2014).

Lawson *et al*. (2007) indicated that HIV is such an awkward and agonizing disease that people would rather keep quiet than talk about it, especially male partners. Undisclosed HIV status was also reported as another way of failing to use condoms in a marriage. Female partners who did not disclose their HIV-positive status find it

difficult to negotiate condom use, thus exposing the mother to reinfection and risk of MTCT in their babies (Gourlay *et al*., 3013).

In Sub-Saharan Africa, women's economic vulnerability and dependence on heir husbands, coupled with traditional male superiority over a women increases their vulnerability to HIV by controlling their ability to negotiate the use of condoms—usually women fear to be labelled with infidelity (as traditionally it is a disgrace for a married women to be involved in extramarital affairs). Dutkie (2010) reported that multiple sexual partners' results of one individual is a proxy indicator of the HIV-positive status of another sexual partner. Multiple concurrent sexual partners have been identified as one of the drivers fueling the HIV epidemic and hindrance of family-support to PMTCT. Men were reported to be likely to have more than 8 sexual partners in their lifetime. The number of sex partners increased with increasing wealth quantities. Another barrier that was reported was that men who have multiple sexual partners do not want to be seen accompanying their women who are pregnant because they do not want to be seen by their concubines. Extramarital relationships or multiple sexual partners were cited as the barrier for male partners to become involved in family support in PMTCT sustainability. Non-use of condoms by infected women while breastfeeding is one of the identified causes of MTCT (Dutkie, 2010). This information was also confirmed by the focus group of male partners who verbalized that they don't use condoms in marriage fearing the issue of trust. They verbalized that they may use condom with their girlfriends.

Female partners were reported to reach to a point where they count the number of condoms and if one condom is missing the male partner verbalized that the wife will complain until the male partner gets annoyed. Male partner also reported that if you start to use condom at home the wife will conclude that you are not faithful. The researcher found that using of condom in a family is still a problem. Lack of family involvement with the issue of condom use poses a problem. Traditionally, male

partners are the decision-makers on sex matters, like when to have sex, how and whether to use protection or not.

The women who talk to their husbands with the issues of sex are regarded as whores or ill-mannered or they do not respect their husbands. By nature, male partners do not want to use condoms when they have sex with their wives. The fact that the woman is the one who is telling the husband that nurses told her to use condom to prevent risk of MTCT is like this woman is disrespecting the husband, This is also fueled by the fact that the information is from nurses who are also women—it is like nurses are now controlling him or disrespecting him. The researcher concluded that it is still a challenge for a man to use a condom at home. Condoms were introduced to people in a negative way, it was regarded to be utilized in extramarital affairs, just to prevent pregnancy. In our tradition, the only exhibit that the man is involved in extramarital affairs was pregnancy.

If a man make a women, married or not, pregnant traditional courts will charge the man to pay damages, or force the men to marry the women if the women is unmarried. If the woman is married, the man will be forced to pay damage to the husband and the husband keeps the wife. To avoid paying damage men use condoms to prevent pregnancy. With this history is difficult for husbands to use condoms at home as it is like he is cheating. When the male partner starts to use a condom at home it is like reporting himself to his wife that he is cheating.

4.3.2.1.2 Sub-Theme 2.1.2: Lack of Knowledge Related to Risk of Cracked Nipples Versus Lack of Knowledge to Cultural and Modern Ways of Treating Cracked Nipples

Cracked nipples in mothers who are living with HIV create a challenge, especially to those mothers who opted to breastfeed their babies and is another way that expose babies to MTCT. In complicated cases, breasts may be swollen and bleeding. In cases of the mother who is HIV-positive, midwives should try by all means to teach

the mother to avoid cracking of the nipple during breastfeeding by teaching the mother the right positioning of the baby during breastfeeding. Data reveal that participants displayed lack of knowledge related to the risk of cracked nipples in relation to risk of MTCT. Most of them had given vague information related to the care of cracked nipples. Culturally, participants reported their own traditional ways of treating cracked nipples or engorged breasts which still displayed lack of knowledge of the risk of MTCT.

The following were the quotations from the participants:

- Participant 2 from Vhembe district:

> *My problem is that most of the time my nipples are dry and cracked, and I am afraid that my baby will be affected. Nurses had assured me that if they are cracked I must express breast milk and boil the breast milk before I feed my baby but still I am afraid to do that, which is why I'm thinking of giving my baby formula.*

- Participant 6 from Mopani district:

> *My mother-in-law told me that because my breast is full and swollen I must not feed my baby on it because the milk is no longer good for my baby. She also told me that if I feed my baby on an engorged breast my baby will suffer from diarrheoa. She taught me to put my baby on the swollen breast and allow the baby to slide down the breast.*

- Participant 5 from Capricorn district:

> *My nipple are cracked and bleeding. They are very painful when I breastfeed my baby, I was given medication at the clinic to smear on my breast, but is like my breast are not responding from that medication. Presently I'm using traditional medicine and my baby is feeding on one breast which is not painful*

Literature indicated that mothers must ensure that nipples are not becoming cracked or bleeding by breastfeeding properly (good attachment) and good positioning during breastfeeding. Mbozi & Nduarty (2005) indicated that mothers with cracked nipples

are likely to transmit the virus to their babies during breastfeeding, especially if they become infected during breastfeeding or during pregnancy fueled by high viral load. They also reported that if the baby is has oral thrush whilst the mother is having cracked nipples, it increases the chance of risk of MTCT. Maternal nutrition, dry skin around the breast, tight bra, teething babies and lack of cleaning or wiping the breast before and after breastfeeding predispose the nipples to become cracked (Mbozi & Nduarty, 2005).

The mother and the baby must be on ARVs whilst the baby is being breastfed to prevent the risk of MTCT (DoH, 2014). The health care worker will give the mother ARV medicine (Nevirapine 0.6 ml that increases according to the weight of the baby) to be given to the baby every day for 6 weeks as the ARV medication reduces the chance of the baby getting HIV. If the mother is on lifelong ARVs, the baby may stop ARVs after 6 weeks and continue with breastfeeding until the baby is 12 months old. If the mother is not on lifelong ARVs, the mother should give the baby ARVs until the mother stops breastfeeding (and for 1 week after the baby stops breastfeeding. If the baby is HIV-positive, it is best to breastfeed exclusively for 6 months, start complementary feeds and continue breastfeeding for 2 years or longer. The baby should start on lifelong ART. It is also indicated that to prevent MTCT, the mother who is breastfeeding must ensure to use condoms during sexual intercourse to prevent any new infection (DoH, 2014).

From the quantitative data, midwives reported that they give health education to mothers every time they come for child health. In their report, they indicated that about 90% of mothers who bring their babies for child health are given health education about risk of MTCT whilst at 18 months 77% of mothers are given health education. The researcher concluded that there is confusion among mothers as the midwives will taught them how to handle engorged breasts and cracked nipples, but when they arrive home the mother-in-law will also give instructions that are different

than the ones received from the clinic, hence cracked nipples expose the baby to the risk of MTCT.

4.3.2.1.3 Sub-Theme 2.1.3: Lack of Adherence to Chosen Feeding Option and ARVs Lead to Risk of MTCT

Adherence to ARVs and the chosen feeding option have been reported to be difficult most of the time due to undisclosed of an HIV-positive status to the male partner and the family. Kiweewa *et al*. (2015) reported that the female partners fear loss of financial support, separation that is brought by disclosure, verbal and physical abuse by male partners. In their study, they reported that only 38% of women disclose their status to their sex partners, whilst 59% disclose to their mothers or relatives and 3% were reported to have failed to disclose their HIV-positive status (Kiweewa *et al*., 2013). Failure of disclosure leads to lack of adherence to ARVs and the chosen feeding option, thus exposing the babies to risk of MTCT.

The majority of participants verbalized that it is difficult to adhere to chosen feeding options and ARVs if the HIV status is not disclosed. Fear of discrimination and stigmatization were reported to be the contributory factors to lack of adherence. Participants reported that is difficult for them to stop breastfeeding at 6 months as they are afraid that their mothers-in-law will not approve—it usually is acceptable to stop breastfeeding at 1 year.

Participants reported that they take ARVs privately, usually they default treatment and their babies also default treatment. They also indicated that they collect ARVs in the clinic that is far away from home where nobody will be able to recognize them. Due to lack of financial support, they usually default from treatment, thus increasing the risk of MTCT. Other participants reported that they are afraid to give ARVs to their babies in front of family members, resulting in lack of adherence to ARVs.

The following are quotations from participants:

- Participant 4 from Vhembe district:

> *Heish…"Vho nnese" (nurses) it difficult to take treatment every day. I didn't disclose my status to my husband and other family members. When I got married to my husband I was already HIV-positive, so I am afraid to disclose now. Some days I take my ARVs in private and sometimes it's difficult. I usually take my ARVs out of its original container and put them in the old sachet of other treatment from the clinic, but I cannot take them every day. I am afraid that if my husband find out he will divorce me. With my baby it is also difficult to give ARVs in front of other family members*

- Participant 3 from Mopani district:

> *I know that I must give my baby her Nevirapine but if I keep on giving my baby her medication the family will ask why I am giving my baby medication every day as my baby looks well and she is not sick. Presently I cannot stop to breastfeed my baby, I'm afraid that my mother-in-law will ask why I am stopping to breastfeed while my baby is still under one year.*

Kalembo *et al*. (2012) indicated that women who are still in denial tended to not adhere to treatment. Most of them move from one health facility to another. They usually receive their ARVs from the clinic where they are not known. Most of the times they default taking treatment due to lack of money for transport, or they found out that there is somebody whom they know. Leeper *et al*. (2013) indicated that 33% of adults do not know their children's HIV status. In the same study, it was reported that the mothers who have discloses their HIV-positive status to the family members adhere to their own ARVs treatment and their children's ARV and they are more likely to attend schedule visits.

However, those mothers whose family members do not know their status were reported not supporting them, usually their children are lost to follow-up. Children whose family members were participating in PMTCT programmes reportedly thrived well whilst those whose parents were not participating had higher death rates

(Leeper *et al*., 2013). Lack of adherence to ARVs which may have been brought on by denial, lack of acceptance of HIV-positive status and fear of abandonment by the male partner exposes babies to the risk of MTCT. Most of the female partners have a tendency of roaming around clinics, hopping from one clinic to another, avoiding follow-up.

Nwaka (2014) reported that mothers who tested HIV-positive experienced anxiety to disclose to their male partners or other family members fearing stigma, negative attitude towards HIV-infected people, and all the complications of HIV. As a result, they end up failing to adhere to ARVs, thus exposing their babies to the risk of MTCT. Kiweewa *et al*. (2015) reported that only 38% of female partners who tested HIV-positive disclosed their status to their male partners. Due to lack of disclosure, mothers are failing to stick on the chosen feeding method and end up practicing mixed feeding whilst they are not adhering to treatments. Hanifa (2012) reported that when the mother's viral load is high and the CD4 is low, the risk of MTCT is high. Mixed feeding also expose the baby to risk of MTCT—as any other food if given before 6 months it irritates and inflames the gut and HIV can more easily invade the body of the baby. Quantitative data confirm the above statement by the number of babies who are lost and difficult to find as some of the mothers gave wrong addresses and phone numbers. About 60.9% came for PCR at 6 weeks whilst 21.7% came at 18 months, and 8.3% defaulted to come back for PCR.

Those mothers who have not disclosed their HIV-positive status to their male partners and their family members were reported to have a tendency of attending ANC and child health in different clinics; usually they report to the clinic being fully dilated giving the history of losing the ANC cards or they left the card in Johannesburg. Most of those babies are found in hospital being HIV-positive.

4.3.2.2 Theme 2.2: Factors Related to Disclosure of HIV-Positive Status to Partners and Family Members

Table 4.9 presents theme 2.2 and its sub-themes that emanated from the data analysis.

4.3.2.2.1 Sub-Theme 2.2.1: Lack of Disclosure of HIV-Positive Status Resulted from Fear of Stigma and Discrimination

Kiweewa *et al*. (2015) reported that most of the women did not disclose their HIV-positive status to their husbands due to fear of separation with the partner, loss of financial support, especially when the women are not married to the male partner, separated or when the women did not have opportunities to disclose.

Table 4.9: Factors related to disclosure of HIV-positive status to partners and family members

Theme	**Sub-Themes**
2.2 Factors related to disclosure of HIV-positive status to partners and family members	2.2.1 Lack of disclosure of HIV-positive status result from fear of stigma and discrimination. 2.2.2 Disclosure of HIV-positive status to male partners lead to negative or positive behavioural change

In the very same study it was reported that there are barriers that contribute to non-disclosure such as stigma, harmful behaviour from the male partners such as self-harm or after disclosure male partners start to be abusive. It was also reported that most of the women do not know their male partner's HIV status. Male partners were reported to not disclose their HIV-positive status to their female partners (Kiweewa *et al*., 1015).

The majority of the participants reported that they have disclosed their HIV to their partners, parents, especially mothers. Most of the female participants reported that they have disclosed their HIV-positive status to their mothers or sisters. Participants verbalize concern of fear of being stigmatized and discriminated against (Gourlay *et al*., 2013).

Whilst some of the participants reported that they are not ready to disclose their HIV

status to family members and they are experiencing lack of family member support. Lack of disclosure is also reportedly the cause of late booking of ANC. Female participants verbalized that their male partners have a tendency of not disclosing their HIV status to their female partners. Interview statements indicated that mothers fear to disclose their HIV-positive to their parents, fearing that they will tell their siblings, some of the mother were said to be talkative. The following are some of the quotes from the participants:

- Participant 8 from Capricorn district:

  I only disclose to my husband but not his family or my family members. I don't trust my family or his family members they may divulge our status to our siblings or relatives. We don't want our relative to know about our status.

- Participant 6 from Mopani district:

  Heish…you know what, if I disclose my status to my mother, she talk too much. She may tell my siblings, they in turn will tell their spouses, before long everybody will know my status.

- Participant 4 from Vhembe district:

  When I get married I was already HIV-positive, and I didn't disclose my status to my husband or other family members. That is why I booked late to ANC as I was afraid that the Nurses will give me again ARVs and it will be difficult for me to take them, Heeish this thing is difficult, now I don't know where to start.

- Participant 5 from Vhembe district:

  No, I did not disclose my status to my partner and my mother, but I disclosed to my elder sister. As for my other siblings I won't disclose to them I have a fear that if I disclose to them they may share with their partners and they will talk about me behind my back. That is why I delayed to start ANC.

The mothers' quotations were supported by male partner 5:

- FGD P5

> *I think the other problem is that women does not disclose their HIV-positive status, then how can you support the person who didn't disclose. Most of the couple does not want to talk about sex issues. I think nurses should teach the women to disclose and to share with their husbands about sex issues. That brings us to issues of culture. In our culture women does not negotiate sex with their husbands. Men are expected to be the ones who negotiate sex issues, if the women talk about sex or be the one who start to tell the husband that she want to have sex with him, that women is labeled as promiscuous women. The society does not approve of that type of women.*

In PHC clinics every woman who tested HIV-positive in pregnancy is refereed to PMTCT programmes the very same day, and is started on ARVs immediately before the bloods results are received. Gourlay *et al*. (2013) indicated that disclosure of HIV status and fear of disclosure to partners or family members (particularly grandmothers and mothers-in-law) were reported to be major barriers to family support of sustainable PMTCT interventions. They also reported that women fear to disclose their HIV status as they fear to be blamed for potentially dying and leaving an orphan baby.

Fear of disclosure was reported to be a contributory factor (especially to married women or those who are living with male partner) to use prophylaxis or access to ART. Fear of disclosure was also reported to prevent HIV-positive women from attending HIV clinic and initiating treatment, or from seeking and administering infant prophylaxis. The same study also reported that pregnant women who did not disclose their HIV status were more likely to delay ANC and to take their medication; putting their babies at risk of contracting HIV/AIDS, hence they experience lack of family support in PMTCT sustainability (Gourlay, 2013).

Fear of abandonment, rejection, losing the marriage and fear to be blamed were cited as major causes of non-disclosure. Non-disclosure led to failure of adherence

to ARVs and PMTCT intervention regimens, which is the main cause of MTCT during the breastfeeding period. When the women fail to disclose their status to the family members, it prevented them from giving support and for her to receive the necessary support. There is fear of termination of a relationship, fear to be ostracized from their families and neighbours were reported to be the main causes of women's inability to utilize PMTCT programmes (Mapisi, 2006). It is assumed that fear due to non-disclosure contributes to lack of family support in PMTCT sustainability.

The study that was conducted by Iwelunmor, Ezeanoluwe, Airhihenbuwa, Obiefune, Ezeanoluwe & Ogedegbe (2014) indicated that pregnant women usually fail to adhere to ART due to perceptions of fear of being identified as HIV-positive, fueled by stigma and discrimination, and other negative perceptions. Fear of rejection, stigmatization and violence prevent women from utilizing PMTCT programmes. Women's fear of their partner's reaction to HIV testing and disclosure of the results was a significant barrier to assessing PMTCT services. Fear of how the partner and the family members will react, abandonment, lack of economic support, fear of stigmatization, rejection, discrimination, violence, upsetting the family members, avoiding accusation of infidelity predisposed women who are living with HIV not to receive support from the family members. The strongest predictor of willingness to accept an HIV test and to engage themselves to PMTCT programmes were reported to be encouraged by the women's perception that their husbands would approve of their testing for HIV, and those who have their husband's approval are six times more likely to be tested and to do routine PMTCT (Bajunirwe & Muzoora, 2009).

Disclosure was reported to be a challenge in married couples as the female partner verbalized that they did not disclose their HIV-positive status fearing to be discriminated, loss of financial support, violence by male partner and abandonment by male partner. Female partners also verbalized that when the male partner is

infected they do not disclose their status to their female partners. This information was confirmed by Nwakaego (2014) who indicated that only 38% of mothers who tested HIV-positive had disclosed their status to their male partners (Nwaka, 2014). The quantitative results indicated that about 20% of mothers disclosed to their mothers, 35% to their male partners, 16% to their siblings and 29% did not disclose their HIV-positive status to their male partners and other family members.

4.3.2.2.2 Sub-Theme 2.2.2: Disclosure of HIV Status to Male Partners Leads to Negative or Positive Behavioral Change

Disclosure of an HIV-positive status has never been easy as the mother does not know in advance how her partner will react. HIV has been associated with infidelity. During ANC, every pregnant mother is introduced to PMTCT services, if she tested positive she is given ARVs before she even accepts the status. The mother who is not physically ill just found out that she is living with the virus and she is expected to disclose the status to the husband immediately, and sometimes their relationship has some challenges. The male partner, on the other hand, is expected to accept the HIV-positive status which is too much for the couple. Being the head of the family, the male is expected to come up with the solution, thus influencing the male partner to change his behaviour.

The majority of female partners were concerned about the change of behaviour of their male partners after disclosure of their HIV status. Participants reported that some male partners responded positively and gave support to their female partners, whilst other female partners reported that after disclosure their male partners respond negatively and withdrew from supporting their female partner. Some male partners were reported to leave home and go and stay with new partners and they stopped to support their female partners financially.

The following are some of the quotations from the participants:

- Participant 2 from Capricorn district:

> *Eish…Is very difficult, since I disclose my status to my husband is really frustrating, I think this is because my partner does not want to talk about it. When I encourage him to go for test, he just ignores me and keeps quite. It is difficult for me to deal with this when my partner seems to be, I mean like he don't care even the issues of ARVS. I am doing this alone. Sometimes I fell so disappointed to a point which I don't see, the reason why I am still alive, as for the baby I have to take care of the baby alone without support, but he support me financially. The fact that my in-law does not know about my status add to my frustrations.*

- Participant 4 from Vhembe district:

> *After disclosing my status to my husband, he started to behave strangely. He was always angry at me. When I ask money to buy food he will always tell me to go and look for a job to support myself and the children. He usually abuses me physically and emotionally in front of our children. It was like he has lost his mind. He eventually left home and he is staying with another women. Heish……. is difficult because I was not working but presently I'm doing part time job just to support my children*

- Participant 6 from Mopani district:

> *After I disclose my status to my husband he just kept quiet, is like he didn't respond negatively or positively but he support me fully, financially and emotionally. We remind each other to take treatment. This disease has brought us closer.*

Kiweewa *et al*. (2015) reported that female partner who have disclosed their HIV-positive status to their male partner experienced physical, verbal and emotional abuse, lack of financial support, separation with their male partner. Some male partners were reported to run away from home to marry again, whilst other male partners were reported to run away from their partner and they go back to their former wives (Kiweewa *et al*., 2015). Kasasira *et al*. (2014) reported that when male partners tested positive they do not disclose their status as they fear stigma and they avoid to talk about their HIV-positive status with their female partners. Most of them were reported to support their wives financially, but refuse to talk about their status

(Kasasira *et al*. 2014).

Kaliehman *et al*. (2014) observed that male partners who tested HIV-positive are a critical population for prevention intervention. They reported that male partners continue to engage in HIV transmission risk practices after learning their HIV-positive status. They continue to practice unprotected sex with partners who are HIV-negative or have an unknown HIV status (Kaliehman *et al*. 2014). Growly *et al*. (2013) indicated that pregnant women and mothers who are living with HIV fear to disclose to their partners and other family members, particularly grandmothers and mothers-in-law fearing the change of behaviour of male partners, and to be blamed for bringing the disease in the family and diseased baby and to be discriminated against.

In case where the mother is working or attending school, grandmothers and mothers-in-laws are the ones who are taking care of the baby, feeding and taking the baby to the clinic with no information of the baby's HIV status or medications to be given to the baby. If the mother fails to disclose her HIV status, it was more likely for her and the baby to take medication for her own health or to give the baby's medication to the grandmother or mother-in-law. Without disclosure of an HIV-positive status, grannies and mothers-in-law are reported failing to sustain the PMTCT interventions (Growly, *et al*., 2013. Hence there is lack of support for PMTCT sustainability due to lack of information (Benancourt, *et al*., 2010; Kalembo *et al*., 2011). The researcher concluded that until ANC include male partner where both of them are counselled and tested at the same time, and if they tested positive, counselled for adherence and to support each other PMTCT will always fail. The law of our country is also contributing to this lack of disclosure by giving the partner who is HIV-positive rights not to disclose. The researcher is of the opinion that the partner who is not yet tested have rights to know the status of his/her partner.

The researcher observed that, due to the stigma attached to HIV, is difficult for a couples to talk about their status, each one of them being afraid to be blamed for bringing the disease home, especially to the couple with the history of one of them cheating (especially the male partner). Male partners also find it difficult to cooperate as they fear of being labelled. The female partners also fear to confront the male partners with the consideration that they may get angry. Most of the female partners are unemployed and they depend on male partners for financial support. The unemployed female partner thus finds it difficult to upset the male partner as this may result in lack of financial support.

4.3.2.3 Theme 2.3: Existing Facts Related to Adherence to ARVs

Table 4.10 presents theme 2.3 and its sub-themes developed from the data collected.

Table 4.10: Existing facts related to adherence to ARVs

Theme	Sub-themes
2.3 Existing known facts related to adherence to ARVs	2.3.1 Lack of adherence to ARVs resulting from denial of HIV-positive status 2.3.2 Lack of financial resources lead to lack of adherence to ARVs

Adherence is still a challenge to some of the female partners due to lack of disclosure of HIV-positive status whilst other participants failed to adhere to treatment as a result of denial of an HIV-positive status. Fear of being abandoned, discriminated, shunned, labelled, physical and emotional abuse by their male partner predispose them to lack of disclosure. Failure of disclosure was reported as the number one cause of lack of adherence. Lack of financial resources also contribute to lack of adherence of treatment, as the mother has to go out and seek a job leaving the baby with grandmothers who the mother fail to disclose her status. This results in the baby not being given treatment and exposing the baby to risk of MTCT.

Mothers were reported to work on the farms, as casual workers, domestic workers, and they found it difficult to go to the clinic to collect their ARVs and their babies' medication (Kiweewa *et al*., 2015).

Kalembo *et al*. (2012) reported that male partners make it difficult for female partners to adhere to ARVs as they also fear HIV testing as they are afraid to test HIV-positive. Male partner were reported to distance themselves from their female partners if they disclose their HIV-positive status. Some male partners were reported to be quiet and do not want to talk about it. Their fear contributed to lack of adherence of their female partner as they do not want to talk about their status and their female partner status.

4.3.2.3.1 Sub-Theme 2.3.1: Lack of Adherence to ARVs Resulting from Denial of HIV-positive Status

From this sub-theme, participants indicated the factors which contribute to lack of adherence to ARVs such as being in denial of an positive HIV status. Participants who are in denial are not adhering to ARVs. In our clinics, according to PMTCT programmes, every pregnant woman who tested HIV-positive must be initiated on ARVs on the same day. These programmes are good in PMTCT, but the woman who is happy that she is pregnant, now finds out that she is also HIV-positive, with no symptoms, it might be difficult to accept her status and to adhere to ARVs. Female partners were found to move around different clinics, giving false addresses and phone numbers making them difficult to trace, hence they fail to adhere to ARVs. Lack of adherence expose babies to risk of MTCT.

The following are quotations from the participants:

- Participant 3 from Mopani district:

> *Hmmm…you know what? Let me tell you the truth, I think this is the things of witchcraft .My husband is faithful to me. I have never had an affair.*

When I was told that I am HIV I didn't know what to do. I was given ARVs on the very same day, but I know for sure that I am HIV negative and my husband is also negative. Can you tell me why I am positive whilst my husband is negative, hey can you tell me? (Participant look at me in a way that I must give an answer there and there) And can you tell me how long must I take ARVs whist I am not sick?

- Participant 3 from Vhembe district:

Jaaaa eish…you know what? I was diagnosed to be HIV-positive while I was pregnant with this baby, When I disclose my status to my partner , he told me that he went for test and he is HIV negative and his wife is also HIV negative , can you tell me vho (Nurse) how come does I become positive while they are negative. I think his wife bewitched me so that when I am positive her husband will go back to her. As I'm talking now he went back to his former wife and he no longer care about me.

When the mother is struggling with the acceptance of an HIV-positive status, and they are in denial, it is difficult to adhere to ARVs, and failure to adhere to ARVs expose the baby to risk of MTCT. Betancourt *et al*. (2010) indicated that during postpartum if the mother is in denial and had failed to disclose her HIV status even if she had access to PMTCT regimen in a timely manner, she may not have the capacity to effectively adhere to the regimen, particularly if she is afraid to disclose her HIV status due to fear of stigma, domestic violence or if there is lack of appropriate social and family support. The same study also reported that mothers who have not disclosed their HIV status to their male partners and other family members due to denial may have difficulty persuing an alternative to breastfeeding (Betancourt *et al*., 2010). Another study indicated that disclosure is still a barrier to family support in PMTCT sustainability as some infants are brought to the clinic by a caregiver or by a granny who does not know anything about the HIV status of the baby or the mother (Kalembo *et al*., 2011). Leeper *et al*. (2013) indicated that 33% of adult does not know their children's HIV status. In the same study, it was reported that family members who adhere to their own ARV treatment and their children's are more likely attend scheduled visits. However, those family members who are not

supporting each other or the mother did not disclose her HIV status—usually their children are lost for follow-up. Children whose family members were participating in PMTCT programmes, were reported to thrive well whilst those whose parents were not participating fell victim to higher death rates (Leeper *et al*., 2013).

This information was confirmed by Benancort *et al*. (2010) who indicated that non-disclosure is the number one contributory factor of non-adherence to ARVs. Kalembo *et al*. (2011) indicated that affected children are usually brought to the clinic by grannies who do not know the HIV status of the baby. The above information shows that it will be difficult for the government to eradicate MTCT. Quantitative data indicated that most of the mothers did not disclose their HIV-positive status to their family members. About 30% have disclosed their status to their male partners whilst only 3% disclosed their status to other family members.

The researcher has noticed that young mothers who have babies before marriage are unemployed and uneducated; when they find a man who wants to marry them, they usually don't disclose their status and most of them default treatment, is difficult to trace them as their mothers will report that they are somewhere in the city and they are working as domestic workers, working in the farms, industrial areas or doing part time jobs. They are mostly working in low-income jobs. They leave their babies with their mothers or mothers-in-law without disclosing their status, and the babies are not given prophylaxis of Nevirapine. When the baby is ill the grandmothers brought them to the clinic without the information of their status, sometimes they don't have a *Road to Health* card. Fearing to lose their marriage and to be labelled, mothers choose not to disclose their HIV-positive status, thus exposing the baby to risk of MTCT.

4.3.2.3.2 Sub-Theme 2.3.2: Lack of Financial Resources Lead to Lack of Adherence to ARVs

From this sub-theme participants reported lack of financial support from male partners, more especially after disclosure of their HIV-positive status. Female partners who are unemployed are facing challenges of lack of financial support from male partners as they depend upon their husbands for financial support. Some female partners are forced to look for a job in order to support the children. With low educational level they reportedly end up getting a job at the farms where they cannot access their rights to health benefits and they end up defaulting treatment that lead to lack of adherence.

Data indicated that participants' lack financial support, especially those who are not married. Some participants reported partial support from their partners. They also indicated that lack of support also results in lack of food supply. Participants who reported lack of financial were also unemployed, but in the process of looking for a job. Participants also indicated that they are not trained for a job and they are less educated.

The following are the quotations from the participants:

- Participant 6 from Capricorn district:

> *Is really difficult, since I disclose my HIV-positive status my husband is no longer coming home. He does not support me any longer. When I tried to call him he does not answer me. I'm presently working at the farms and is difficult to ask for permission to go to the clinic to collect ARVs for me and my baby every month. I didn't disclose my status to my mother-in-law so I don't know how to tell her now and my baby is defaulting treatment. My baby is being fed soft porridge during the day and I breastfeed in the evening when I check off*

- Participant 8 from Vhembe district:

> *My partner partially supports me, he only buy things like electricity, food but not everything that is needed in the family and he does not give me money. As a result my partner, my mother and other siblings does not support me with taking of treatments and giving the baby Nevirapine. Only*

> *my elder sister is the one who support me. Nurse (Vho Nnese) I am looking for a job so that I will be able to support myself financially, my partner is a married men and he is no longer working so is difficult for him to give me full support. He is not the biological father of my two elder children, he have fathered the last two of my children.*

The study by Dutkie (2010) indicated that female partners lacked financial supports as their male partners were unemployed or their income was low. It was also reported that it is difficult for male partners to spend time at the facilities, waiting for their partners to be examined as that will mean that they would do that at the expense of a day's income. Another study reported that charging users fees in Uganda also prevented male partner from participating in PMTCT programmes as a family. Hence, socio-economic problems were reported as a barrier for male partners to support their wives in PMTCT sustainability (Kalembo *et al*. 2011).

Kalembo *et al*. (2011) further pointed out that men who are educated and financially stable do not have a problem in supporting and accompanying their partners to attend ANC. Transport is also reported to be one of the barriers for family members to participate in PMTCT programmes as most of them are unemployed and they are depending on a pension fund. Long distances and frequency of collecting prophylactics, particularly in rural areas, were reported as a barrier for family to participate in PMTCT interventions uptake, resulting in family member (male partners) failing to support the mother (Dutkie, 2010).

Colombini *et al*. (2016) indicated that after disclosure, female partner experience physical and emotional abuse from their male partners. It was also reported that female partners suffer financial withdrawal from male partners. In the same study, it was reported that HIV-positive disclosure leads to marital separation, breakups, resentment or fighting on a daily basis. Other male partners were reported to leave the family to get married again; those who were cohabiting were reported to run away, while some return back to their former wives (Manuela *et al*., 2016).

The mother who is mix feeding her baby due to her working conditions whilst defaulting treatment expose her baby to the risk of MTCT. Mixed feeding corrodes the gut of the baby who is under 6 months, fueled by the high viral load of the mother who is defaulting ARVs, and this exposes the baby to be infected by HIV. Karuma (2012) indicated that the baby who is on breastfeeding and being mixfed is classified as a high risk to be infected by HIV.

Lack of financial support from male partners lead to mothers leaving the baby with the grandmothers to seek a job in order to support the children. Most of the mothers reported that they are not educated and most of them are unemployed. Being uneducated leads to low income employment with poor benefits, fueled by an undisclosed HIV-positive status that leads to non-adherence of the mother and the baby and thus increasing the risk of MTCT.

The researcher concluded that mothers who are uneducated and not working are facing challenges of being abandoned by male partners who are supporting the family financially. After disclosure they face many challenges, where male partner is no longer supporting the family financially most of them default treatment and fail to adhere to treatment, and usually they will go and seek casual jobs and their rights to attend to their heath are not considered. In cases where they are forced to go to the clinic they do that with the expense of a day's salary.

4.3.2.4 Theme 2.4: Existing Support Related to Prevention of Risk for MTCT

Table 4.11 presents theme 2.4 and its sub-themes developed from the data collected.

Table 4.11: Existing support related to prevention of the risk of MTCT

Theme	Sub-themes
2.4 Existing support related to	2.4.1 Existence versus lack of support related to prevention of risk for MTCT experienced from family members and

prevention of risk for MTCT		male partners
	2.4.2	Lack of support experienced from partners out of wedlock

There is lack of support from the family members with regard to prevention of the risk of MTCT. Female partners were reported to lack financial support from male partners (Tiluhum & Mahumed, 2015). Lack of encouragement by male partners and the family to adhere to treatment were reported. The group of women who were severely affected by lack of support are female partners out of wedlock (Smalts, 2015). Lack of disclosure is also a stumbling block when it comes to support by male partners and family members. Due to discrimination and stigma attached to an HIV-positive status, patticipants reported that they did not disclose their status to their husbands and other family members resulting in lack of support by male partners and family members (Tiluhum & Mahumed, 2015).

4.3.2.4.1 Sub-Theme 2.4.1: Existence Versus Lack of Support Related to Prevention for Risk of MTCT Experienced from Family Members and Male Partners

Most of the participants reported that they do not receive support from family members and their male partners. Lack of such support causes of failure of prevention of risk of MTCT. Participants who are experiencing lack of support from their male partner and family members reported that they did not disclose their HIV-positive status. Male partners also reported that is difficult for them to discuss issues of sex and is still difficult to support their wives in public. The group of mothers who are experiencing lack of financial support are those mothers who are out of wedlock and failure to disclose was reported to cause failure of the family to support the mother putting the baby at the risk of MTCT.

- Participant 2 from Vhembe district:

> *My husband is supporting me by reminding me about taking of medication and giving the medication to our child, but my mother-in-law does not know about my HIV status therefore I think that is the reason why she is*

not supporting me.

- Participant 1 from district:

> *My mother is supporting me 100%. She also accompanied me to the clinic. She also remind me to take my treatment and to give my baby her medication, but my partner does not support me as he is a married men he usually spend his time in his home with his wife, but he sometimes support me financially but it is not enough*

The mothers' quotations were supported by male partners:

- P4

> *We as men, we don't want to talk about anything that is associated with sex. We are not free to support our wives in public. We are only free when we are out like in Durban, but still we don't want our wives post our photo in social media. But in reality we want to support our wives, when we look at white couple and the way they support each other we just want to be like them but somehow we have a fear to support our wives publicly. We also envy those who are getting married. I think culture has left a permanent mark in our minds.*

Lack of family support increases the non-disclosure of HIV-positive results and also poses a significant barrier to assessing PMTCT services (Bajunirwe & Muzoora, 2009). The above challenges have been reported as a barrier for the family's failure to support the women who are living with HIV. When the family and male partner does not know the HIV status of the female partner it causes the family to support the mother (Bajunirwe & Muzoora, 2009). It was also reported that in a family where the woman has family support they are willingly to accept an HIV test with the perception that her husband will approve of the testing and they are 6 times more likely to do routine PMTCT and testing is more acceptable.

Female partners were reported to feel free to do a test and taking of ARVs regularly if they know that their male partners approve the testing and taking of ARVs. The

couple that support each other, stick together and they encourage each other to take treatment. The family that support each other remind each other to take ARVs and their baby will always be given the prophylaxis of Nevirapine (Banjunirwe, *et al*., 2009; Carr & Griming, 2004; Alison, 2010; Antelman *et al*., 2009).

The researcher has concluded that if midwives continue to involve male partners from day one when the women start ANC, adherence will never be a problem. Midwives must be in-serviced to involve male partners during pregnancy, delivery and postnatal. The fact that male partners are traditionally not allowed to be involved to support the female partners during pregnancy, delivery and postnatal, means that the midwives should close that gap by encouraging and supporting male partner to be involved. The midwives should improvise with the available space in order to cater for male partners. Male partners should feel free to support their wives. Midwives should also work on their attitudes towards male partners.

4.3.2.4.2 Sub-Theme 2.4.2: Lack of Support Experienced from Partners Out of Wedlock

Data indicated that female partners who were out of wedlock are experiencing lack support from their male partners. Some participants reported that after they disclosed their status their male partners, the latter went back to their former wives, whilst other participants reported that male partners vanished without trace. Kalembo *et al*. (2013) reported that male partners are afraid to be labelled with issues that are related to an HIV-positive status. Male partners were reported to be afraid of stigma that goes along with an HIV-positive status and were reported to fear being shunned away from the community due to HIV-positive status. When they found out that their girlfriends are HIV-positive, they run away, usually they go back to their former wives or girlfriends.

- Participant 3 from Mopani district:

> *My partner run away after I told him that I am HIV-positive and my mother is the drunkard. I think if I disclose my mother will tell people and my siblings*

- Participant 6 from Vhembe district:

> *I am not married to my partner, so he just left without saying a word after I disclose my status. I think he went back to his wife. When I call him he doesn't answer the phone. I'm still waiting for his call. I really don't know what to do because he was the one who was supporting me financially, I really don't know how I will survive. The child grant is not enough and I don't have anybody to take care of my baby for me to look for a job, heish…… (Participant looked down and cry)*

4.3.2.5 Summary of Main Theme 2

Literature indicated that due to stigma attached to HIV/AIDS, male partners do not want to associate themselves with an infected person fearing that the community will avoid them. Stigma produces inequality, discreditation and discrimination against those infected and affected. Boyfriends were reported to avoid their girlfriends (Sukumani, 2011). Male partners were reported to leave relationships after the disclosure of an HIV-positive status. Usually, there is breakup of the relationship. Men usually leave the relationship and they go back to their previous wives or they start a new relationship (Lawson *et al*., 2006). Dutki (2010) reported that male partner usually leaves home when the wife discloses her HIV-positive status. He may start a new relationship and when the new woman also tested HIV-positive, again he runs away, this time he may come back home to his former wife (Dutkie, 2010).

Male partners have been reported that even if they know that they are HIV-positive they don't disclose their status to their female partners, married or not. They were reportedly not using condoms with a female partner who is HIV-negative or with

unknown status. If the female partner tries to negotiate condom use, they refuse and become violent. The husband who is always the one who is working is reported to threaten the wife who is unemployed and that he will not support the family financially if the wife insists on condom use. Female partners are reported to be abandoned, suffer physical and emotional abuse or are chased away from home, or the men just leave the family without saying a word (Minch *et al*., 2015).

The researcher has noticed that if one male partner tested positive, many female partners will be left with a broken heart, abandoned, with no physical and financial support. If the male partner tested HIV-positive and he is not physically ill, the male partner will continue with life as if nothing was wrong. Most of the male partners get tested at their death bed and if they manage to recover they take their treatment regularly and don't default their ARVs. If the female partner is still alive, the male partner will support his wife fully.

There are a lot of challenges with regard to prevention of risk which predispose babies to risk of MTCT. Female partners are traditionally not allowed to negotiate condom use as it is regarded that women who negotiate things that involve sex do not respect their husbands and they are labelled as promiscuous. Men are regarded as the head of the family and they are the ones who choose when to have sex, to use condom or not.

Unfortunately, most if not all the male partners who were interviewed verbalized that they will never use condom with their wives and they indicated that they can use condoms with their girlfriends, thus putting the babies at risk of MTCT. There is a strong need for health care professionals to actively involve the male partners with the caring of the baby to reduce MTCT. Without working hand-in-hand with male partners, all the efforts done to prevent risk of MTCT will fail. Female partners were also facing challenges with regard to traditional practices of curing childhood illness.

Feeding the baby and introducing solids are still problematic. Mothers are taught health education about feeding of the baby and protecting babies from the risk of MTCT, but when they reach home they are unable to practice what they have been taught as grandmother are recognized to have excellent skills of taking care of the baby, seeking help from traditional healers despising Western ways of caring of the baby s childhood illness and also immunization of the babies to protect them from evil spirits and other childhood illnesses. Even if the mothers manage to convince them, when the mothers are not around the grandmothers will give babies solids, especially if the baby is crying. When the baby cries, it may be due to colic it drives the grandmother with lack of knowledge to do mixed feeding. Early introduction mixed feeding and traditional practices predispose babies to the risk of MTCT.

4.3.3 Main Theme 3: Interventions to Enhance Family Support for PMTCT: Male Partners' Perspectives

Dutki (2010) reported that male involvement is an important recommendation in the implementation of the PMTCT programmes, but lack of clear and direct benefits for men, women focus-health facilities and services, multiple sexual partnership and presence of traditional healers influence men's perceptions about participation in ANC-based PMTCT programmes. She also indicated that men's health status affected women's reproductive health. Involving men increases their awareness, acceptance and support to the partner's needs, choices and rights. In terms of HIV prevention, all methods except for female condom are male controlled. Therefore, it is necessary to involve men to provide a positive climate to address emerging issues in sexual and reproductive health, and empowering men regarding reproductive health. Tulahum & Mahumed (2015) showed that about 51.3% of male partners attended ANC with their partners whilst the rest do not involve themselves with issues of PMTCT and of ANC.

4.3.3.1 Theme 3.1: Views Related to Support by Male Partners for HIV-

Positive Female Partners During Pregnancy, Labor and Postnatal Period

Table 4.12 presents theme 3.1 sub-themes which emerged from the data analysis.

Table 4.12: Views related to support by male partner for HIV-positive female partners during pregnancy, labour and postnatal

Theme	Sub-Themes
3.1 Views related to support by male partners for HIV+ female partners during pregnancy, labour and postnatal period	3.1.1 Support for female partners by male partners viewed as a good practice whilst culturally is viewed as weakened manhood and is culturally unacceptable 3.1.2 Provision of support during pregnancy, labour and postnatal allocated to old ladies in the family. 3.1.3 Male partners discouraged and restricted towards supporting their female partners and the children

This theme emerged from the participants who indicated that they wish to support their female partner, but it is not traditionally acceptable. They raise a challenge of allocation of support to old ladies where traditionally they are restricted towards caring for their female partner as is viewed as a taboo. Cultural practices were reported to be stereotyped and for male partner to support the female partner were viewed as weak manhood. Nurses attitude were reported to lead to lack of male partners to support female partner. Security services and long waiting hours were reported as contributing factors to male partners not supporting their wives (Tilahum & Mahumed 2015; Dutkie, 2010; Cholombini, 2016). Men also do not want to be seen walking with their partner as the community perceive that such men are under the wife's control (Dutki, 2010). Dutkie, (2010) reported that multiple sexual partner's results of one individual is a proxy indicator of the HIV-positive status of another sexual partner.

Multiple concurrent sexual partners have been identified as one of the drivers fueling the HIV epidemic and hindrance of family-support to PMTCT. Men were reported to be likely to have more than 8 sexual partners in their lifetime. The number of sex

partners increased with increasing wealth quantities. Another barrier that was reported was that men who have multiple sexual partners do not want to be seen accompanying their women who are pregnant because they do not want to be seen by their concubines. Extramarital relationships or multiple sexual partners were cited as a barrier for male partners to be involved in family support in PMTCT sustainability. Non-use of condoms by infected women while breastfeeding is one of the identified causes of MTCT (Dutkie, 2010). The researcher concluded that male partners were orientated from youth not to involve themselves with issue of supporting their wives and children. Male involvement in PMTCT is considered crucial in family settings where men are the main decision-makers as it is the case in most African countries. The husband who is the head of household greatly influences the woman's ability to seek health care or to implement health practices and interventions. The same authors reported that male partners have a role in the women's risk of acquiring of HIV and also in her uptake of HIV testing and MTCT prevention programmes. The success of PMTCT of HIV thus depends on cooperation between parties as male partners have a strong influence on the PMTCT sustainability (Nyondo, 2013).

In the study conducted by Kalembo *et al*. (2011), it was reported that in Sub-Saharan Africa support and care are seen as women's work. Social and religious norms prohibit males to attend female health services and widespread attitudes that female reproductive health is not a male's responsibility. ANC were perceived by many fathers as outside their responsibilities. Men were also reported as decision-makers and have power over their wives' actions, resulting in men resisting women's efforts to influence them to be involved in PMTCT sustainability. Another barrier that was recognized was community perceptions that men who participated in ANC are seen as jealous.

4.3.3.1.1 Sub-Theme 3.1.1: Support to Female Partners by Male Partners

Viewed As a Good Practice Whilst Culturally It is Viewed as Weakened Manhood and is Culturally Unacceptable

Findings reveal that male partners viewed supporting their female partners as a good practice. Male partners indicated that they admire whites and the younger generation who support their wives during pregnancy, labour and postnatal. Male partners reported that even if they desire to help, but culturally it is unacceptable. They verbalized that they have been trained as young men that a man are not supposed to be involved with the issues of childbearing.

The following are some of the quotations from the participants:

- FGD P1

> *Yes, It is possible to support our wives but we were raised in a cultural set up were men do not involve themselves with women staff, more especially the issues of pregnancy and child bearing. Traditionally this is the responsibility of old ladies. When we grew up it was a taboo for a men to get inside the room where the baby is staying, let alone to see the baby as it was said you will* ***(u kanda nwana)*** *that is you will cause the baby to get ill.*

- FGP P3

> *Our minds were channelled through our culture, and there is a permanent ways of doing things culturally which is difficult to change. Our parents didn't have a good relationship with their wives. They were not used to each other. To move from that type of life style will change but not now. Maybe our children will be able to support their wives without feeling bad. During our time it was illegal to bring your girlfriend to your home but at least our boys bring their girlfriends for us to see them and we are still uncomfortable about that. Maybe this was brought by men who were working in Johannesburg while their wives were left at home, the only time they were together was when they want to have another child, and as a result there was no relationship between the husband and the wife.*

Nyondo (2013) indicated that lack of male involvement in the PMTCT programmes contributed to women dropping out of PMTCT programmes. Male participation in

PMTCT improves the sustainability and promotes positive attitudes towards the PMTCT services. Dutki (2010) reported that male involvement is an important recommendation in the implementation of the PMTCT programmes. Male partners indicated that they wish to support their female partners, but it is not traditionally acceptable.

Cultural practices were reported to be stereotyped and for a male partner to support his female partner was viewed as weakened manhood. Nurses attitudes were reported to lead to lack of male partners to support female partners. Security services and long waiting hours were reported as contributing factor to male partner not to supporting their wives (Dutkie, 2010; Cholombini, 2016). Quantitative data confirm the above statement as it is reported that only 4.6% of male partners accompanied female partners and the babies to the clinic for ANC, labour and child health.

The researcher concluded that there still a long way to go until the midwives bring the male partners on board to involve them in supporting their wives, especially at the government health institutions. Data indicated barriers such as infrastructure and shortage of health care personnel. Shortage of staff were reported to be the problem as one midwife cannot attend to all the mothers and at the same time make male partners to feel accepted at the health care institutions.

4.3.3.1.2 Sub-Theme: 3.1.2: Provision of Support During Pregnancy, Labour and Postnatal Care of Mothers is Allocated to Old Ladies in the Family

Findings reveal that in a family set-up support to female partner during pregnancy, labour and postnatal care were allocated to old ladies. Male partners were not allowed to give support traditionally to their female partners. Traditionally there were laws that were in place to prevent male partners to support their wives and babies. Data revealed that male partners were not allowed to accompany their wives to the

clinic, more especially if the wife is pregnant. When the mother is discharged from the clinic, it is a taboo for the male partner to enter the room where the mother and the baby are staying. Grandmothers were reported to say that if a male partner enters the room where there is the mother and the baby, the baby will get ill.

The following are the quotations from focus group:

- FGD P9

> *We were also not allowed to talk to the female partner until the elders tell you that now is the right time to see the baby, and we were not allowed to sleep at the same room with your wife until the elderly allow you to do so. If people can see you accompanying you wife to the clinic is like you are not a proper men, is like you have been given* ***muti*** *to soften you up. Or you are being controlled by your wife. I think this thing of supporting our wives is still new and we are trying but it is still difficult.*

- FGD P7

> *Some of the things that made us as men failing to support our wives is the education that we receive from our elders that if you see your wife giving birth you will lose interest in having sex with women whom you have witness her vagina stretching to deliver the baby. It was also said that the vagina took shape of the last part that come out of the vagina. The other thing is because we paid "lobola" dowry to have them they are like properties to us. We feel like they are the one who must support us not vice versa. Again to God marriage is a good thing and devil want to destroyed marriage by lack of support. Negative influences to dilute positive influences. The church also played a role as we were taught not to emulate the world, even if something is good we as men don't want to copy from something that is done by the so called heathen.*

- FGD P9

> *Men are born with inborn pride, as men we usually don't want to associate our self with negative issues in our families. If it happens that the baby is HIV-positive, most of the men will run away from home and go and stay with girlfriends. Most of the time men do not want to associate themselves with problem.*

Literature indicated that male partners are not expected to support female partners as issues of taking care of the babies are traditionally allocated to the grandmothers (Sharon & Costa, 2012). Family members, particularly grandmothers or mothers-in-law play a crucial role in postnatal care. Their opinion is highly valued. They are regarded as highly experienced and knowledgeable with the issues of taking care of a newborn baby (Sharon & Costa, 2012). Male partners were reported to distance themselves from supporting female partner during the postnatal period. The community also plays a role to discourage male partner involvement by looking down and negatively regard the man who support the wife as a man who is controlled by a woman or is less of man. Traditionally, men are oriented not to be involved with issues of supporting women during the postnatal period (Dutki, 2010). Health care practitioners were reported to discourage male partners to be involved with the health of their wives and babies. Gourlay *et al*. (2013) reported that male partners are discouraged to accompany their wives to the clinic due to long waiting periods, and when the women gets inside the cubicle to be examined midwives tell the male partner to wait outside. Midwives were reported to display negative behaviour towards male partners who try to support their wives (Gourlay *et al*., 2013).

Kalembo *et al*. (2013) reported that health care workers are falling to influence family support as they were overwhelmed by high patient volumes, contributing to long waiting times. The increased workload, fuelled by additional programmes, increases the negativity of health care workers towards family-centred care. High workloads and turnover of staff without replacement were reported to be a major reason for failure of family-centred approaches in PMTCT programmes (Kalembo *et al*., 2013).

4.3.3.1.3 Sub-Theme 3.1.3: Male Partner Are Discouraged and Restricted Towards Supporting Female Partner and the Children

Participants reported that male partner who involved themselves with supporting

their female partner are viewed as weak men. They are labelled as men who are ruled by women or they have been given stay soft **(vho liswa)**, that is, the **muti** used by women to soften the hearts of their husbands so that they will be easily controlled by their wives. The male partners who supported their wives publicly are shunned by the community. Culturally, male partners who support their wives put shame to themselves, family members and community as a whole. Participants reported that they lack encouragement to support their female partners and the children because traditionally men are not supposed to be seen by people supporting their own wives. Male partner were reported to be orientated not to be involved with issues that concern women and children from an early age. Participants indicated that boys were not allowed to help their mothers or to take care of children in the family as it was regarded as women's responsibility.

The following are the quotations from participants:

- FGD P8

> *If people can see you accompanying you wife to the clinic is like you are not a proper men, is like you have been given **muti t**o soften you up. Or you are being controlled by your wife. I think this thing of supporting our wives is still new and we are trying but it is still difficult.*

- FGD P3

> *I think theoretical is possible but in reality is difficult to support your wife publicly. I will rather export my wife to the clinic using my car and when we reach the hospital my mother or elderly family member will accompanied my wife. If you happen to do it publicly your family members will be annoyed and the community will labelled you. Is like you are against the traditional laws. I think in rural area the community is not yet ready to accept a men walking with a women especially if the pregnancy is visible, people will speak negatively and men are usually proud they don't want people to talk about them behind their back.*

- FGD P4

*We were also not allowed to talk to the wife until the elders tell you that now is the right time to see the baby, and we were not allowed to sleep at the same room with your wife until the elderly allow you to do so. If people can see you accompanying you wife to the clinic is like you are not a proper men, is like you have been given **muti** to soften you up. Or you are being controlled by your wife. I think this thing of supporting our wives is still new and we are trying but it is still difficult.*

In the study conducted by Kalembo *et al*. (2011) reported that in Sub-Saharan Africa, support and care are seen as women's work, social and religious norms prohibits male to attend female health services and he widespread attitude that female reproductive health is not a male's responsibility. Another barrier that was recognized was the community perceptions that men who participated in antenatal care are seen as jealous men or men who are being controlled by their wives (Kalembo *et al*. 2011).

The same study reported that antenatal services are traditionally and programmatically a woman's domain, hindering family support in PMTCT sustainability. Men were also said that they do not want to be seen walking with their partners as the community perceive that such men are under the wife's control, or weaken manhood (Dutki, 2010; Nyondo, 2013). In all if not most of the previous studies, male partner involvement was reported to be the best method to increase sustainable PMTCT interventions which is the most effective way to reduce MTCT to under-fives.

Staff at heath care facilities still consider partner testing as new and an additional burden. Furthermore, there is persistently low community awareness and acceptance of the importance of partner testing arising from the misconception that PMTCT is meant for only females due to failure of nurses to educate the community. Hence, there is lack of family support in PMTCT sustainability (Ethiopia National PMTCT Guideline, 2012).

Brittain & Stinson (2014) reported the possible negative impact of health care workers has been identified as a reason for males failing to support their wives. A study that was conducted in Uganda and in Khayelitsha, Cape Town, has found that men who accompanied their partners to ANC clinic were forced to wait outside. In Tanzania, it was reported that many men have been turned away by staff when they

attempted to attend ANC clinic with their partners. It was also reported that in Zambia midwives were trained in encouraging males to support their partners, but the environment was not conducive for male participation, and health care providers' attitudes and service which are not male friendly have also been reported as barriers for male to support their partners in PMTCT sustainability (Brittain *et al*., 2014). In South Africa, couple counselling was introduced with the aim to involve male partners to support their wives in PMTCT uptake programmes, however, the male partner involvement remain low. Brittain *et al*. (2014) reported that lack of male partner and family involvement contributed to low support and sustainability of PMTCT interventions.

In the study conducted by Kalembo *et al*. (2011) it was reported that in Sub-Saharan Africa, ANC was perceive by many fathers as outside their responsibilities. Men were also reported as decision-makers and have power over their wives' actions, resulting in men resisting women's efforts to influence them to be involved in PMTCT sustainability. In Malawi, the rate of male involvement remain low with reports of 23% of antenatal women being accompanied by their male partners. It was also reported that male participation in PMTCT increase disclosure, and when the mothers are supported it increases adherence to ART, and reduce MTCT (Nyonde, 2013). Whist Betancourt *et al*. (2010) indicated that partner participation was associated with positive outcomes, such as greater use of ART and higher acceptance of post-test counselling, as well as increased spousal communication about HIV and sexual risk.

She also reported that when couples receive postnatal counselling together there are greater acceptance of HIV results and greater use of alternate infant feeding (Betancourt *et al*., 2010). Involvement remains low. Brittain *et al*. (2014) reported that lack of male partner and family involvement contributed to low support and sustainability of PMTCT interventions. Health care practitioners were reported to find

it difficult to include the males as it adds the burden of overload of responsibility whilst they are short-staffed. The majority of parents who register themselves in PMTCT programmer are mothers. Leeper *et al*. (2010) reported that in London, United Kingdom, before the family support programmes started there was inadequate use of the services where only 18% of fathers attended the clinic to give support, but in 5 years description of the programmes only 17% chose to remain untested (Leeper *et al*., 2010).

4.3.1.4 Theme 3.2: Practices Leading to Support Versus Lack of Support by Male Partners to Their Wives

Table 4.13 presents theme 3.2 and its sub-themes which emerged from the data analysis.

Table 4.13: Practices leading to support versus lack of support by male partners to their female partners

Theme	Sub-themes
3.2 Practices leading to support versus lack of support by male partners to their wives	3.2.1 Cultural laws are viewed as problematic because they interfere with married couple's lives 3.2.2 Nurses' attitudes lead to lack of male partners' provision of support to their wives 3.2.3 Long waiting hours a contributing factor to male partners not to support their wives 3.2.4 Security services problematic because they refuse entrance to the health care institution's premises

Culturally, it is taboo for men to support female partners during pregnancy, labour and postnatal. Men were oriented to distance themselves from supporting their wives as this responsibility is traditionally allocated to grandmothers. Males are the ones who are responsible to support the family financially, and accompanying their wives to the clinic can only be done by forfeiting a day's salary. Nurses' attitudes were also reported as a stumbling block for males to support female partners. Long waiting hours caused by shortage of staff also fuelled lack of male support. Security guards were also reported as problematic as they refuse male partner to enter heath

facilities with their cars. Kiweewa *et al*. (2015) reported that due to lack of support from male partners, female partner do not disclose their HIV-positive status to their male partners (Choko *et al*., 2017; Goarly *et al*., 2013; Colombini *et al*., 2016; Dutki, 2010).

4.3.3.1.4 Sub-Theme 3.2.1: Cultural Laws Are Viewed As Problematic Because They Interfere with Married Couples' Lives

Data indicated that culturally the issue of supporting the women during pregnancy, labour and postnatal are viewed as the responsibility of grandmothers. Male partners were discouraged to involve themselves with giving support to their female partners. To increase this practice male partner who insist on supporting their wives after delivery were said to be controlled by women or being given Staysoft softener.

- FGD P6

> *Our minds were channelled through our culture, and there is a permanent ways of doing things culturally which is difficult to change. Our parents didn't have a good relationship with their wives. They were not used to each other. To move from that type of life style will change but not now. Maybe our children will be able to support their wives without feeling bad. During our time it was illegal to bring your girlfriend to your home but at least our boys bring their girlfriends for us to see them and we are still uncomfortable about that. Maybe this was brought by men who were working in Johannesburg while their wives were left at home, the only time they were together was when they want to have another child, and as a result there was no relationship between the husband and the wife.*

Kalembo *et al*. (2011) reported that in Sub-Saharan Africa, support and care are seen as women's work, social and religious norms prohibit males to attend female health services and widespread attitude that female reproductive health is not a male's responsibility. Another barrier that was recognized was the community's perceptions that men who participate in antenatal care are seen as jealous men or men who are being controlled by their wives (Kalembo, *et al*. 2011). The same study

reported that antenatal services are traditionally and programmatically a women's domain, hindering family support in PMTCT sustainability. Men also said that they do not want to be seen walking with their partner as community perceive that such men are under the wife's control (Dutkie, 2010). Kalembo *et al*. (2011) indicated that men are decision-makers in African families, and they are the ones who make important decisions that have a big impact in the health of women, their involvement in PMTCT programmes has increased the PMTCT uptake and reducing HIV infection in children. However, the programmes are facing a lot of challenges as a limited number of male partners support their female partners.

4.3.3.1.5 Sub-Theme 3.2.2: Nurses' Attitudes Lead to Lack of Male Partners' Provision of Support for Their Wives

From this sub-theme participants reported that nurses' attitudes contribute to lack of male partners to support their wives. Nurses were reported to have negative attitudes towards married women. Male partner reported that if they showed support to their wives, nurses mistreat their wives. Nurses were reported to behave jealously towards married women; this was also confirmed by other participants who reported that when their wives are in labour they remove their rings to protect themselves to be mistreated by jealous unmarried nurses.

The following are quotations from participants:

- FGD P11

> *Hey…let me tell you that our wives usually remove their rings fearing that nurses will ill-treat them because they are jealous of married women. The other thing is that most of the nurses are not married so they are jealous for men who support their wives*

- FGD P12

> *Lack of being appreciated by nurses makes it difficult for us as men to support our wives. Nurses do not appreciate men's who openly support*

> *their wives. I think if nurses may start to welcome us at their clinics and hospital it will be easier for us to support our wives in ANC and also in Child health. Presently if we are supposed to scale them out of 10 nurses only three will accommodate us to support our wives. If you frequent visiting your wife nurses will mistreat your wife. I think nurses must be taught to appreciate men who come to the clinic to support their wives*

Staff-client interaction is a contributory factor of low family support in PMTCT sustainable interventions. Clients experience negative staff attitude at the facilities, limiting the opportunities to receive prophylactics or ARVS. Women were reported to fear being scolding by the nurses for home delivery As a result, they fail to bring the baby for Nevirapine prophylaxis. Health care workers were also reported to breach confidentiality by sharing patients' HIV-positive status with their friends or relatives. Hostile attitudes of heath care workers have been reported as barriers to family support in PMTCT sustainability (Gourlay *et al*., 2013).

Kalembo *et al*. also indicated that mistreatment of the spouses of pregnant women by health care workers made them feel uncomfortable and embarrassed. In the same study it was also reported that health care workers exclude the male partners from the session where their wives were examined and they have to wait outside without any information of what is happening to their pregnant wives (Kalembo *et al*., 2011).

Staff at heath care facilities still consider partner testing as new and an additional burden. Also, there is persistently low community awareness and acceptance of the importance of partner testing arising from the misconception that PMTCT is meant only for females due to failure of nurses to educate the community. Hence, there is lack of family support in PMTCT sustainability (Ethiopia National PMTCT Guideline, 2012). Brittain & Stinson (2014) alluded to the possible negative impact of health care workers that has been identified as a potential reason for males failing to support their wives. They further reported that a study that was conducted in Uganda

and in Khayelitsha, Cape Town, has found that men who accompanied their partners to ANC clinic were forced to wait outside. In Tanzania, it was reported that many men have been turned away by staff when they attempted to attend ANC clinic with their partners. It was also reported that in Zambia midwives were trained in encouraging male to support their partners, but the environment was not conducive for male participation, and health care providers' attitudes and service which are not male friendly has also been reported as barrier for male to support their partners in PMTCT sustainability (Brittain *et al*., 2014). In South Africa, couple counselling was introduced with the aim to involve male partner support of wives in PMTCT uptake programmes, however, the male partners failed to come to the clinic with their wives as a couple due to their working situation. Most of them are classified as low income group of workers and for them to accompany their wives to the clinic meant losing a day's salary (Brittain *et al*., 2014).

Gourlay *et al*. (2013) reported that health care workers are reported to be failing to influence the family to support the mother of under-fives. They are reported to be overwhelmed by a high patient volume, contributing to long waiting times. They give brief or poor counselling sessions (especially when the counsellor have to counsel the whole family), complicated by integration of services they usually turned the family back as they view the family as an additional burden (Gourlay *et al*., 2013; Kalembo *et al*., 2013).

The shortage of health care workers and increased number of pregnant women attending ANC demotivate men from attending ANC with their spouse since they have to wait for a long time before they are attended to (Kalembo *et al*., 2013). UNICEF (2006) also reported that the ongoing shortage of health care workers in rural areas, fueled by additional programmes, increases the negativity of health care workers towards family-centred counselling. Health care workers are overwhelmed by high patient volumes, contributing to long waiting times and brief or poor

counselling sessions. High patient volumes were cited as a barrier for the family to become involved in PMTCT sustainability. This information was also shared by other studies that high workload, high turnover of the staff without replacement and high loss of follow-up and poor coverage of PMTCT were reported as major reasons for failure to implement family-centred approaches in PMTCT sustainability (Gourlay *et al*.,2013).

4.3.3.1.6 Sub-Theme 3.2.3: Long Waiting Hours Fueled by Security Services That Refuse Male Partners to Park Their Cars Inside Health Care Services Viewed As Problematic

The study indicated that male partners are the ones who are responsible to support the family financially. Long waiting hours were viewed as a challenge as male partners do not have time as they are supposed to work and support the family. Male partners reported that they cannot afford to lose a day's salary by spending a day at the clinic, whilst other participants verbalized that male partners are inpatient to wait in long queues. Security services were also reported as posing a problem because they refuse to allow male partners to park their cars inside health care facilities.

The following are some of the quotations from participant:

- FGD P6

> *Nurses also cause us as men to lose interest to accompany our wives to the clinic. As men if I happen to accompany my wife to the clinic I may do so at a day s salary. There is a long queue and nurses do not care as you see them walking all over as if they don't know what to do. On the other hand the security men and women don't want us to get inside the health institution with our cars, and they refuse to take responsibility of looking after our cars. When nurses are on tea time they don't want to attend to patients. The queue is too long and men are too proud, we don't want to be controlled especially by female nurses. Waiting period is also annoying. Nurses are slow to help, is like they don't care.*

- FGD P13

On the other hand the security men and women don't want us to get inside the clinic with our cars, and they refuse to take responsibility of looking after our cars. When nurses are on tea time they don't want to attend to patients. The queue is too long and men are too proud, we don't want to be controlled especially by female nurses. Waiting period is also annoying. Nurses are slow to help, is like they don't care.

Gourlay *et al*. (2013) found that health care workers are failing to influence the family to support the mothers of under-fives. The health care workers are reported to be overwhelmed by high patient volumes, contributing to long waiting times. They give brief or poor counselling sessions (especially when the counsellor has to counsel the whole family), top up by integration of services they usually turned the family back as they view the family as additional burden. The shortage of health care workers and increased numbers of pregnant women attending ANC demotivate men from attending ANC with their spouses since they have to wait for a long time before they are attended to (Kalembo *et al*., 2013).

Moreover, the ongoing of shortage of health care workers in rural areas, aggravated by additional programmes increases the negativity of health care workers towards family-centred counselling (UNICEF, 2006). Gourlay *et al*. (2013) further reported that there is a shortage of cadre of health care workers. The PMTCT programmes were launched and guidelines keep changing, without mentors, and nurses working in these programmes end up confused, stressed by workload, without recognition, hence they fail to include the family to support PMTCT sustainability (Gourlay *et al*., 2013).

A high patient volume was cited as a barrier for the family to be involved in PMTCT sustainability. This information was also corroborated by other studies reporting that high workload, high staff turnover without replacement and high loss of follow-up and poor coverage of PMTCT were seen as major reasons for failure to the implement family-centred approach in PMTCT sustainability (Gourlay *et al*., 2013). Shortage of staff fueled by poor welfare of the health care providers is an impediment to their motivation, hence, the family-centred approach is underused resulting in failure to curb MTCT. On the recommendations by Kalembo *et al*. (2007), it was suggested that the government should improve welfare of the health care workers so that they will be motivated to carry out their duties wholeheartedly. More staff should be

recruited to reduce the lengthy waiting time for ANC attendance as it is one of the barriers for males to accompany their wives to the ANC clinic. Government should also hire more male nurses as it was reported that they were best candidate to influence PMTCT sustainability by male partners and to encourage men to accompany their wives to ANC clinic (Kalembo *et al*., 2007). Staff-client interaction is a contributory factor of low family support in PMTCT sustainable interventions. Clients experience negative staff attitudes at the facilities, limiting their opportunities to receive prophylactics or ARVs. Women were reported to fear scolding by the nurses for home delivery. As a result, they fail to bring the baby for Nevirapine prophylaxis. Health care workers were also reported to breach confidentiality by sharing patients' HIV-positive status with their friends or relatives.

Hostile attitudes of heath care workers have been reported as barriers to family support in PMTCT sustainability (Gourlay *et al*., 2013). Mistreatment of the spouses of pregnant women by health care workers made them feel uncomfortable and embarrassed. In the same study, it was also reported that health care workers exclude the male partners from the session where their wives were examined and they have to wait outside without any information of what is happening to their pregnant wives (Kalembo *et al*., 2011). Our health care facilities were planned long ago before PMTC implementation. During quantitative data collection it was found out that health care infrastructure was not conducive to accommodate family members. In every PHC clinic there was only one midwife to conduct PMTCT services.

4.3.3.2 Summary of Main Theme 3

From the book of Genesis 3:16 to the women he said, "I will greatly increase your pains in childbearing; with pain you will give birth to children. Your desire will be for your husband, and he will rule over you." From creation God declare that a men will rule over a women, and the desire of a women will be for her husband (Genesis 3:

16). These declarations give us a clear picture that women will always desire to receive support from their husbands for the smooth running of the family. When a men fails to support his wife everything in the family start to fall apart. Without the support of a husband, every programme design to prevent the risk of MTCT will fail. Genesis 3:17-19: To Adam he said, “Because you listened to your wife and ate from the tree about which I commanded you, You must not eat of it, Cursed is the ground because of you; through painful toil you will eat of it all the days of your life.”

- Verse 18:

> *It will produce thorn and thistles for you, and you will eat the plants of the field.*

- Verse 19:

> *By the sweat of your brow you will eat your food until you return to the ground, since from it you were taken; for dust you are and to dust you will return. Adam was instructed to work the ground and produce food to eat (Genesis; 17-19). In this study, female partner were reported to lack financial support from their male partner resulting in lack of adherence to ARVs. When the male partner fail to support their wives financially women were reported to leave the baby with grandmothers to seek casual work in order to support the family, then grandmothers introduce solids and practice mixed feeding which expose the baby to risk of MTCT.*

Participants reported that they lack support from their male partners. Participants reported that most of the time male partners do not want to go for an HIV test. Male partners were also reported to fail to talk about the issues related to an HIV-positive status in the family. If they are sick they don’t want the female partners to disclose the HIV-positive status to other family members. Some of the participants reported that when they ask their male partners to talk, they just keep quite. In this study, female partners reported that they were taught to protect the babies from the risk of MTCT by using protection during sexual intercourse, but their male partners usually refuse to use condoms. Female partners indicated that without the support of male

partners it will remain difficult to protect their babies. Some participants verbalized that they feel frustrated not knowing what to do and they just wish to die. Other participants expressed that after they disclosed their status their partners started to behave negatively or positively. Those who are not married reported that after disclosure the male partners run away or go back to their wives. Female partners also reported lack of financial support from their male partners. When female partners refuse to conform on sex without condom, male partners react by withholding financial support.

Male partners also verbalized that is difficult for them to support their wives fully due to the way they themselves were raised up. Participants articulated that traditionally issues of supporting their female partners were allocated to old ladies in the family. Traditionally, it is a taboo by the community and family members for men to be seen running around trying to help the wife. During postpartum, the men are not allowed to get inside the room where there is a baby. In Venda tradition it is said **U kanda nwana** (meaning that the baby may get ill if the father enters the room before the cord fell off). This society regards the men who support their wives as being controlled by women or being given (stay soft by their wives). The other challenge that hinder male partners to support their wives was when they are in extramarital affairs, thus avoiding other women to see them supporting their wives. Male partners are the leaders in the family; female partners need their approval and support in order to prevent the risk of MTCT.

The researcher concluded that without the involvement and support of male partners, the DoH cannot reach their target of having less than 3% of MTCT. Male partners are also decision-makers in the family, Most of the female partners depend on their male partners' sex preference, and most of them cannot suggest the use of condom during sexual intercourse whilst male partners reported that they cannot use condom in a family setup as women were reported to be troublesome and talking too

much. They were reported to count the condoms and if one is missing the male partners have to give an account. To avoid marital turmoil, male partners verbalized that it is better to have sex without a condom than to give an account to their female partners.

4.3.4 Main Theme 4: Experiences of Providing PMTCT by Health Care Professionals

From the quantitative data, health care professionals reported that their PCR statistics at 6 weeks was 70%, 18 months 25%, and those who didn't response were 5%. Health care professional indicated that there was a gap in accompaniment of their babies to the clinic by both parents as they reported that only 33.7% were accompanied by mothers only, both parents 4.6% and 31.3% for counselling of the family members. It showed that mostly the family-centred approach was not achieved during counselling. Whilst health care professionals have 100% access to health education programmes, ongoing counselling was attended well at 6 weeks where 90% of families received ongoing counselling.

However, at 12 months and at 18 months, they defaulted the counselling. Health care workers had knowledge on the importance to include family members, but only 78% indicated that they would like to participate, 9% were reported to refuse to participate and 13% did not respond. The health care workers reported to have space (one cubicle which was allocated for baby clinic) and the family members were willing to participate, but the space was not appropriate for family members due to the large number of babies and limited space. All these factors made it difficult for health care workers to accommodate family members for ongoing counselling of PMTCT to enhance the interventions.

4.3.4.1 Theme 4.1: Factors that Affect the Provision of Family Support in PMTCT Interventions as Perceived by Health Professionals

Gourlay *et al*. (2013) reported that health care workers are failing to influence the family to support the mothers of under-fives. They are reported to be overwhelmed by the high patient volume, contributing to long waiting times. They give brief or poor counselling sessions (especially when the counsellor has to counsel the whole family) top up by integration of services. Hence, as some consequences for this reason they usually turned the family back as they view the family as additional burden (Gourlay *et al*., 2013; Kalembo *et al*., 2013). The shortage of health care workers and increased number of pregnant women attending ANC demotivate men from attending ANC with their spouses because they have to wait for a long time before they are attended to (Kalembo *et al*., 2013).

UNICEF also reported that the ongoing of shortage health care workers in rural areas, fueled by additional programmes, increases the negativity of health care workers towards family-centred care (UNICEF, 2006). Gourlay *et al*. (2013) further reported that there is a shortage of cadre of health care workers. Since the PMTCT programmes was launched guidelines keep on changing and without mentors, nurses working in this programmes end up confused, stressed by workload without recognition, hence they fail to include the family to support PMTCT programmes (Gourlay *et al*., 2013).

Health care workers are overwhelmed with high patient volume, contributing to long waiting time, brief or poor counselling session. High patient volume was cited as the barrier for the family to be involved in PMTCT programmes. This observation was also confirmed by other studies that high work load, high turnover of staff without replacement and high loss of follow up and poor coverage of PMTCT were reported as a major reasons for failure to implement family-centred approach in PMTCT programmes (Gourlay *et al*., 2013).

With the shortage of staff fueled by poor welfare of the health care providers which is

the demotivating factor for them. Family-centred approach is underused resulting in failure to curb MTCT. On the recommendations by Kalembo *et al*. (2007), it was suggested that the government should improve welfare of the health care workers so that they will be motivated to carry out their duties wholeheartedly. More staff should be recruited to reduce waiting time for ANC attendance as it is one of the barriers for males to accompany their wives to the ANC clinic. Kalembo *et al*. (2007) indicated that the government should also hire more male nurses as it was reported that male nurses are the best candidate to influence male partners to be involved in PMTCT programme and to encourage men to accompany their wives to ANC clinic (Kalembo *et al*., 2007). At the Primary Health Care the operational manager has a lot of responsibilities, with so many programmes to run, as a result they are overworked and other staff members tend to shift responsibilities with high absenteeism hence the poor implementation of family-centred care. Lack of ownership of the programmes and shifting of tasks were reported as barriers for family support in PMTCT sustainability (Gourlay *et al*., 2013; Tomlinson, 2010).

Dutki (2010) in her study reported that infrastructure is also a barrier for a family to be involved in counselling to enhance PMTCT interventions sustainability. The clinic structure cannot accommodate the whole family in a cubicle, and there is no privacy as most of the clinic structures are designed with no area where the male partner may feel comfortable and respected. Kalembo *et al*. (2011) concurred that there is lack of adequate space at the ANC facilities. In the same study, it was also reported that lack of integration of ART clinic and ANC which is usually in separated building discourage families to engage themselves in PMTCT Programmes (Kalembo *et al*., 2011; Dutkie, 2010).

4.3.4.1.1 Theme 4.1.1: Constrained Resources

Table 4.14 presents theme 4.1 and its sub-themes that emanated from the data analysis. Shortage of supply was cited as a barrier. In the study that was conducted

by Kalembo *et al*. (2012) they reported that there is poor procurement and supply management. Lack of time by male partners (since most of them are working to support the family), fueled by the shortage of medication, discourage males from accompanying their pregnant women to attend ANC.

Table 4.14: Factors that affect the provision of family support in PMTCT interventions as perceived by health professionals

Theme	Sub-themes
4.1 Factors that affect the provision of family support in PMTCT interventions as perceived by health professionals	4.1.1 Constrained resources 4.1.2 Health care workers' attitudes 4.1.3 Lack of staff training 4.1.4 Continuity of care

For example, in 2013 it was announced that by the first of April 2014, ARV will be given to all pregnant woman who tested HIV-positive irrespective of CD4 cells, and bloods results, but on that date, ARVs were not yet supplied to the PHC clinic causing problems between heath care users and heath care workers (DoH, 2013). The Swaziland DoH guidelines reported that to improve family-centred approach there must be integrating of stock supply with supplementary feeds to women who opted for none breastfeeding option for their infants which discourage the family to support PMTCT interventions (Swaziland DoH, 2009). Implementation of routine infant testing at 6 weeks needs a well-functioning stock supply and well-established procurement for PCR kits. Women with family support seem more likely to attend their scheduled medical visits compared to those who do not have family support. Most affected children without participating parents in PMTCT are found to correlate with higher death rates (Leeper *et al*., 2010).

The researcher concluded that most of the clinics were built to cater for the number of patient then, but now the population has increased, fueled by patients from our neighboring African countries. Our old clinics are not at the standard to accommodate the family.

4.3.4.1.2 Theme 4.1.2: Health Care Workers' Attitudes

Staff-client interaction is a contributory factor of low family support in PMTCT

sustainable interventions. Clients experience negative staff attitude at the facilities, limiting the opportunities to receive prophylactics or ARV. Women were reported to fear scolding by the nurses for home delivery and, as a result, they fail to bring the baby for Nevirapine prophylaxis. Health care workers were also reported to breach confidentiality by sharing patients' HIV-positive status with their friends or relatives. Hostile attitudes of heath care workers has been reported as a barrier to family support in PMTCT sustainability (Gourlay *et al*., 2013).

Mistreatment of the spouses of pregnant women by health care workers made them feel uncomfortable and embarrassed. In the same study, it was also reported that health care workers exclude the male partners from the session where their wives were examined and they have to wait outside without any information of what is happening to their pregnant wives (Kalembo *et al*., 2011).

Staff at heath care facilities still consider partner testing as a new and an added burden. Additionally, there is persistently low community awareness and acceptance of the importance of partner testing arising from the misconception that PMTCT is meant for females only due to failure of nurses to educate the community. Hence, there is lack of family support for PMTCT sustainability (Ethiopia National PMTCT Guideline, 2012).

Brittain & Stinson (2014) identified the possible negative impact of health care workers as potential reason for male failing to support their wives. They reported that study that was conducted in Uganda and in Khayelitsha, Cape Town, found that men who accompanied their partners to ANC clinic were forced to wait outside. In Tanzania, it was reported that many men have been turned away by staff when they attempted to attend ANC clinic with their partners. It was also reported that in Zambia midwives were trained in encouraging males to support their partners, but the environment was not conducive for male participation. The health care providers'

attitudes and service which are not male-friendly have also been reported as barriers for males to support their partners in PMTCT sustainability (Brittain *et al*., 2014). In South Africa, couple counselling was introduced with the aim of involving male partners to support their wives in PMTCT uptake programmes; however, male partner involvement remain slow. Brittain *et al. (*2014) reported that lack of male partner and family involvement contribute to low support and sustainability of PMTCT interventions.

Limpopo Province DoH has a limited budget of which 70% is used to pay personnel. To reduce the money spent on salary the department is reducing the cost by not replacing the health care practitioner who died, resigned, and those who are retiring. The department must reduce the salaries up to 60%. The researcher concluded that with budgetary restraints, staff shortages, fuelled by workload, it is still difficult to include family members during ongoing counselling of the mothers in order to promote a family-centred approach to increase family involvement.

4.3.4.1.3 Theme 4.1.3: Lack of Staff Training

Kalembo *et al*. (2011) indicated that to increase family-centred approach in PMTCT intervention sustainability, refresher courses to update nurses working in PMTCT programmes should be conducted on a regular basis so that they can make PMTCT services more male-friendly for men to support their partners. Dutkie (2010) indicated that there is lack of accurate knowledge by health care workers concerning the family-centred approach to PMTCT programmes. Hence, there is lack of family support for pregnant women and mothers of under-fives who are living with HIV.

In the same study it was also reported that there is a huge shortage of trained staff. It was further noted that lack of training of health care workers contributed to lack of family support to implement the sustainable PMTCT interventions. Kalembo *et al*. *(*2011) reported lack of revision policies to reflect global guidelines on PMTCT and

paediatric treatment and care. Policies are always not disseminated well.

Health care workers at the workplace are always not aware of changes or existing guidelines. Another study reported that there is lack of standardized operational guidelines to support the implementation of comprehensive PMTCT and to involve family in a weak health system (Dutkie, 2010). The DoH is failing to conduct in-service training due to lack of funds. Even if they held a training they have to do that only few hours for health care providers to go early as there is no budget for catering. Health care workers are using their pocket money to travel to and from in-service training due to lack of funds.

4.3.4.1.4 Theme 4.1.4: Continuity of Care

The study conducted by Kalembo *et al.* (2007) reported that there is no measure in place to do follow-up on infants referred for ART with no appointment dates set for follow-up or subsequent visits. There is no policy for unexposed infants to undergo PCR screening. Some infants are brought to the clinic by grandmothers who do not know anything about the HIV-positive status of the mother or the caregiver who also does not have a clue of what is happening.

Dutki (2010) also reported that there is a weak linkage and poor referral system from the community to the facilities, making it difficult for the family to participate in PMTCT sustainability. In the same study, it was reported that lack of referral links or tracing system contribute to low PMTCT sustainability and utilizing of ARVs by the family (Kalembo *et al.,* 2007; Dutki, 2010).

Lack of funds has been narrated as a challenge by health care workers as sometimes there is lack of continuity of care due to shortage of supplies where the mothers have to collect the ARVs at the hospital. Sometimes they are given insufficient supplies of ARVs and they have to come back again to collect their ARVs

and those who don't have transport money default the treatment exposing the babies to the risk of MTCT.

4.3.4.2 Summary of Main Theme 4

There is a visible gap between the health care providers and the family members as they are from different backgrounds and have various ways of doing things. In most African families, grandmothers are regarded as the ones with expert knowledge to take care of the babies and management of childhood illnesses. In Westernized countries, the society depend on midwives and doctors for management of childhood illnesses. Midwives manage to convince the society and traditional birth attendants to bring pregnant women for ANC, delivery and postnatal care by preventing maternal and neonatal death versus those mothers who were handled by traditional birth attendants as they have a high maternal and neonatal death rate.

In this study, it was discovered that midwives are doing their best by equipping mothers with knowledge of risk of MTCT, but without involvement of the family especially, grandmothers and fathers, the impact is low. For example, grandmothers still believe in mixed feeding and that the baby must undergo traditional immunization against childhood illness. All these traditional practices expose the baby to risk of MTCT. Male partners still believe that they are the head of the family and they cannot take instructions from their wives, especially on the issue of condom use. In this study, most of the male partners indicated that they cannot use condoms with their wives, but can use condoms with their girlfriends, hence, this practice expose the babies to the risk of MTCT.

Health care practitioners were reported to be overwhelmed by workload, shortage of staff, lack of material supplies, lack of training and lack of support from management. Health care professionals reported that the infrastructure is not conducive for involvement of family members. In this study, health care professionals reported that they do not feel free to accommodate traditional healers in their cubicle to discuss issues that involve management of childhood illnesses whilst grandmothers depend and rely upon traditional healers.

The researcher believes that until midwives involve grandmothers in the feeding of the baby counseling and management of childhood illness their efforts will not totally eradicate the risk of MTCT. On the other hand, midwives should encourage male partners to accompany their wives or life partners on booking ANC and subsequence visits, labour and postnatal care to obtain information and to give support to the mother. Without family support the war against risk of MTCT is still on.

4.4 Conclusion

Chapter 4 focused on the presentation and discussion of the results. There were 4 main themes, 10 themes and 29 sub-themes. These themes were discussed in detail in terms of the data collected from the participants and placed in proper perspective with the literature, i.e., the responses of the participants were contextualized in terms of previous research and assertions in the field. Such correlations have been outlined in the respective summaries of the main themes. The next chapter is devoted to the development of the strategy to enhance sustainable family–centred PMTCT interventions.

CHAPTER 5

Development of the Strategy to Enhance Sustainable Family–Centred PMTCT Interventions

5.1 Introduction

This chapter encompasses the development of the strategy to enhance sustainable family-centred PMTCT interventions in Limpopo Province. Chapter 4 presented findings which emerged from qualitative and quantitative data collected at Capricorn, Mopani and Vhembe districts. Participants were grandparents and mothers who are HIV positive, healthcare practitioner and FGD from male partners of Tshitamboni Men's Forum from Vhembe District. Four main themes, 10 themes and 24 sub-themes emerged from analysis of the raw data. The objective of this chapter was to develop the strategy to enhance family support to the interventions of PMTCT in Limpopo Province.

5.2 Adapted Process for Strategy Development

The researcher adapted the strategy development approach by Hill & Westbrook (1997). This approach used the Strength, Weaknesses, Opportunities and Threats (SWOT). Within the SWOT, further analysis of the matrix focused on Political, Economic, Social, Technological, Legal and Environmental (PESTLE) factors to develop the strategy. A SWOT matrix is a structured planning method used to evaluate the strengths, weaknesses, opportunities and threats (Hill & Westbrook, 1997) involved when developing the strategy of enhancing the family-centred support for sustainability of implementation of PMTCT interventions. Furthermore, a

SWOT analysis was developed as a collaborative with a variety of voices made by mothers, family members and health care professionals as participants. These contributions were reflected within the core concepts of Family-Centred Care (FCC) as cited in Roger (2006). These core concepts of FCC were:

- **Dignity and respect:** Health care practitioners should listen to and honour patients' and family perspectives and choices. Patient and family knowledge, values, beliefs and cultural backgrounds are to be incorporated into planning and delivery of care.

- **Information sharing**: Health care practitioners should communicate and share complete and unbiased information with patients and families in ways that are affirming and useful, and to ensure that information is timely, complete and accurate.

- **Participation**: Patients and families are encouraged and supported to participate in care and decision-making at any level they choose.

- **Collaboration:** Patients, families, health care practitioners and hospital leaders collaborate in policy and programme development, implementation and evaluation, in health care facility design and in professional education, as well as in the delivery of care.

Table 5.1 presents SWOT analysis, wherein SW analyzed internal factors and OT the PESTLE (Political, Economic, Social, Technological, Legal and Environmental Factors; http://pestleanalysis.com/what-is-pestle-analysis/). The SWOT analysis matrix were developed from the data. PESTLE as external factors formed the tool that helps in the broader understanding of the bigger picture of the socio-cultural and the environment of where PMTCT programmes were implemented in order to build the vision of the future. PESTLE analysis assists one to avoid taking action that

causes failure for reasons beyond your control (Birkenmaier, 2001).

Table 5.1: SWOT analysis

HELPFUL **To achieve the objective, they can be manipulated**	**HARMFUL** **To achieve the objective, they should be overcome**		
STRENGTHS	**WEAKNESSES**	**Internal factors**	Human resources Competence Financial costs Services
OPPORTUNITIES	**THREATS**	**External factors**	Political Economical Socio-cultural Technological Laws (Legal) Environment

5.2.1 The Steps Followed in SWOT Analysis

SWOT is a useful tool for directing attention to the internal and external factors that influenced the provision of services positively or negatively (Bunn & Conlin, 2013:20). Strengths and weakness are internal factors. Strengths are attributes that are helpful for the organization to achieve its goals, whereas the weaknesses are attributes that are harmful to the organization to achieve its goals (Chen & Bruneski, 2007:7).

5.2.1.1 Internal Factors

- Step 1

In this step, the Strengths of the human resources, competence, financial costs and services that were related to enhancing the family-centred support for sustainable implementation of PMTCT interventions were identified.

❖ Step 2

The Weaknesses are those characteristics that place the situations of enhancing the family-centred support for sustainable implementation of PMTCT interventions at a disadvantage or hinders those— human resources, competence, financial costs and services were identified.

5.2.1.2 External Factors

❖ Step 3

In this step, Opportunities of PESTLE which enabled participants to exploit to its advantage and can become helpful in assisting the institution to enhance family-centred support for sustainable implementation of PMTCT interventions were identified (Birkenmaier, 2001).

❖ Step 4

Threats of PESTLE that could hinder the enhancement of family-centred support for sustainable implementation of PMTCT interventions will be identified (Birkenmaier, 2001).

❖ Step 5

The researcher went through all the data and listed the strengths, repeated to list the weaknesses, opportunities and threats. The SWOT matrix was developed according to strengths, weaknesses, opportunities and threats.

The following four questions were asked:

- How can we maximize the use of our strengths? **(S)**
- What do we need to do to overcome the identified weaknesses? **(W)**

- How can we take advantage of our opportunities? **(O)**
- How can we overcome the identified threats? **(T)**

Once the analysis was completed, the SWOT matrix was created and the final step and the information in SWOT matrix were used and the results turned into actionable entities. The approach integrated the core principles of FCC with the **B**uild on the strengths, **O**vercome the weaknesses, **E**xplore the opportunities and to **M**inimize the threats (**BOEM**) approach. This was the approach used to develop the strategy of enhancing family-centred support for sustainable implementation of PMTCT interventions in Limpopo Province. The internal factors focused on human resources, financial costs, competence and product/services as presented in Figure 5.1.

Figure 5.1: Internal factors: Strengths of implementation of PMTCT interventions

5.3 Internal Factors: Strengths

5.3.1 Human Resources

Human resources refer to the personnel of an institution who are regarded as a

significant asset in terms of skills and abilities (Wehmeier *et al*., 2010). Findings of this study revealed that in all health facility (PHC clinic) there were one or two midwives who were rendering PMTCT services to clients. Since 2016, Vhembe Regional Office hired mother mentors who were heath educating the mothers and family members about the risk of MTCT. Mother mentors were also reported assisting with tracing the lost affected babies to come for PCR and continuity of PMTCT management. Home-based carers were also reported to health educate the mothers and family members in the community. At least during the week from Monday to Friday there were one midwife and mother mentors who can render PMTCT services to clients (Gourlay *et al*., 2013). This was in line with FCC because patients and families are encouraged and supported to participate in care and decision-making at any level they choose.

5.3.2 Competence

Competence refers to effective quality or extent of performance of the normal function (Concise Oxford English Dictionary, 2014). Findings of this study revealed that there were one or two registered midwives trained in PMTCT, who are allocated in all health care facility and who are qualified to render PMTCT services. In all clinics, there are trained mother mentors who are helping with teaching the mothers and the family members about the risk of MTCT. Mother mentors were also reported to facilitate support groups. The study showed that there was a health education plan in all PHC clinic where health care practitioners share and communicate complete and unbiased information with patients and families in a way that are affirming and useful, complete and accurate.

5.3.3 Financial Cost

Financial cost refers to the monies to be utilized in order to render PMTCT services. Findings revealed that PMTCT interventions are rendered at the health care facilities

free of charge. Most of the clinics are within 5 km walk. Hence, most of the clients were walking to their nearest clinic, and they don't pay for transport for PMTC services. Parents who are earning less than R3000 per household were receiving a child grant of R380 per child. The DoH covered those who are staying in mountainous areas that do not have transport by utilizing mobile clinics with a PMTCT-trained midwife who is rendering PMTCT and child health care.

5.3.4 Primary Health Care Services

Services refer to being ready to assist someone whenever required or to be available to assist someone (Concise Oxford English Dictionary, 2014). The services rendered at some PHC facilities were accessible, acceptable, available and affordable.

5.3.4.1 Accessibility

Accessibility refers to having the timely use of personal health services to achieve the best health outcome (National Health Care Disparities Report, 2011). PMTCT services were easily accessed in all PHC clinics. Most of the clinics are within 5 km walk or less. Where the clinic is too far, mothers utilize the mobile clinic. When women tested positive for pregnancy, they were referred to the health facility for ANC and PMTCT is rendered immediately. PMTCT is rendered to all pregnant women who book for ANC visits. If she is HIV-positive, she is immediately initiated to treatment (ARVs). The health care practitioners are always available to share the information with the patient and the family members.

5.3.4.2 Acceptability

Acceptability refers to being able to consent to receive or undertake a service that is offered at the PHC clinic—it is acceptance of services and utilization of the service provided (Tracy *et al*., 2017). The availability of health education programmes,

trained midwives, lay counsellors, mother mentors, and support groups who also share the same language, and home-based careers whose culture and beliefs made it possible for pregnant women and mothers of babies of between 6 and 18 months to accept and utilize the services.

5.3.4.3 Availability

Availability refers to the quality of being able to be used or obtained that is the availability of services of PMTCT services to be utilized at hand. The availability of midwives, lay counselors, mother mentors and support groups made it possible for pregnant women and mothers of babies who are between 6 weeks and 18 months to accept and utilize the services. Every mother who tested HIV-positive were given ARVs immediately. In this study, it was found that PMTCT programmes was rendered every day from Monday to Friday.

5.3.4.4 Affordability

Affordability refers to inexpensive or reasonably priced or ability to be afforded, inexpensiveness of PMTCT services in all PHC clinics. In this study, it was found that every pregnant women can attend PMTCT programmes at their health facilities free as most of them walk to the clinic without paying for transport. Mobile clinics made it cheaper for mothers to attend PMTCT services without payments.

5.4 Internal Factors: Weakness

Internal factors refer to factors that influence the impact of PMTCT services to achieve its goals (Business Dictionary, 2014). The discussion focused on the weaknesses that emerged from the findings. Weaknesses as internal factors were also discussed under human resources, financial costs, competence and products/services as presented in Figure 5.2.

5.4.1 Human Resources

In this study, it was found that there was a shortage of staff in most if not all heath care facilities. In some health care facilities there was only one midwife who was expected to do consultation of minor ailments, chronic nursing, rendering emergency care, ANC, admission and management of all stages of labour, child health,

reproductive health and issuing of ARVs. Some clinics were reported to render PMTCT services only during the week from 8 am to 4 pm. PMTCT services were reported to be rendered only when the PMTCT-trained midwife was on duty.

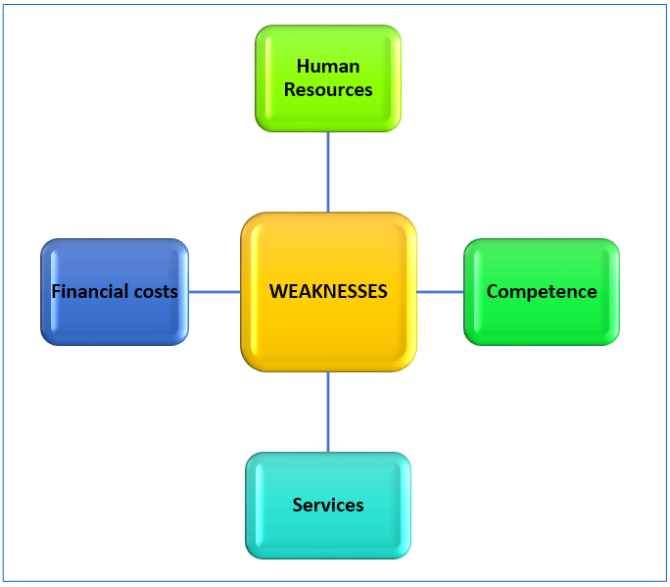


Figure 5.2: Internal factors: Weaknesses of PMTCT interventions

In this study, it was reported that there were fewer or no trained lower category workers. The overworked midwife was found to compromise rendering of PMTCT services, hence in this study it was found that due to shortage of staff, involvement of family members was compromised. The extremely shortage of midwives were found to be problematic (Gourlay *et al*., 2013). Shortage of staff was one of the challenges that were hindering family support in PMTCT programmes. The overworked midwives were reported failing to accommodate family members, failing to give them information, failing to encourage the family and to support them to participate in care and decision-making at any level they may choose to support the mother who is on PMTCT programmes, thus exposing the baby to the risk of MTCT.

5.4.2 Competences

In this study, it was found that there was shortage of trained midwives in PMTCT, as

those who were trained were expected to render other services which are within their scope of practice. When the trained PMTCT midwife is off duty after 5 pm or during the night, the clinic remained with no skilled personnel. The workload of the midwives was found to make it impossible to render quality PMTCT. Data revealed that midwives are failing to give information, involving the family in collaboration of implementation of policies, allowing the patients and the family to participate in care and decision-making, to listen and to honor patients and family members before the discharge of the mother to reduce risk of MTCT. It was also found that there are a number of affected babies who are lost to follow-up and it is difficult to locate them.

5.4.3 Financial Costs

In this study, it was reported that most of mothers reported that they lacked financial support from their male partners. Female partners who were not married reported that after the partners found that they were pregnant and HIV-positive the male partner ran away from the relationship and returned to their former wives, leaving them struggling without financial support. Child grant of R380 was reported to be not enough for taking care of the baby, especially those parents who are all unemployed. It was also reported that there is shortage of material supplies. PCR kits are available, but are very expensive ranging from R422 per kit to more.

Unlike hospitals who gave their nurses (*matogo*) part-time jobs to curb shortage, PHC does not have (*matogo*) where midwives can do part-time jobs to augment their meagre salary and to curb the shortage. PMS was also not in favor with midwives and there were no incentives to encourage the demotivated midwives. According to the records, midwives have not received increase from their entry level of salary in July 2007 till date, i.e., 10 years ago. The demotivated midwives were found to fail going the extra mile to accommodate family members and to encourage the mothers in reducing MTCT.

5.4.4 Services

5.4.4.1 Accessibility

In this study, it was found that some pregnant women did not use their clinics to access PMTCT services due to undisclosed HIV-positive status and they presented themselves to the clinic when they are at advanced stage of labour and giving vague excuses. Fear of being labelled or stigma attached to HIV contributes to women attending ANC far away from home where nobody knows their status, especially those who were on ARVs before they fell pregnant.

Moving around different PHC clinics contribute to lack of follow-up as the other clinics will conclude that the patient is getting treatment from clinic B, whilst clinic B will be thinking that the patient is collecting ART from the next clinic, thus exposing the baby to the risk of MTCT. Villages in Limpopo Province are scattered with bumpy gravel roads which make it difficult to travel and the distance from home to the clinic is too long, sometimes the mother does not have transport money whilst mobile clinic experiences challenge to utilize those types of the roads. In this study, it was found that conditions of the roads contribute to failure to access PMTCT services resulting in risk of MTCT.

5.4.4.2 Acceptability

In this study, it was reported that due to lack of privacy, brought about by insufficient infrastructure, women who were on PMTCT programmes feel being exposed. Mothers were reported to feel bad by being placed in the same room with those who are HIV-negative as their babies were given Nevirapine syrup in front of those whose babies are not given Nevirapine. The buildings at the PHC clinics are not conducive to accommodate the male partner or granny as there is only one delivery room, when there is more than one patient in labour, the midwife always refuse to accommodate the male partner or any other family member just to maintain privacy.

The clinic has only one postnatal room where all the mothers who have delivered are kept in the same room. Midwives reported that is difficult to maintain privacy and to involve family members in PMTCT interventions. In this study, it was revealed that women attended ANC at faraway clinics where nobody knows the mother. Mothers also reported that some nurses, mother mentors and home-based careers are their neighbors or relatives and the mother find it difficult to attend PMTCT services at that clinic. Fear of stigma was reported in this study.

5.4.4.3 Availability

In this study, it was reported that PCR kits were not always available at the health care facilities. Some participants reported that they have to travel to the hospital to collect ARVs as there was a shortage of ARVs at the clinic. PMTCT programmes are rendered during the day and only during the week, but after hours and during the night there was no trained personnel to render PMTCT services. Those who are working or attending school can only receive services on their sick leave expenses. Shortage of staff also fuels the challenges that beset PMTCT programmes. The PHC buildings were not conducive to accommodate family members.

5.4.4.4 Affordability

PMTCT programmes are rendered at a specific time, e.g., early in the morning. Those mothers who come to the health care facilities late from work or attending school attend the PMTCT programmes at a sick leave expense. Large numbers of pregnant women who were attending ANC make it difficult for the midwife to give individualized heath education. In this study, it was reported that the majority of male partners are working, but classified as low income group, thus the majority are failing to accompany their wives fearing to lose 1 day's salary or being dismissed. Long distances and unaffordable transport costs were reported to cause problems in rendering PMTCT programmes.

5.5 External Factors

External factors refer to influences that can impact PMTCT services to achieve its goals of reducing MTCT of the babies from 6 weeks to 18 months (Business Dictionary, 2014). They affect the way services are being provided from outside in the form of opportunities and threats. Opportunities are external attributes that are helpful to organize rendering of PMTCT programmes to achieve desired goals. Threats are attributes that are harmful to rendering PMTCT programmes and its desired goals as depicted in Table 5.1.

5.5.1 Opportunities

The opportunities will be described under PESTLE as a way of provision of the PMTCT programmes. In this study, the PESTLE approach was used looking at the external factors which are the Opportunities. The following were the opportunities that emerged from the findings. These external factors: opportunities were discussed focusing on PESTLE, as presented in Figure 5.3.

Figure 5.3: External factors: Opportunities of PMTCT interventions

5.5.1.1 Political Factors

Findings in this study indicated that the political will exists to start and maintain the health care service system which brings all the different health services closer to the community in order to meet the strategic planning objectives of accessibility of health facilities to everyone. Most of the services which are rendered at the hospital are now also available at the clinic. Patients were no longer being transferred from the clinic to the hospital for collection of chronic medication, consultation of the doctor, psychologist, dieticians, and social workers because those health practitioners were allocated to the clinic. The entire clinic uses the resource sharing approach where services like management of TB and rendering of PMTCT programmes are done at the clinic. Resource sharing approach makes it possible for health services to be operational and usable.

5.5.1.2 Economic Factors

Findings show that PMTCT programmes were implemented at all clinics free of charge. Every pregnant woman who tested HIV-positive was given an opportunity to be initiated on ARVs the very same day she tested positive, even before blood results are available. When the affected baby is born, the baby also starts with ARVs. PCR kits were also reported to be very expensive (about R420 per kit). Those mothers who are giving birth with high viral loads are also given formula free of charge. Those mothers who are from low-income families are also receiving different grants, e.g., the child grant were found to be R380 per month. PMTCT programmes were found to be cost-effective as the transmission could be prevented and save the lives of babies.

5.5.1.3 Socio-Cultural Factors

Findings show that most of the community members who stay next to the clinic were able to utilized PMTCT programmes. Home-based careers and mother mentors

were speaking the same language with the mothers making it easy to health educate and to communicate with community members. Community members are staying at the rural area where they are being ruled by the chiefs or headmen and they tend to emulate their leaders. Low socio-economic status plays a big role for the community members to utilize the clinic services. Family members are able to influence each other as most of them stay in extended families. Old ladies were reported to be the ones who are responsible with issues of pregnancy and caring of the newborn. All these variables increase the usage of PMTCT programmes.

5.5.1.4 Technological Factors

Technological factors refer to implication of scientific knowledge for practical purposes in PMTCT services (Concise Oxford English Dictionary, 2014). Findings reveal that in all clinics there was either a landline telephone and other clinics have cellphones to communicate with the hospitals, doctors and other health care personnel. In all clinics there are HIV testing kits and PCR kits to test for HIV. Most of the mothers were found to be having cellphones and it makes it easier when the midwives trace the mothers for further management to prevent risk of MTCT. The mother mentors are also available to teach mothers about measuring of Nevirapine, the HIV prophylaxis given to babies.

5.5.1.5 Law/Legal Factors

Legal refers to the system of rules which a particular country recognize as regulating the actions of its members and which may enforced by the imposition of penalties (Concise Oxford English Dictionary, 2014). Findings show that there were policies, protocols and legislations that govern issues of HIV/AIDS such as confidentiality of a women's HIV status. Discrimination of patients caused by their HIV status is regarded as a criminal offence. The laws governing the distance needed to travel to the clinic indicate less than or 5 km. For those clinics which are scattered and

faraway, more than 5 km there are mobile clinics that curb the distance for every baby who is between 6 weeks and 18 months, thus preventing the risk of MTCT. In all clinics, there are protocols and guidelines concerning provision PMTCT programmes. The ward councilors were reported to be available to help with the issue of servicing the gravel roads and to motivate for a tarred road.

5.5.1.6 Environmental Factors

Environmental factors refer to the state environment generating income, education level and relationship with family members and friends, all this have considerable impact on health, whereas the more commonly considered factors include access and use of health care services (Business Dictionary, 2014). In this study, it was revealed that most of the villages were scattered apart, and the areas were reported to be mountainous and most of the roads are gravel and bumpy, hence, mobile clinics were utilized to reach babies 6 weeks and 18 months. Home-based careers were helping the mothers and teaching them things that will prevent risk of MTCT. There are mother mentors to assist with rendering of PMTCT programmes. There are also support groups that help the pregnant women to support each other. Home-based careers are available, more especially to give support and to trace clients who are lost to follow-up or defaulting treatment

5.5.2 External Factors: Threats

The following were classified as threats that emerged from the data collected. These external factors threats under PESTLE as presented in in Figure 5.4.

5.5.2.1 Political Factors (Political Will)

Policies, protocols and guidelines were reported to be a threat to adherence of ART for the mother or baby, or presenting to the clinics due to stigma. The mother have rights to decide whether to disclose her status to the husband or not, but when it

comes to issues of ART is difficult for the mother to adhere to the treatment. In this study, it was reported that babies were defaulting ART as the mother was afraid to give medication in front of family members, thus putting her male partner and the baby at risk of infection.

Figure 5.4: External factors: Threats to family support to reduce risk of MTCT

In this study, it was revealed that there were still mothers who are travelling more than 5 km to their nearby clinics. Roads are unattended and bumpy, making it difficult for mothers to attend their follow-up resulting in babies being at risk of MTCT. Vhembe District is a mountainous area with scattered villages and mothers have to travel long distances. Lack of transport money to travel to and from the clinic also poses a challenge to PMTCT services. Most of the mothers depend on mobile clinic and sometimes it is difficult for mobile clinics to reach the area due to slippery roads during rainy days. Unattended roads also have a negative impact as mobile ambulance are unable to reach the area, thus exposing the babies to risk of MTCT.

5.5.2.2 Economic Factors

Economic factors that affect PMTCT programmes also affect family life. Most of the

women were unemployed and they depended on their husbands for financial support, whilst data reported that most of the men who were working were classified as low-income workers and it was difficult to support the family sufficiently. In this study, most women were unemployed, uneducated and it was difficult for them to adhere to most PMTCT interventions. When mothers were employed, they left babies in the hands of grandmothers who did not know about the status of the baby, or the mother ending up being defaulting treatment and/or exposing the baby to the risk of MTCT. Single mothers were reported to be the most affected as they had nobody to help them financially, thus exposing the baby to the risk of MTCT.

5.5.2.3 Socio-Cultural Factors

Socio-cultural factors were found to be the contributory to low uptake of PMTCT interventions, resulting in risk of MTCT (Njai & Dixey, 2013). Grandmothers were regarded as the ones with experience of caring for the baby in a family. However, midwives were reported to be failing to involve grandmothers in sharing of the information on PMTCT interventions and, as a result, grandmothers continue with practices that expose the baby to risk of MTCT. Grandmothers were reported to claim that the health care practitioner does not have knowledge regarding childhood illnesses such as *'gokhonya'*. The issues of mixed feeding were reported to be still problematic as it exposes the babies to risk of MTCT. Forceful feeding was also reported to be culturally and habitually practiced, exposing the baby to the risk of MTCT. The other problematic cultural practices were the giving of traditional and over the counter medicines to the babies under the age of 6 months and those medicines usually corrode the inner lining of the stomach and predispose the babies to risk of MTCT.

5.5.2.4 Technological Factors

The study revealed that there was still a shortage of PCR test kits. One of the

participants verbalized that her baby was one year old, but each time when visiting the facility with the baby, she would be told about the shortage of PCR test kits. Again at the PHC facilities there were no machines to test blood, the facility still relied on old method of taking blood, sending the blood to the hospital, or at the tertiary laboratory and waiting for the blood results before starting treatment. Some of the managers were given cellphones, especially where the landline was not working, but most of the time the allocated airtime finished before month end, thus cutting their communication with the other stakeholders, compromising the babies of between 6 weeks and 18 months to risk of MTCT. Some mothers were reported to give false phone numbers and the health care workers find it difficult to trace them.

5.5.2.5 Law/Legal

In this study, it was found that there was lack of policy with regard to disclosure of HIV-positive status. Some female partners did not disclose their HIV-positive status to their male partners whilst some male partners did not disclose their status to their wives, following the law that says everybody have a right of not disclosing his/her HIV-positive status. This exposes the baby to the risk of MTCT, because failure to disclose the status and engaging to unprotected sex while breastfeeding, exposes the baby to MTCT. The law also does not allow the health care practitioners to disclose the status to the partner, putting the health of the one who is negative in danger. Rights of choosing to disclose or not to disclose predispose babies who are in the care of grandmothers who do not know the status, and the baby usually defaults treatment, thus exposing the baby to MTCT.

5.5.2.6 Environmental Factors

Capricorn, Mopani and Vhembe districts are rural, mountainous and the roads are gravel with potholes. Being mountainous with scattered villages cause the journey to and from the health facility to be far. Bumpy roads make it difficult for mothers to

travel to and from the facility. During rainy days it is also difficult for the mothers and the family members to reach the facility. This type of area forms a barrier for mothers and the family members to attend PMTCT clinic.

5.6 SWOT Analysis Matrix

The SWOT analysis was developed from findings and discussion of section 5.2. The SWOT analysis matrix (Table 5.2) reflected the positive and negative internal and external factors identified as risks to MTCT. The SWOT matrix was developed following **S**trength, **W**eakness, **O**pportunities and **T**hreats. Based on the analysis, the BOEM strategy was developed.

Table 5.2: SWOT analysis matrix

	STRENGTHS	WEAKNESSES	
INTERNAL FACTORS	**Human resources**	**Human resources**	INTERNAL FACTORS
	In each and an every clinic there was a midwife who is trained and rendering PMTCT services. In all clinics there were mother mentors helping the patients and family members to prevent the risk of MTCT	Some clinic were rendering PMTCT service with the trained midwife provided the service only during the day from Monday to Friday. No or fewer lower category who are trained on PMTCT at facilities.	
	Competence	**Competence**	
	In all clinics there was a midwife trained for PMTCT provision There are trained mother mentors in all PHC clinic	When the trained PMTCT professional is off duty after 5 pm or during the night the clinic remain with no skilled personnel	
	Financial costs	**Financial costs**	
	PMTCT health services are free Clinics are within 5 kilometers walk Parents who are earning less than R3 000, 00 per household capital are receiving child grant which is R380, 00 per child, the money was used to attend clinic or buy formula if opted formula feeding	PCR kit available but PCR test kits very expensive ranging at R422.00 per test kit Unemployed or single mothers with no transport money to adherence to PMTCT interventions Husband working, but with low income to able them to access PMTCT interventions	

Continued/…

Table 5.2: SWOT analysis matrix (continued)

	STRENGTHS	WEAKNESSES	
INTERNAL FACTORS	**Services**	**Services**	INTERNAL FACTORS
	Accessibility - All the clinics were rendering PMTCT services. Clinics were within reach to some communities - When the clinic was too far they utilized mobile clinic for PMTC interventions	***Accessibility*** - Distance from home to the clinic is too far, more than 5km - Area mountainous and unserved gravel roads and no transport money, hinder adherence to PMTCT interventions	
	Acceptability - Staff members and supporters shared the same language and values with clients - Availability of support groups, mother mentors and home-based careers	***Acceptability*** - Some were neighbours or family members and this affected acceptability - Mothers usually attend ANC at the clinic that are far away from home , especially if they have not disclose the status to family members - Fear and stigma affect adherence	
	Availability - PMTCT services available at the clinic - Every women who tested HIV-positive were given ARV immediately during the first visit	***Availability*** - No PMTCT services during the week-end, after hours and when the trained personnel is not available	
	Affordability - PMTCT services are free	***Affordability*** - Long distance to and from clinic transport unaffordable	
	OPPORTUNITIES	**THREATS**	
EXTERNAL FACTORS	**Political**	**Political**	EXTERNAL FACTORS
	- Availability of policies, guidelines and protocol for PMTCT interventions - Availability of ward counsellors and clinic committees to negotiate for the need to implement PMTCT - Training of midwives and other categories in PMTCT.	- The fact that Limpopo is still under administration result in insufficient human and material resources to provide PMTCT interventions - Lack of interest in health issue by ward councillors	
	Economic	**Economic**	

	There is budget for Limpopo DoH (Conditional Grants) that cater for PMTCT interventions.	Unemployed mothers or husband not working or earing low income to supporting the wife or the entire extended family. Result to no money for transport from home to the clinic	

Table 5.2: SWOT analysis matrix (continued)

	OPPORTUNITIES	THREATS	
EXTERNAL FACTORS	Child grant of R380,00 and Grandmothers grant of R1660,00 for families that cannot meet the family budget (to be used to access health facilities)		EXTERNAL FACTORS
	Socio-cultural	**Socio-cultural**	
	Availability of mother mentors and home-based careers who share the same language with community members. Grandmothers support the mothers with raising the babies. Grandmother supports the mother to breastfeed. Husbands accompanying the wife to the health facility	Poor family support to mothers to prevent risk of PMTCT Mothers defaulting ARV, due to non-disclosure Traditional practices are deep rooted, mostly they predispose the babies to risk of MTCT Mixed feeding predispose the babies to risk of MTCT Early introduction of solids predispose babies at risk of MTCT Giving babies traditional herbs and over the counter medication predispose babies to risk of MTCT	
	Technology	**Technology**	
	Most of the clinic have land line phones, those who doesn't have the working landline were given cell phone with airtime. PCR test kits available at the clinic for early diagnosis Most mothers have cell phones which make it easier to trace them. There are schedule transport to transport bloods and to bring back blood results	Wrong numbers and wrong address (untraceable) to prevent MTCT Airtime allocated to clinic managers phones at the clinic finish in the middle of the months, resulting to challenges with communication Technology for testing bloods at first visit not yet establish PCR test kits not always available and the test is expensive at R420,00 per test and mothers shopping around results in duplication of PCR testing Social media to recruit and cater for family members involvement not yet developed	
	Law	**Law**	

	Every mother have right to choose facility where she can receive health care services.	Findings show lack of policy intervention	

Continued/…

Table 5.2: SWOT analysis matrix (continued)

	OPPORTUNITIES	THREATS	
EXTERNAL FACTORS	In all clinics there are PMTCT guidelines and protocols	Testing and counselling done by lay counsellors at times confidentiality compromised Women are having fear of stigma The law of disclosure jeopardize the partner who is negative. The law that bind health care practitioner to disclose the status of the mother, put the baby and the partner at risk.	EXTERNAL FACTORS
	Environmental	**Environmental**	
	Partnership with others and community involvement. Involvement of home-based careers and community health workers to teach the mothers about risk of MTCT. Availability of mobile clinics Involvement of ward councillors reporting and monitoring of the roads	Long travelling distance from home to clinic Mountainous areas and bumpy and subserviced gravel roads affect accessibility Mothers using clinic far from her place fearing stigma or undisclosed status Giving wrong address on discharge resulting in being untraceable.	

5.7 Development of and Orientation to the Strategy

The development of the strategy flows from the SWOT analysis and SWOT matrix. The strategy to reduce risk of MTCT at 6 weeks to 18 months was developed by building on the strengths, overcoming weaknesses, exploring the opportunities and minimizing the threats as depicted on Figure 5.5 and Table 5.3.

5.8 Summary

The internal factors, which are the strengths and weakness were discussed focusing

on human resources, financial costs, competence and product/services. The external factors, which are the opportunities and threats were discussed focusing on the PESTLE. BOEM was then used to develop strategies that will be used to promote family support to prevent risk of MTCT.

The core principles were integrated throughout the development of the strategy:

- **Dignity and respect,** the culture and values of the participants were honoured.

- **Information sharing,** the detailed, complete, simple and unbiased information was shared with participants. Information should be conveyed through indaba meetings, door-to-door campaigns, newsletters, newspapers, billboards and word-of-mouth.

- **Participation and collaboration,** male partners, grandmothers, clinic committees, ward counsellors were encouraged to participate in decision-making.

Family support needed involvement of the community, continuous support and commitment by family members. Family support theory was utilized throughout development of strategy.

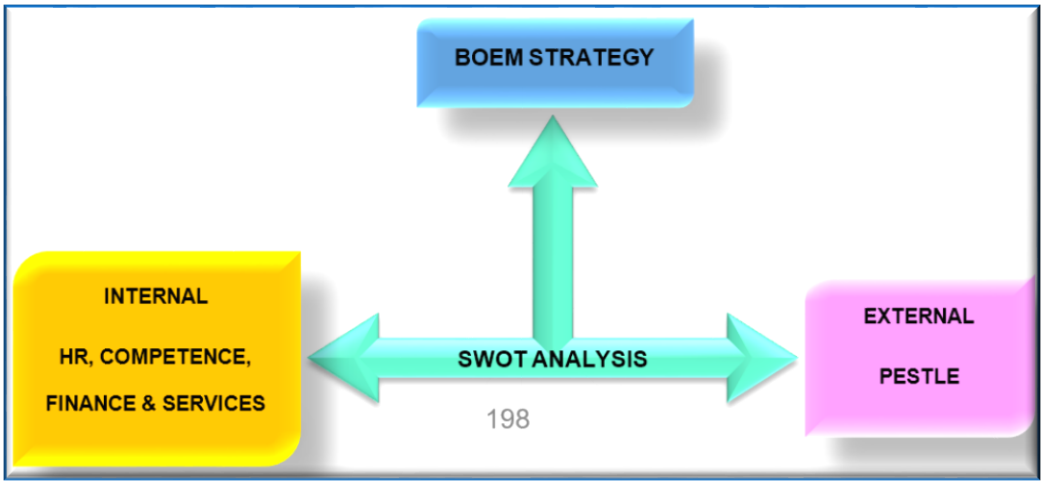


Figure 5.5: SWOT analysis and BOEM strategy

Table 5.3: The BOEM strategy

	STRENGTHS	ACTIONS
BUILDING ON STRENGTHS	**Human resources**	**To facilitate that**: • There must be a PMTCT trained midwife in 24 hours in order to motivate and involvement of family members in 24 hours, by doing this it will accommodate male partners who are usually working during the day and the school going teenage mothers. • In all PHC clinic there must be a PMTCT trained midwife in 24 hours and 7 days a week. • The number of mother mentors should be increased in order to have one mother mentors during the night • Support visit by PMTCT managers to be done on monthly basis to assess whether family members are involved. • Lower category should be trained in order to assist the midwife with health educating and encouraging the family member to be involved in PMTCT matters • Home-based careers should be trained to do door to door campaign to encourage family support in order to prevent MTCT in babies between 6 weeks and 18 months. • Mother mentors should organize support group for families to increase family support
	Competence	• Quarterly in-service training to keep the PMTCT trained midwives with new information about PMTCT so that they would keep up with new developments Increase the number of trained PMTCT midwives in order to render quality service and facilitate the involving family members. • There must be in-service training to all nurses who are working in PMTCT section about family involvement to increase support, and to reduce risk of MTCT. • Other category like enrolled nurses, enrolled auxiliary nurses and Community Health Workers should be trained in PMTCT, this will enable them to teach the community about PMTCT issues.
	Financial costs	• Facilitate the community awareness sessions encourage mothers who are staying away from the clinic or staying in mountainous area or in bumpy gravel roads to use their nearby clinic or mobile clinics to reduce cost of transport. • Intensify counselling to encourage mothers to disclose their HIV-positive status to their family members to prevent stigma and to use the nearby clinic, and in the process they will be able to get family support. • In this study, it was that babies of unemployed mothers usually are at risk of MTCT due to early introduction of solids as the mother will be working at the farms and the baby remain with grandmothers, mostly they default treatment as is not easy for the mother to be day off in order to collect her ART and her baby's treatment. Family involvement should be strengthen by inviting men's forum like Tshitamboni. Male partner should be encourage to support their wives financially to attend PMTCT interventions. • Mothers should be encouraged to use their child grant of R 380.00. Grandmothers should also encouraged to support the unemployed mother financially at least until 6 months were the baby will be old enough to be introduced to solids to prevent the

		risk of MTCT. • There must be an involvement of community developer to teach unemployed mothers to possess skills that will help them to be self-employed. • Project such as greenery should accommodate mothers so that they will be taught the skill of planting vegetables and selling them to be financial independent • Mothers should be discouraged to move around clinics to avoid duplication of taking PCR to reduce cost, PCR is R 422, 00 per sample.
	Services	
	Accessibility	• Issue of distance between the clinic and home should be addressed by encouraging mothers to utilize their nearest clinic or the mobile clinic. • Ward councillor will be invited to be part of clinic meeting were the issues of servicing the roads are speedily attended to. • The clinic committee to be involved to facilitate that mobile ambulances are serviced and in good condition to serve those who are staying far away from clinics.
OVERCOMING WEAKNESSES		
	Acceptability	• There must be an established support groups where mothers will support each other to prevent the risk of MTCT. • Strengthen counselling on disclosure to the HIV-positive clients to increase the acceptability of the status. • Heath care practitioner should practice confidentiality to increase trust and to support the mothers and family members to prevent risk of MTCT. • Information about risk of MTCT must be disseminated to the community at large through giving health education about risk of MTCT at indaba gatherings to increase knowledge. With knowledge PMTCT services will be acceptable.
	Availability	• In all PHC clinic there must be availability of PMTCT services for 24 hours and 7 days per week • There must be a PMTCT trained midwife, mother mentors and lower category health practitioner 24 hours and 7 days per week in order to accommodate and teaching family members about the importance of family support to prevent the risk of MTCT. • There must be always enough ARV stock for every women who may tested HIV-positive during her pregnancy. • There must be available and sufficient stock of PCR test kits. • Utilization of condom should be reinforced, not just to distribute as ii was regarded important to use it outside of marriage.
EXPLORING OPPORTUNITIE	**OPPORTUNITIES**	**ACTIONS**
	Political	• Ensure availability of policies, guidelines and protocol at each PHC facility which must be easily accessible to the staff and the community members • Ward councillors and clinic committees to be involved on issues

		that hinder the uptake of PMTCT interventions.
EXPLORING OPPORTUNITIES	**Economic**	Awareness and information sharing on cost effective use of social grant on the PMTCT interventions
	Socio-cultural	Inviting of grandmothers and traditional healers to teach them about the dangers of MTCT and how to prevent them. Grandmothers and traditional healers must be made to feel important and their knowledge can be utilized without risking the life of the babies such as: Allowing them to give traditional herbs but only after the baby is 6 months, teaching them to use protective clothing like plastic apron, gloves and washing of hands between the patients or between mother and the child. Advise them to use /collect razor, gloves apron and linen savor from the clinic. Husband should be encouraged to accompany their wives to the clinic, security should be advised to make sure that male partners have a place to park their cars and be allowed to attend the consultation with the mothers Condoms are available, to use cultural sensitive approach and encourage male partners to use.
	Technology	Every health care practitioner must be computer literate as a way of communication Manager should have access to airtime in case it get finish before moths-end. Landline must be attended to if it is not working. SMS is another way to pass information from clinic to the hospital Mother should be encouraged to disclose their HIV status, and to discourage them from moving from one clinic to another which results to duplication of taking PCR test which is very expensive.
	Law	To submit a motivation to the Maternal Health Directorate on revision of the law of the right of no disclosure of HIV-positive status to the partner and other family members to encourage family support. In all clinics there are guidelines, protocols and policies that can be utilized by health care practitioners to encourage community members to be involved in PMTCT interventions
	Environmental	Utilization of trained home-based careers and health care workers to disseminate information on risk of MTCT and the importance of family support to prevent it. Mother mentors be trained to form support group where mothers may help each other in the community. Encourage community to utilize the mobile clinics and the nearby clinics
MINIMIZING THREATS	**THREATS**	**ACTIONS**
	Political	Apply the available policies, protocols and guidelines to conduct awareness campaigns in the community
	Economic	During the awareness campaigns, motivate the unemployed mothers or male partners to involve themselves in community development projects to acquire skills, for example, gardening, as income generation.

MINIMIZING THREATS	**Socio-cultural**	Facilitate culture congruent information sharing sessions with male partners, grannies and mothers. To assist the clinic committees and ward counsellors to involve private companies to sponsor with billboards, newsletters, pamphlets, and utensils such as mugs, stickers, out cover of registration books, printed t-shirts that bears the message of PMTCT and involvement of family members.
	Technology	Strengthen information dissemination during campaigns on the importance of provision of correct contact details. Involve clinic committees and ward counsellors in all issues that affect the functioning of the health facility. These stakeholders will be assisted to work in partnership with Vodacom, MTN, Cell C to assist with communication options they are having.
	Law	Strengthen couple counselling to encourage disclosure. The law of having a PHC clinic within 5 or less kilometre must be must be applied for every mother to attend PMTCT services. Strengthen the establishment of support groups
	Environmental	Collaborate with the local Chiefs, clinic committees and ward councillors to ensure that the mobile clinics are available or the roads to the health facility are regularly maintained.

CHAPTER 6

Summary, Validation, Limitations, Recommendations and Conclusions

6.1 Introduction

The previous chapter used the findings to develop strategies to influence the family and the health care professionals to support the mothers to prevent the risk of MTCT to the babies from 6 weeks and 18 months. Assessment was done to check if the objectives of this study were met and validated. Recommendations were made to check if the strategies can be used to build on the strengths, overcome weaknesses, explore opportunities and minimize threats. Recommendations focused on what may be done by grannies/mothers-in-law, male partners, mothers and health care professionals.

6.2 Summary of the Chapters

Table 6.1 summarizes the chapters in this thesis.

6.3 Validation of the Developed Intervention Strategy

Validation is the method for determining the credibility of empirical knowledge in relation to a scientific model of a discipline (Chinn & Jacobs 1987:13). Validation is the process of confirming that the developed strategy from the study can commence operation.

6.3.1 Purpose of Validation of the Developed Intervention Strategy

The purpose of validation of the strategy were to:

Table 6.1: Summary of the chapters in this thesis

Chapter	Description
1	Chapter 1 is an orientation of the study that formed the structural point of reference for the whole research study. The purpose of this study was to develop a strategy to enhance family-centred approaches for PMTCT sustainability in the selected districts of Limpopo Province South Africa. The findings provided the basis for developing a strategy to enhance family-centred approaches for PMTCT interventions as an important direction for sustainability and prevention of paediatric infections while improving overall family health.
2	Chapter 2 dealt with the literature review and the following headings were discussed: History of PMTCT, Current protocols and guidelines, Risks that contribute to MTCT to babies of ages 6 weeks and 18 months, Perceptions of family members regarding family support in implementing PMTCT interventions and Factors that affect the provision of family support in PMTCT interventions as perceived by health professionals
3	Chapter 3 of this study dealt with the detailed description of the research design and method. The exploratory sequential mixed method was used to conduct the study, where qualitative data were collected and analyzed first; followed by collecting and analyzing quantitative data then interpretation. Phase 1: The objectives were to explore the risks that contribute to MTCT between the ages of 6 weeks and 18 months, to explore the perceptions of family members regarding family support in PMTCT interventions, and to explore the factors that affect the provision of family support in PMTCT interventions. Population for qualitative strands comprised the following groups: mothers of under-five who were living with HIV/AIDS, grandmothers/mothers-in-law, male partners and health care professionals. Participants were selected by non-probability purposive sampling, data were collected through one-to-one interviews and focus group for male partners. Data were analyzed utilizing open coding method. For quantitative design objective to identify factors that affect the provision of family-centred support for PMTCT interventions at the selected health facilities. Participants were health care providers and were selected by using simple random sampling and data were collected by means of self-administered survey questionnaires with structured close and open ended questions. Data were analyzed using Statically Package for Social Sciences (SPSS), Version 23 and descriptive statistics. Ethical measures, reliability, validity and trustworthiness were considered throughout the study.
4	Chapter 4 dealt with the discussion of the research results of the interviews from grannies/mothers-in-laws, mothers of the under 5's, male partners and health professionals. The results of qualitative strands was supported by the quantitative strands results and the discussions were supported by means of literature control. The results of the research revealed three main themes, nine themes and twenty five sub-themes, these were presented in table 4.4. This qualitative findings were supported by the quantitative results by health professional nurses focussing on factors affecting the provision of family-centred support for PMTCT interventions at health facilities. The results indicated that number of family practices do contribute to MTCT during ages 06-18 months when the baby is born from the HIV-positive mother. Hence, the strategy to enhance family-centred approaches for PMTCT sustainability was developed.
5	Chapter 5 dealt with strategy development findings from quantitative and qualitative data were used to develop an intervention strategy. The strategy was developed through the use of Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. The SWOT matrix was compiled and from this, the Build on strengths, Overcome weaknesses, Explore opportunities and Mitigating of threats (BOEM) was adapted as actionable strategy.
6	Chapter 6 focused on the ssummary, validation, limitations, recommendations and conclusions. The summary of the study was presented. The developed strategy was validated by managers and midwives using quantitative design. Validation was conducted in consultation with all stakeholders involved in the provision of PMTCT interventions, before it can be adopted and implemented in the health care facilities in the Limpopo Province. Findings; 3 managers and 23 midwives who were implementing the PMTCT in Mopani, Vhembe and Capricorn districts, supported the activities that were presented as strategy to build on strengths, overcome weaknesses, explore opportunities and mitigating of threats. Recommendations were made for nursing practice, nursing education and for research.

- Assess the applicability of the developed strategy.

- Identify the value and potential contributions this strategy could enhance family-centred approaches for PMTCT interventions sustainability.

6.3.2 Objectives of Validation of the Developed Strategies

- To check whether the developed strategies can be used to address the identified gaps in promotion of family support to reduce risk of MTCT.

- Close the identified gaps and correct the inconsistencies in the prevention of MTCT amongst HIV-positive mothers.

6.4 Methodology for Validation of the Developed Strategies

The validation of the study was done after the completion of the main research. Validation was done to check whether the developed intervention strategies were applicable to correct the gaps found during the research study. A quantitative approach was used. A purposive sampling technique was used to select the participants. The purposive sampling method is a non-probability sampling method that the researcher used to select information-rich cases or those cases that can inform the researcher a great deal about the purpose of the study (Burns & Grove 2009).

The researcher used her judgment to select the participants who had most characteristics, attributes and represented the different categories to validate the developed intervention strategies for implementation. The population included 23 midwives and 3 managers who were involved with the implementation of the PMTCT programmes. Purposive sampling was used to sample the validators. Although this was a subjective method of sampling, 26 participants were selected for the validation of the developed strategies. The participants included 3 managers and 23 midwives, all these participants were involved in the provision

of PMTCT interventions in the districts of Limpopo Province.

Table 6.2: Specific inclusion criteria

Managers	Three PMTCT managers who were co-ordinating PMTCT programme in the participating districts in Limpopo Province.
Midwives	Twenty-three midwives who are providing the PMTCT programmes (interventions) in the PHC facilities of the participating districts in Limpopo Province.

6.4.1 Preparation for Data Collection

The validation tools in the form of checklists were developed for all participants (Annexure N). An appointment was made with participants. A summary of the developed strategy and checklist was personally delivered to all participants. All ethical considerations were adhered to. Midwives and managers were asked to validate the formulated strategy to enhance sustainable family-centred PMTCT interventions.

6.4.2 Data Collection

A copy of the checklist of the developed strategy was hand-delivered and completed by each participant who had consented to participate at Capricorn, Mopani and Vhembe districts. The participants were to validate whether the developed strategy would be appropriate and applicable and would represent reality in order to enhance sustainable family-centred PMTCT interventions. The developed strategy was evaluated if it meets the authentic and usefulness criteria.

6.4.3 Data Analysis

The findings from the analysis of the strategy was done through descriptive statistics. The findings were coded under building on the strengths, overcome strengths, explore opportunities and to minimize threats (BOEM) as interventions to enhance sustainable family-centred PMTCT interventions (Table 6.3).

6.5 Presentation of Validation Findings

6.5.1 Demographic Profile of the Validators

Table 6.3 summarizes the demographic profile of the validators.

Table 6.3: Demographic data of validators

Characteristics	Number	Percentage
1. Age (years)		
31-40	4	15.4
41-50	7	26.9
51-60	11	42.3
61 and above	4	15.4
2. Gender		
Female	22	84.6
Male	4	15.4
3. Position		
Professional Nurse (Midwives)	23	88.5
Managers (Coordinators)	3	11.5
4. Midwifery experience (years)		
<5	3	11.5
>5	8	30.7
>10	10	38.4
<20	5	19.4
5. Highest level of education		
Diploma	23	88.5
Degree (Masters)	1	3.8
Advanced midwifery	2	7.7
6. Trained on PMTCT		
Trained	22	84.6
Not Trained	4	15.4

6.5.2 Responses from Validators

Table 6.4 encapsulates the responses from the validators.

6.5.3 Discussion of the Findings

The findings support that the strategies developed will address the gaps identified during this research study. Issue of PMTCT trained midwife, lower category and mother mentors to be available 24 hours 7 days a week was accepted by all. They all welcome the issue of training all midwives and the lower category in PMTCT. Mother mentors were found to be helpful with regard to establishing support group, teaching the mothers and the family about the risk of MTCT. Involving male partner in ANC was found to be still a challenge due to infrastructure that are not conducive for male partners and the fact that most male partners are always at work. Accommodating grandmothers and traditional healers were found to be a challenge due to shortage of staff.

The findings were coded under building on the strengths, overcome weaknesses, explore opportunities and to minimize threats (BOEM) as interventions to enhance sustainable family-centred PMTCT interventions. Generally, 100% of participants were agreeing with the activities to enhance sustainability of family-centred PMTCT interventions. However the inputs made on the strategy were:

- Building on the Strengths

The main focus on building on the strengths focused on enhance increasing of human resource to provide PMTCT interventions, enhance competence of human resources, and advice on financial management to facilitate adherence to PMTCT interventions. On the aspect of training home-based careers on do door-to-door campaign to encourage family support in order to prevent MTCT in babies between 6 weeks and 18 months.

Table 6.4: Summary of the strategy validation

BUILDING ON STRENGTHS				
Strategy	**Activity**	**Frequency**	**Percentage**	**Comments, If Any**
Enhance increasing of human resource to provide PMTCT interventions	There must be a PMTCT trained midwife in 24 hours in order to motivate and involvement of family members in 24 hours, by doing this it will accommodate male partners who are usually working during the day and the school going teenage mothers.	26	100%	
	In all PHC clinic there must be a PMTCT trained midwife in 24 hours and 7 days a week.	26	100%	
	The number of mother mentors should be increased in order to have one mother mentors during the night to teach the family members about the risk of MTCT and prevention.	26	100%	
	Support visit by PMTCT managers to be done on monthly basis to assess whether family members are involved.	26	100%	
	Lower category should be trained in order to assist the midwife with health educating and encouraging the family member to be involved in PMTCT matters	26	100%	
	Home-based careers should be trained on do door to door campaign to encourage family support in order to prevent MTCT in babies between 6 weeks and 18 months.	24	92.3%	However, shortage of personnel affects the training of home based carers
	Mother mentors should organize support group for families to increase family support	26	100	

Continued/…

Table 6.4: Summary of the strategy validation (continued)

BUILDING ON STRENGTHS				
Strategy	**Activity**	**Frequency**	**Percentage**	**Comments, If Any**
Enhance competence of human resources in order to provide PMTCT interventions	Conduct quarterly in-service training to keep the PMTCT trained midwives with new information about PMTCT so that they would keep up with new developments Increase the number of trained PMTCT midwives in order to render quality service and facilitate the involving family members.	26	100%	
	There must be in-service training to all nurses who are working in PMTCT section about family involvement to increase support, and to reduce risk of MTCT.	26	100%	
	Other category like enrolled nurses, enrolled auxiliary nurses and Community Health Workers should be trained in PMTCT, this will enable them to teach the community about PMTCT issues.	26	100%	
Advice on financial management to facilitate adherence to PMTCT interventions	Facilitate the community awareness sessions encourage mothers who are staying away from the clinic or staying in mountainous area or in bumpy gravel roads to use their nearby clinic or mobile clinics to reduce cost of transport.	26	100%	
	Intensify counselling to encourage mothers to disclose their HIV-positive status to their family members to prevent stigma and to use the nearby clinic, and in the process, they will be able to get family support.	26	100%	
	Family involvement should be strengthening by inviting men's forum like Tshitamboni. Male partner should be encouraging to support their wives financially to attend PMTCT interventions.	26	100%	
	Mothers should be encouraged to use their child grant of R 380.00. Grandmothers should also have encouraged to support the unemployed mother financially at least until 6 months were the baby will be old enough to be introduced to solids to prevent the risk of MTCT.	17	65%	Child grant money not enough only if the temporal grant could be given 6 month for the mother

Table 6.4: Summary of the strategy validation (continued)

BUILDING ON STRENGTHS				
Strategy	**Activity**	**Frequency**	**Percentage**	**Comments, If Any**
Advice on financial management to facilitate adherence to PMTCT interventions	There must be an involvement of community developer to teach unemployed mothers to possess skills that will help them to be self-employed.	26	100%	
	Project such as greenery should accommodate mothers so that they will be taught the skill of planting vegetables and selling them to be financial independent	26	100%	
	Mothers should be discouraged to move around clinics to avoid duplication of taking PCR to reduce cost, PCR is R 422, 00 per sample.	24	92.3%	Mothers have rights to choose health facility
	Issue of distance between the clinic and home should be addressed by encouraging mothers to utilize their nearest clinic or the mobile clinic.	26	100%	
	Ward councillor will be invited to be part of clinic meeting were the issues of servicing the roads speedily attended to.	26	100%	
	The clinic committee to be involved to facilitate that mobile ambulances are serviced and in good condition to serve those who are staying far away from clinics.	26	100%	

Continued/…

Table 6.4: Summary of the strategy validation (continued)

OVERCOMING WEAKNESSES				
Strategy	**Activity**	**Frequency**	**Percentage**	**Comments If Any**
Overcome the weaknesses on the implementation PMTCT interventions	There must be an established support groups where mothers will support each other to prevent the risk of MTCT.	26	100%	
	Strengthen counselling on disclosure to the HIV-positive clients to increase the acceptability of the status.			
	Heath care practitioner should practice confidentiality to increase trust and to support the mothers and family members to prevent risk of MTCT.	26	100%	
	Information about risk of MTCT must be disseminated to the community at large through giving health education about risk of MTCT at indaba gatherings to increase knowledge. With knowledge PMTCT services will be acceptable	26	100%	
	In all PHC clinic there must be availability of PMTCT services for 24 hours and 7 days per week	26	100%	
	There must be a PMTCT trained midwife, mother mentors and lower category health practitioner 24 hours and 7 days per week in order to accommodate and teaching family members about the importance of family support to prevent the risk of MTCT.	26	100%	
	There must be always enough ARV stock for every women who may tested HIV-positive during her pregnancy.	26	100%	
	There must be available and sufficient stock of PCR test kits.	26	100%	
	Utilization of condom should be reinforced, not just to distribute as it was regarded important to use it outside of marriage	26	100%	

Table 6.4: Summary of the strategy validation (continued)

EXPLORING OPPORTUNITIES				
Strategy	**Activity**	**Frequency**	**Percentage**	**Comments, If Any**
Exploring opportunities	Ensure availability of policies, guidelines and protocol at each PHC facility which must be easily accessible to the staff and the community members	26	100%	
	Ward councillors and clinic committees to be involved on issues that hinder the uptake of PMTCT interventions.	26	100%	
	Awareness and information sharing on cost effective use of social grant on the PMTCT interventions	26	100%	
	Inviting of grandmothers and traditional healers to teach them about the dangers of MTCT and how to prevent them.	24	92.3%	Shortage of staff could affect the training of grandmothers and traditional healers
	Grandmothers and traditional healers must be made to feel important and their knowledge can be utilized without risking the life of the babies such as: Allowing them to give traditional herbs but only after the baby is 6 months, teaching them to use protective clothing like plastic apron, gloves and washing of hands between the patients or between mother and the child.	23	88.4%	Shortage of staff and space affect the ability to accommodate grandmothers and traditional healers
	Advise them to use /collect razor, gloves apron and linen savor from the clinic.	26	100%	
	Husband should be encouraged to accompany their wives to the clinic, security should be advised to make sure that male partners have a place to park their cars and be allowed to attend the consultation with the mothers	24	92.3%	Husband are usually at work, unless PMTCT can be provided 24hrs
	Condoms are available, to use cultural sensitive approach and encourage male partners to use.	26	100%	
	Every health care practitioner must be computer literate as a way of communication	26	100%	

Table 6.4: Summary of the strategy validation (continued)

EXPLORING OPPORTUNITIES				
Strategy	**Activity**	**Frequency**	**Percentage**	**Comments, If Any**
Exploring opportunities	Manager should have access to airtime in case it get finish before moths-end. Land line must be attended to if it is not working. SMS is another way to pass information from clinic to the hospital	24	92.3%	Use of SMS to communicate but managers may need to use airtime
	Mother should be encouraged to disclose their HIV status, and to discourage them from moving from one clinic to another which results to duplication of taking PCR test which is very expensive.	26	100%	
	To submit a motivation to the Maternal Health Directorate on revision of the law of the right of no disclosure of HIV-positive status to the partner and other family members to encourage family support.	26	100%	
	In all clinics there are guidelines, protocols and policies that can be utilized by health care practitioners to encourage community members to be involved in PMTCT interventions	26	100%	
	Utilization of trained home-based careers and health care workers to disseminate information on risk of MTCT and the importance of family support to prevent it.	26	100%	
	Mother mentors be trained to form support group where mothers may help each other in the community.	26	100%	
	Encourage community to utilize the mobile clinics and the nearby clinics	26	100%	

Continued/…

Table 6.4: Summary of the strategy validation (continued)

MINIMIZING THE THREATS				
Strategy	**Activity**	**Frequency**	**Percentage**	**Comments, If Any**
Minimizing the threats	Apply the available policies, protocols and guidelines to conduct awareness campaigns in the community	26	100%	
	During the awareness campaigns, motivate the unemployed mothers or male partners to involve themselves in community development projects to acquire skills, for example, gardening, as income generation.	26	100%	
	Facilitate culture congruent information sharing sessions with male partners, grannies and mothers.	24	92.3%	Shortage of staff but maybe if HBCs are trained
	To assist the clinic committees and ward counsellors to involve private companies to sponsor with billboards, newsletters, pamphlets, and utensils such as mugs, stickers, out cover of registration books, printed t-shirts that bears the message of PMTCT and involvement of family members.	24	92.3%	According to government rules, private companies usually don't involve themselves with rural area unless
	Strengthen information dissemination during campaigns on the importance of provision of correct contact details.	26	100%	
	Involve clinic committees and ward counsellors in all issues that affect the functioning of the health facility. These stakeholders will be assisted to work in partnership with Vodacom, MTN, Cell C to assist with communication options they are having.	26	100%	
	Strengthen couple counselling to encourage disclosure.	26	100%	
	The law of having a PHC clinic within 5 or less kilometre must be must be applied for every mother to attend PMTCT services.	26	100%	
	Strengthen the establishment of support groups	26	100%	
	Collaborate with the local Chiefs, clinic committees and ward councillors to ensure that the mobile clinics are available or the roads to the health facility are regularly maintained.	26	100%	

The response was to address the 92.3% shortage of personnel because that affected the training of home-based careers. On the aspect to encourage mothers to use their child grant of R380. Grandmothers should also encouraged to support the unemployed mother financially at least until 6 months were the baby will be old enough to be introduced to solids to prevent the risk of MTCT. They raise the concern that it may not be achieved because 65% indicated that child grant money was not enough only if the temporary grant could be given 6 month for the mother. This aspect may need to be escalated to policy makers. The strategy was mothers should be discouraged to move around clinics to avoid duplication of taking PCR to reduce cost, PCR is R 422, 00 per sample. However, their input was (92.3%) mothers have rights to choose health facility. This was noted because mothers are human beings.

- Overcoming Weaknesses

Under this aspect of the strategy with the focus, overcome the weaknesses on the implementation PMTCT interventions, all (100%) participants agreed with applicability of the strategy enhance sustainability of family-centred PMTCT interventions.

- Exploring Opportunities

The findings indicate that grandmothers/mothers-in-law were available to support mothers who are having infants, however, non-disclosure was still a challenge and this contributed to MTCT. On the suggested activity; inviting of grandmothers and traditional healers to teach them about the dangers of MTCT and how to prevent them and grandmothers and traditional healers must be made to feel important and their knowledge can be utilized without risking the life of the babies such as: Allowing them to give traditional herbs, but only after the baby is 6 months, teaching

them to use protective clothing like plastic apron, gloves and washing of hands between the patients or between mother and the child. The 92.3% and 88.4% of participants respectively cited shortage of staff could affect the training of grandmothers and traditional healers and shortage of staff and space affect the ability to accommodate grandmothers and traditional healers. Whereas, with regard to the involvement of the husband, the suggestion was husband should be encouraged to accompany their wives to the clinic, security should be advised to make sure that male partners have a place to park their cars and be allowed to attend the consultation with the mothers. The response of 92.3% indicated that husband are usually at work, unless PMTCT can be provided 24hrs.

- Minimizing the Threats

With regard to the minimizing of the threats, the strategy suggested to facilitate culture congruent information sharing sessions with male partners, grannies and mothers. The inputs of the validators was that 92.3% suggested there should be the need to address shortage of staff unless maybe if home-based careers are trained. The other input made on the activity to assist the clinic committees and ward counsellors to involve private companies to sponsor with billboards, newsletters, pamphlets, and utensils such as mugs, stickers, out cover of registration books, printed t-shirts that bears the message of PMTCT and involvement of family members. Again 92.3% had input that need to involve managers as according to government rules, as private companies usually don't involve themselves with rural area unless they are aware.

6.6 Limitations

Limitations of the study were identified. The researcher planned to use Munna ndi nnyi (Male's Forum) to collect data from male partners, however, they never honored

the appointment for the FGD. The researcher concluded that *Tshitamboni Male's Forum* was not yet ready to talk about support to their female partners to reduce risk of MTCT. Issues of discussing the importance of using condoms in order to reduce risk of MTCT was not acceptable, especially because the researcher was a female with the same characteristics and cultural values. The qualitative research result are contextual and cannot be generalized as the study was done only at Capricorn, Mopani and Vhembe districts.

6.7 Recommendations

Recommendations were made with reference to nursing practise, nursing education and research. On the basis of the results, there was a need to develop the strategy to enhance sustainable family-centred PMTCT interventions. It is recommended that the application of the strategy would be implemented in PHC facilities at Capricorn, Mopani and Vhembe districts in Limpopo Province that provide PMTCT programmes to enhance sustainable family-centred care. Recommendations made were to improve family support in PMTCT services as the strategies are aimed at health educating mothers, male partners and grandmothers to know about risk of MTCT and how to prevent them.

6.7.1 Nursing Practice

- To work with the Districts Managers so that they would increase human resources to provide PMTCT interventions, by training Community Health Workers and Mentor Mothers on PMTCT interventions. The Community Health Workers and Mentor Mothers be allocated at PHC facilities to teach mothers, grannies and male partners during consultations.

- Enhance competence of human resources in order to provide PMTCT

interventions. Managers to utilize the skills of training NGOs like Foundation for Professional Development to train professional nurses, Child Health Workers and Mother Mentors on PMTCT interventions.

- To present the findings to managers and facilitate the procuring of park homes which can be used for family counselling and feeding counselling , this will encourage family-centred care.

- Work with managers in order to enhance the availability (PMTCT services be rendered 24 hours 7 days a week to accommodate mothers who are working and teenage mothers who are attending school, accessibility, acceptability and affordability of PMTCT programmes for family-centred approach.

- Facilitate the community campaigns and involve the ward counsellors and clinic committees so that they could encourage community members to attend PMTCT campaigns.

- All the clinics should be men-user friendly where the PMTCT trained midwives will encourage the men to support their wives physically, mentally and financially. Men should be encouraged to accompany their female partners to the clinic and allowed to be actively involved like allowing the husband to listen to the foetal heart of the baby.

- Mother mentors should help with the establishing support group of mothers, grannies, and male partners of mothers who are on PMTCT programmes.

- Mobile clinics should be equipped in order to render PMTCT services

6.7.2 Nursing Research

The following areas can be investigated:

- Challenges that are faced by mothers who are on PMTCT programmes regarding risk of MTCT;
- Challenges of condom use by male partners;
- Challenges of male partners with regard giving support to their female partner; and
- Cultural practices to heal childhood illness, using of over the counter medication, utilizations of herbs and feeding practices which predispose the babies to the risk of MTCT.

6.7.3 Nursing Education

- Family support should be added to or included to the curriculum of the basic nursing course to empower nurses to use family-centred care when providing PMTCT interventions to clients.

6.8 Summary

The main aim of this study was to develop strategies to enhance sustainable family-centred support to enhance PMTCT interventions. The study was conducted in two phases: In Phase 1A, the researcher implemented a qualitative strand that included collecting and analyzing data from the mothers, grandmothers and male partners. The qualitative research method was used to meet the first, second and third objectives which were to explore the risk factors that contribute to MTCT between the age of 6 weeks and 18 months, determine the perceptions of family members

regarding family support and factors that affect the provision of PMTC intervention between the age of 6 weeks and 18 months at Capricorn, Mopani and Vhembe districts of the Limpopo Province. The fourth objectives was to identify the factors that affect the provision of family-centred support in PMTCT at Capricorn, Mopani and Vhembe districts in Limpopo Province, using a quantitative research approach. The fifth objective was to develop intervention strategies to promote family support in PMTCT services in Capricorn, Mopani and Vhembe districts which was met by adapting the use of PESTLE and SWOT. The findings and BOEM was used to develop intervention strategies. The sixth objectives was to validate developed strategy.

PMTCT trained midwives should involve all the family members when providing PMTCT interventions. This should be done by promoting family support by improving clinic infrastructure which were found not to be conducive to accommodate the family. Issues of shortage of staff played a major role in that one midwife was rendering all services, including maternal and minor ailments resulting in failure to involve and failure of promoting family-centred approach. The research revealed that midwives are overwhelmed with work and they are failing to involve family members to support the mothers. Further research is needed to assess how to promote family support. Involvement of grandmothers and male partners during ANC to promote family involvement in order to support sustainable PMTCT services.

REFERENCES

AIDS Relief Ethiopia. 2012. Male involvement in prevention of mother-to-child HIV transmission (PMTCT) program in Southwest Shoa Zone, Oromia Region. Ethiopia.

Bajunirwe, F. and Muzoora, M., 2009. Barriers to the implementation of programs for the prevention of mother-to-child transmission of HIV: a cross-sectional survey in rural and urban Uganda. *AIDS Research and Therapy*, *2*(1), p.10.

Betancourt, T. S., Abrams, E. J., Mcbain, R. & Fawzi, M. C. S. 2010. Family-centred approaches to the prevention of Mother-to-Child transmission of HIV. *Journal of the International AIDS Society,* 13**,** S2.

Britain, K. Stinson, K. (2014). Male Partner involvement during pregnancy. The missing component in PMTCT adherence in Khayelitsh

Brittain, K., Mercer, G., Peacock, D., Stinson, K., Janson, H. and Dubula, V., 2015. Improving men's participation in preventing mother-to-child transmission of HIV as a maternal, neonatal, and child health priority in South Africa. *PLoS Medicine*, *12*(4), p.e1001811.

Brink, H., Van Der Walt, C. & Van Rensburg, G. 2006. *Fundamentals of research methodology for health care professionals*, Juta and Company Ltd.

Bucagu, M. & Muganda, J. 2014. Implementing primary health care-based PMTCT interventions: operational perspectives from Muhima cohort analysis (Rwanda). *The Pan African Medical Journal,* 18.

Carr, R. L. & Gramling, L. F. 2004. Stigma: A health barrier for women with HIV/AIDS. *Journal of the Association of Nurses in AIDS Care,* 15**,** 30-39.

Chinkonde, J. R., Sundby, J. & Martinson, F. 2009. The prevention of mother-to-child HIV transmission programme in Lilongwe, Malawi: why do so many women drop out. *Reproductive health matters,* 17**,** 143-151.

Colombini, M., James, C., Ndwiga, C. and Mayhew, S.H., 2016. The risks of partner violence following HIV status disclosure, and health service responses: narratives of women attending reproductive health services in Kenya. *Journal of the International AIDS Society*, *19*(1).

Coovadia, H. M., Rollins, N. C., BLAND, R. M., Little, K., Coutsoudis, A., Bennish, M. L. & Newell, M.-L. 2007. Mother-to-child transmission of HIV-1 infection during exclusive breastfeeding in the first 6 months of life: an intervention cohort study. *The Lancet,* 369**,** 1107-1116.

Creswell, J. W. 2014. *A concise introduction to mixed methods research*, Sage Publications.

Crowley, S. (2006). Activities by IATT on PMTCT and Paediatric HIV Care and Treatment of PMTCT/Paediatric HIV IATT: UNAIDS.

DaCosta, S., 2012. Ethno-cultural factors that influence infant feeding among south asians in the region of peel: findings from stakeholder consultations. Region of Peel-Public Health. Family Health Division.

Department of Health. 2008. Prevention of mother transmission of HIV (PMTCT) Guidelines. South Africa. Pretoria

Department of Health. 2011. Road to Health chart booklet. Government Printing. Pretoria

Department of Health. 2013. Prevention of mother transmission of HIV (PMTCT) Guidelines. South Africa. Pretoria

Department of health. 2014. Protocol for duration of Nevirapine Prophylaxis and breastfeeding for HIV-exposed infants. Pretoria.

Desgrées-Du-Loû, A., Brou, H., Traoré, A. T., Djohan, G., Becquet, R. & Leroy, V. 2009. From prenatal HIV testing of the mother to prevention of sexual HIV transmission within the couple. *Social Science & Medicine,* 69**,** 892-899.

De Vos, A., Delport, C., Fouché, C. & Strydom, H. 2011. Research At Grass Roots: A Primer For The Social Science And Human Professions. Van Schaik Publishers.

Dyke, P., Buttigieg, P., Blackmore, A. & Ghose, A. 2006. Use of the Measure of Process of Care for families (MPOC-56) and service providers (MPOC-SP) to evaluate family-centred services in a paediatric disability setting. *Child: Care, Health and Development,* 32**,** 167-176.

Epstein, R. M. 2006. Making communication research matter: what do patients notice, what do patients want, and what do patients need? *Patient Education and Counseling,* 60**,** 272-278.

Gourlay, A., Birdthistle, I., Mburu, G., Iorpenda, K. & Wringe, A. 2013. Barriers and facilitating factors to the uptake of antiretroviral drugs for prevention of mother-to-child transmission of HIV in sub-Saharan Africa: a systematic review. *Journal of the International AIDS Society,* 16.

Goosen, C., McLachlan, M.H. and Schübl, C., 2014. Infant feeding practices during the first 6 months of life in a low-income area of the Western Cape Province. *South African Journal of Child Health*, *8*(2), pp.50-54.

Government of Malawi Ministry of Health A Five Year Old Scale Up Plan (2008-2013) Prevention of Mother-to-Child Transmission of HIV Third edition

Grove, S. K., Burns, N. & Gray, J. 2012. *The practice of nursing research: Appraisal, synthesis, and generation of evidence*, Elsevier Health Sciences.

Gutman, M. (2007). Fixing men: sex, birth control, and AIDS in Mexico. Berkeley University of California Press

Hanifa, Y., Fielding, K.L., Charalambous, S., Variava, E., Luke, B., Churchyard, G.J. and Grant, A.D., 2012. Tuberculosis among adults starting antiretroviral therapy in South Africa: the need for routine case finding. *The International Journal of Tuberculosis and Lung Disease*, *16*(9), pp.1252-1259.

Iliff, P. J., Piwoz, E. G., Tavengwa, N. V., Zunguza, C. D., Marinda, E. T., Nathoo, K. J., Moulton, L. H., Ward, B. J., Humphrey, J. H. & Group, Z. S. 2005. Early exclusive breastfeeding reduces the risk of postnatal HIV-1 transmission and increases HIV-free survival. *Aids,* 19**,** 699-708.

Iwelanmore, J. Ezeanolue, E, E. Airhihenbuwa, C, O. Obiefune, M. C, Ezeinoluwe, C.O & Ogedegbe, G, G. (2014) Socio-Cultural factors influencing the prevention mother-to-child transmission of HIV in Nigeria: a synthesis of the literature 1471-2458/14/771

Kalembo, F. W., Yukai, D., Zgambo, M. & Jun, Q. 2012. Male partner involvement in prevention of Mother-to-Child transmission of HIV in sub-Saharan Africa: successes, challenges and way forward. *Open Journal of Preventive Medicine,* 2**,** 35-42.

Kalembo, F.W., Maggie, Z. and Du, Y.K., 2013. Progress of mother-to-child transmission of HIV programs in China: successes challenges and way forward. *Chinese Medical Journal*, *126*(16), pp.3172-6.

Kalembo, F.W., Zgambo, M., Mulaga, A.N., Yukai, D. and Ahmed, N.I., 2013. Association between male partner involvement and the uptake of prevention of mother-to-child transmission of HIV (PMTCT) interventions in Mwanza district, Malawi: a retrospective cohort study. *PloS One*, *8*(6), p.e66517.

Karuma, A.N., Mtakwa, P.W., Amuri, N. and Gachene, C.K.K., 2012, September. Effect of different tillage methods on soil moisture dynamics in maize-bean cropping systems in semi arid Mwala district, Kenya. In *Third RUFORUM Biennial Meeting* (pp. 24-28).

Kiweewa, F.M., Bakaki, P.M., McConnell, M.S., Musisi, M., Namirembe, C., Nakayiwa, F., Kusasira, F., Nakintu, D., Mubiru, M.C., Musoke, P. and Fowler, M.G., 2015. A cross-sectional study of the magnitude, barriers, and outcomes of HIV status disclosure among women participating in a perinatal HIV transmission study,"the Nevirapine Repeat Pregnancy study". *BMC Public Health*, *15*(1), p.988.

Kiweewa, F.M., Wabwire, D., Nakibuuka, J., Mubiru, M., Bagenda, D., Musoke, P., Fowler, M.G. and Antelman, G., 2013. Noninferiority of a task-shifting HIV care and treatment model using peer counselors and nurses among Ugandan women initiated on ART: evidence from a randomized trial. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, *63*(4), pp.e125-e132

Kasenga, F., Hurtig, A.-K. & Emmelin, M. 2010. HIV-positive women's experiences of a PMTCT programme in rural Malawi. *Midwifery,* 26**,** 27-37.

Kieffer, M. P., Mattingly, M., Giphart, A., Van De Ven, R., Chouraya, C., Walakira, M., Boon, A., Mikusova, S. & Simonds, R. 2014. Lessons learned from early implementation of option B+: the Elizabeth Glaser Paediatric AIDS Foundation experience in 11 African countries. *Journal of Acquired Immune Deficiency Syndromes (1999),* 67**,** S188.

Klopper, H. C. (2009). Quantitative Research Design, North-West University and University of the Western Cape

Law, M., Teplicky, R., King, S., King, G., Kertoy, M., Moning, T., Rosenbaum, P. & Burke-Gaffney, J. 2005. Family-centred service: moving ideas into practice. *Child: Care, Health and Development,* 31**,** 633-642.

L

Leeper, S. C., Montague, B. T., Friedman, J. F. & Flanigan, T. P. 2010. Lessons learned from family-centred models of treatment for children living with HIV: current approaches and future directions. *Journal of the international AIDS Society,* 13**,** S3.

Liu, K. P., Chan, C. C. & Chan, F. 2005. Would discussion on patients' needs add value to the rehabilitation process? *International Journal of Rehabilitation Research,* 28**,** 1-7.

Luyirika, E., Towle, M. S., Achan, J., Muhangi, J., Senyimba, C., Lule, F. & Muhe, L. 2013. Scaling up paediatric HIV care with an integrated, family-centred approach: an observational case study from Uganda. *PloS One,* 8**,** e69548.

Mackean, G. L., Thurston, W. E. & Scott, C. M. 2005. Bridging the divide between families and health professionals' perspectives on family-centred care. *Health Expectations,* 8**,** 74-85.

Massyn, N., Day, C., Peer, N., Padarath, A., Barron, P. and English, R., 2016. District Health Barometer 2013/14. Durban: Health Systems Trust; October 2014.

Mckean, K., Phillips, B. & Thompson, A. 2012. A family-centred model of care in paediatric speech-language pathology. *International Journal of Speech-Language Pathology,* 14**,** 235-246.

Michaud, P.-A., Suris, J.-C., Thomas, L. R., Kahlert, C., Rudin, C. & Cheseaux, J.-J. 2009. To say or not to say: a qualitative study on the disclosure of their condition by human immunodeficiency virus–positive adolescents. *Journal of Adolescent Health,* 44**,** 356-362.

Minch, K.J., Rustad, T.R., Peterson, E.J., Winkler, J., Reiss, D.J., Ma, S., Hickey, M., Brabant, W., Morrison, B., Turkarslan, S. and Mawhinney, C., 2015. The DNA-binding network of Mycobacterium tuberculosis. *Nature Communications*, *6*, p.5829.

Muheriwa, S.R., Chimwaza, A., Maluwa, A.O., Nyasulu, B.M. and Pindani, M., 2013. Beliefs and practices of young women on utilization of prevention of Mother-to-Child transmission of HIV services in Malawi. *Health*, *5*(07), p.1172.

Ndagije F. 2011. Cost effective of male involvement in PMTCT/ANC Presentation delivered at sub-regional consultation to discuss strengthening male involvement in the elimination of Mother-to-Child transmission of HIV, Kigali, Rwanda.

Njai, M. and Dixey, R., 2013. A study investigating infant and young child feeding practices in Foni Kansala district, western region, Gambia. *Journal of Clinical Medicine and Research*, *5*(6), pp.71-79.

Nyondo, A. L., Muula, A. S. & Chimwaza, A. F. 2013. Assessment of strategies for male involvement in the prevention of mother-to-child transmission of HIV services in Blantyre, Malawi. *Global Health Action,* 6**,** 22780.

Polit, D. F. & Beck, C. T. 2008. *Nursing research: Generating and assessing evidence for nursing practice*, Lippincott Williams & Wilkins.

Polit, D. F. & Beck, C. T. 2010. *Essentials of nursing research: Appraising evidence for nursing practice*, Lippincott Williams & Wilkins.

Pryzby, B. J. 2005. Effects of nurse caring behaviours on family stress responses in critical care. *Intensive and Critical Care Nursing,* 21**,** 16-23.

Raina, P., O'donnell, M., Rosenbaum, P., Brehaut, J., Walter, S. D., Russell, D., Swinton, M., Zhu, B. & Wood, E. 2005. The health and well-being of caregivers of children with cerebral palsy. *Paediatrics,* 115**,** e626-e636.

Schoot, T., Proot, I., Meulen, R. T. & Witte, L. 2005. Recognition of client values as a basis for tailored care: the view of Dutch expert patients and family caregivers. *Scandinavian Journal of Caring Sciences,* 19**,** 169-176.

Sherr, L. 2010. Fathers and HIV: considerations for families. *Journal of the International AIDS Society,* 13**,** S4.

Shields, L. 2010. Questioning family-centred care. *Journal of Clinical Nursing,* 19**,** 2629-2638.

Shields, L., Pratt, J. & Hunter, J. 2006. Family centred care: a review of qualitative studies. *Journal of Clinical Nursing,* 15**,** 1317-1323.

Smith, M. M. & Kuhn, L. 2000. Exclusive breast-feeding: does it have the potential to reduce breast-feeding transmission of HIV-1? *Nutrition Reviews,* 58**,** 333-340.

Staniszewska, S., Brett, J., Redshaw, M., Hamilton, K., Newburn, M., Jones, N. & Taylor, L. 2012. The POPPY study: Developing a model of family-centred care for neonatal units. *Worldviews on Evidence-Based Nursing,* 9**,** 243-255.

Sujatha, R., 2014. Cultural practices and beliefs on newborn care among mothers in a selected hospital of Mangalore taluk. *Nitte University Journal of Health Science*, *4*(2), p.21.

Tilahun, M. and Mohamed, S., 2015. Male partners' involvement in the prevention of mother-to-child transmission of HIV and associated factors in Arba Minch Town and Arba Minch Zuria Woreda, Southern Ethiopia. *BioMed Research International*, *2015*.

Tolle, M. A. 2009. A package of primary health care services for comprehensive family-centred HIV/AIDS care and treatment programs in low-income settings. *Tropical Medicine & International Health,* 14**,** 663-672.

Tomlinson, M. 2010. Family-centred HIV interventions: lessons from the field of parental depression. *Journal of the international AIDS Society,* 13**,** S9.

Useh, U., Keikepe, A., Montshiwagae, B., Mothoagae, R. & Senna, D. 2013. Knowledge and attitude of pregnant women towards Mother-to-Child transmission (MTCT) of HIV and AIDS in a local clinic in Mafikeng, South Africa. *Studies on Ethno-Medicine,* 7**,** 163-169.

Van Heerden, A., Norris, S., Tollman, S., Richter, L. & Rotheram-Borus, M. J. 2013. Collecting maternal health information from HIV-positive pregnant women using mobile phone-assisted face-to-face interviews in Southern Africa. *Journal of Medical Internet Research,* 15.

Wanyu, B., Diom, E., Mitchell, P., Tih, P.M. and Meyer, D.J., 2007. Birth Attendants Trained in "Prevention of Mother-to-Child HIV Transmission" Provide Care in Rural Cameroon, Africa. *Journal of Midwifery & Women's Health*, *52*(4), pp.334-341.

World Health Organization PMTCT Strategic. 2010. Vision 2010-2015: Preventing Mother-to-Child transmission of HIV to reach the UNGASS and Millennium Development Goals. Geneva, World Health Organization

World Health Organization, 2012. *Male involvement in the prevention of mother-to-child transmission of HIV*. World Health Organization.

Zhang, F.J., Wen, Y., YU, L., MAissEdit, Y., Pan, J. and Zhao O, Y., 2005. Antiretroviral Therapy for HIV/AIDS and Current Situation of China Free ARV Program [J]. *Science & Technology Review*, *7*, p.006.

ANNEXURE A

Clearance Certificate from the University of Venda Research Ethics Committee

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Ms FC Malindi
Student No:
11543360

PROJECT TITLE: **Strategy to enhance sustainable family-centred PMTCT interventions in Limpopo Province**

PROJECT NO: SHS/16/PDC/05/1306

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Prof MS Maputle	University of Venda	Promoter
Dr LH Nemathaga	University of Venda	Co-promoter
Ms FC Malindi	University of Venda	Investigator - Student

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: June 2016
Decision by Ethical Clearance Committee Granted
Signature of Chairperson of the Committee: .....
Name of the Chairperson of the Committee: Prof. G.E. Ekosse

University of Venda
PRIVATE BAG X5050, THOHOYANDOU, 0950λ LIMPOPO PROVINCEλ SOUTH AFRICA
TELEPHONE (015) 962 8504/8313 FAX (015) 962 9060
"A quality driven financially sustainable, rural-based Comprehensive University"

ANNEXURE B

Request for Permission to Conduct the Study in Limpopo Province Department of Health Facilities

To: The CEO

Re: Application for Permission to Conduct Research

The above matter refers:

I, Fhulufhedzani Constance Malindi, request permission to conduct research. The target group for the study will be pregnant women and the mothers of under-five who are living with HIV-positive, their family members and the health care workers who are working in PMTCT programmes. I am a student at the University of Venda and have registered for a Doctor of Philosophy.

The title of the study is: "**Strategy to enhance sustainable family-centred Prevention of Mother-to-Child Transmission (PMTCT) interventions in Limpopo Province, South Africa**".

The purpose of this study is to develop strategies that will enhance family-centred approaches to PMTCT interventions in Vhembe, Mopani and Capricorn districts of Limpopo Province. The study will assist family members to support the pregnant women who are living with HIV/Aids in PMTCT interventions. It is also assumed that family members will also be counselled and tested and in case they are HIV-positive, procedures will be followed eventually, they will end up being registered for ARVs

Should there be issues that you want to be clarified, I am more than willing to address them to your satisfaction.

Researcher: Malindi FC (0721541573)

I look forward to your favorable response.

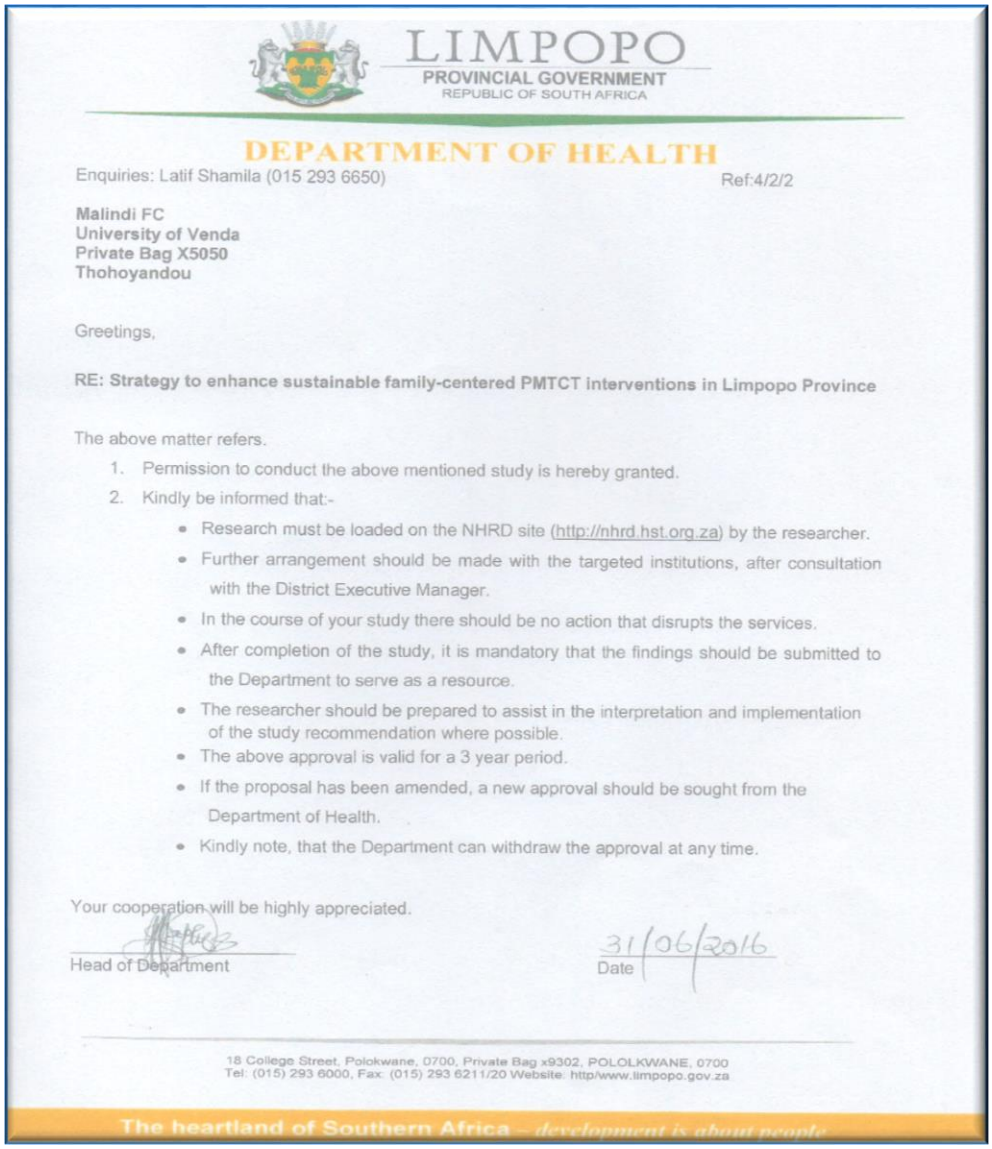
Yours sincerely

……

Malindi F.C.

ANNEXURE C

Permission from the Limpopo Province Department of Health to Conduct the Study



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Latif Shamila (015 293 6650) Ref:4/2/2

Malindi FC
University of Venda
Private Bag X5050
Thohoyandou

Greetings,

RE: Strategy to enhance sustainable family-centered PMTCT interventions in Limpopo Province

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
   - Research must be loaded on the NHRD site (http://nhrd.hst.org.za) by the researcher.
   - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager.
   - In the course of your study there should be no action that disrupts the services.
   - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - The above approval is valid for a 3 year period.
   - If the proposal has been amended, a new approval should be sought from the Department of Health.
   - Kindly note, that the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.

Head of Department

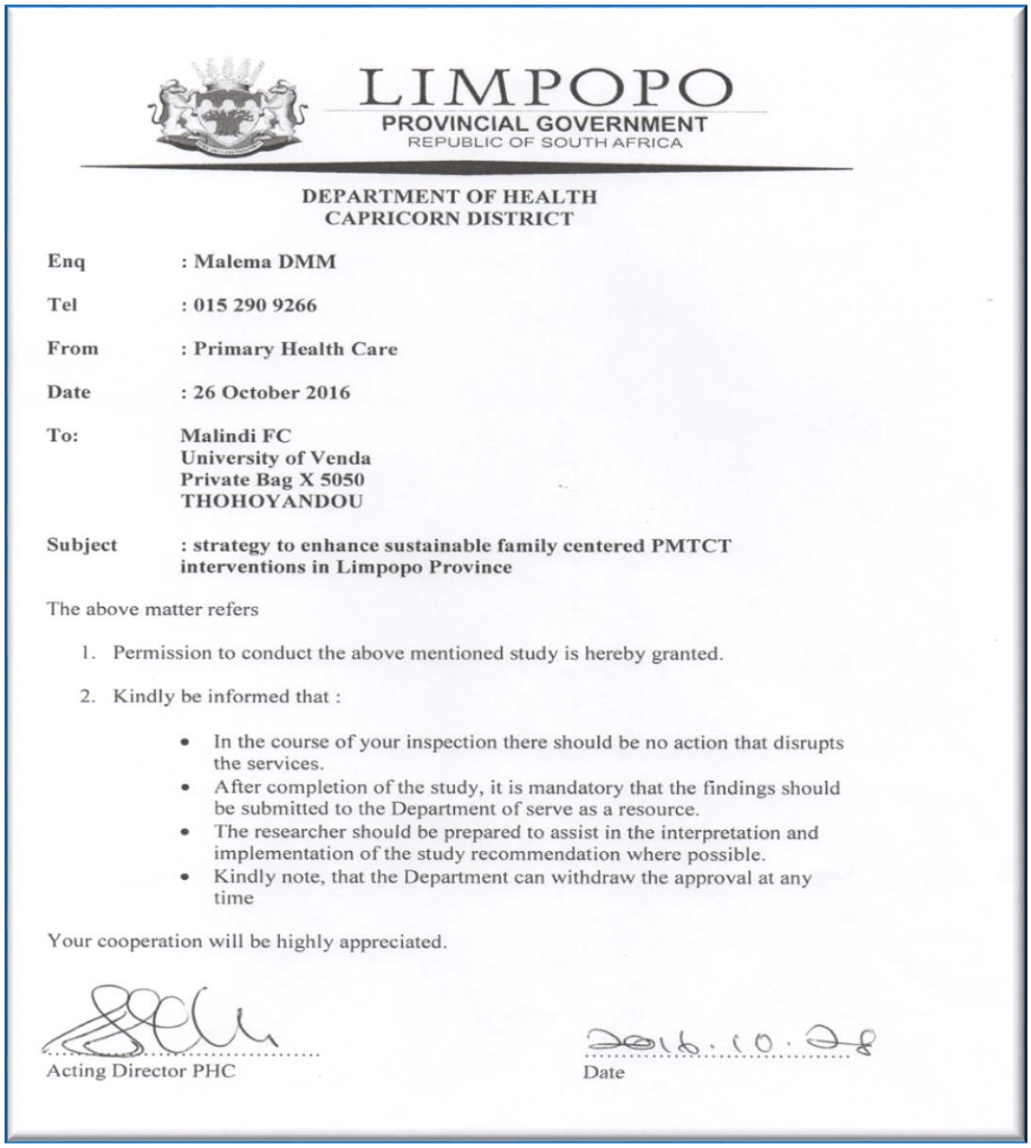
Date 31/06/2016

18 College Street, Polokwane, 0700, Private Bag x9302, POLOKWANE, 0700
Tel: (015) 293 6000, Fax: (015) 293 6211/20 Website: http/www.limpopo.gov.za

The heartland of Southern Africa – *development is about people*

ANNEXURE D

Permission from Department of Health-Capricorn District- to Conduct the Study



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH
CAPRICORN DISTRICT

Enq : **Malema DMM**

Tel : **015 290 9266**

From : **Primary Health Care**

Date : **26 October 2016**

To: **Malindi FC**
University of Venda
Private Bag X 5050
THOHOYANDOU

Subject : **strategy to enhance sustainable family centered PMTCT interventions in Limpopo Province**

The above matter refers

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that :
   - In the course of your inspection there should be no action that disrupts the services.
   - After completion of the study, it is mandatory that the findings should be submitted to the Department of serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - Kindly note, that the Department can withdraw the approval at any time

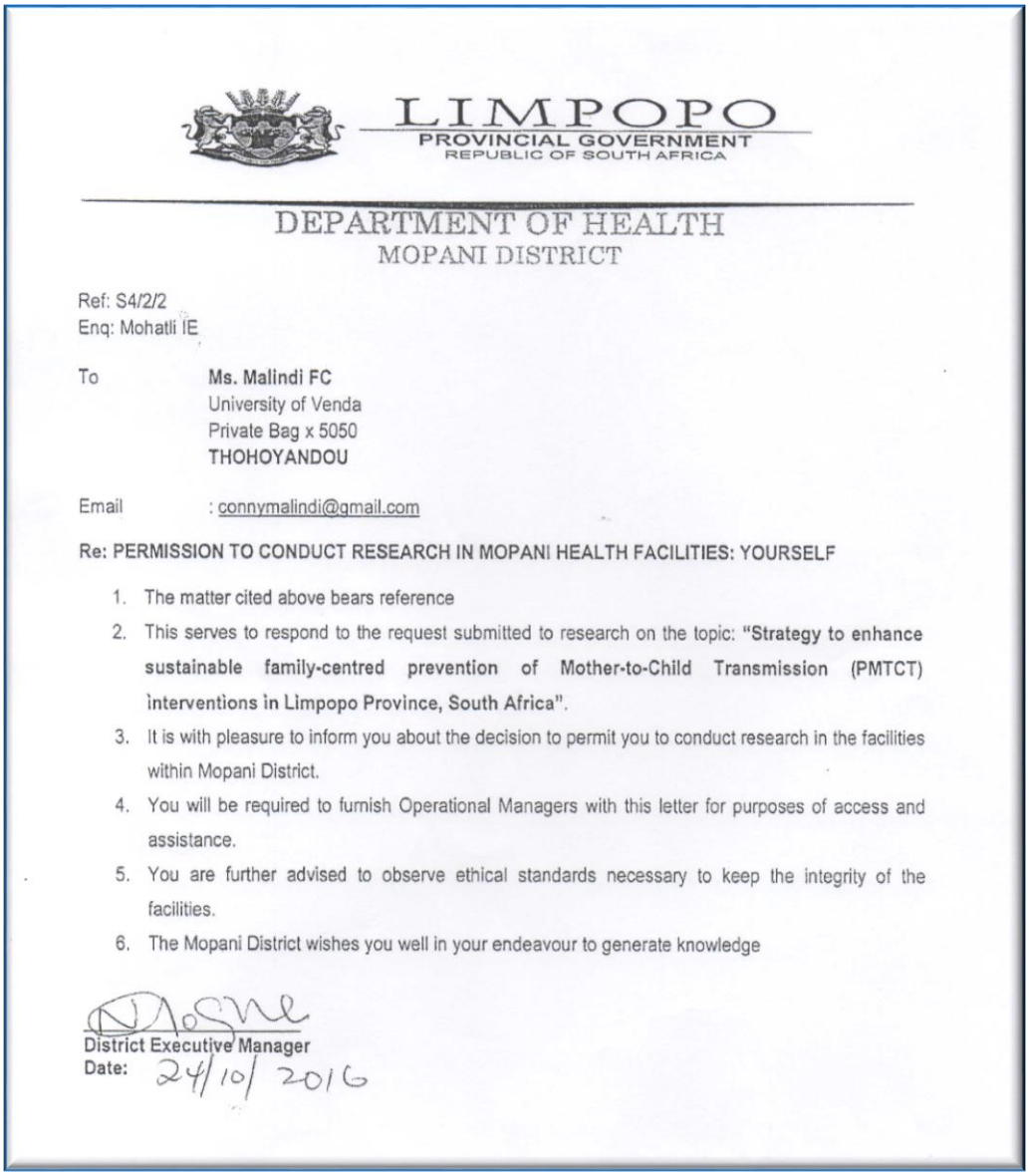
Your cooperation will be highly appreciated.

Acting Director PHC

2016.10.28
Date

ANNEXURE E

Permission from Department of Health-Mopani District-to Conduct the Study



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH
MOPANI DISTRICT

Ref: S4/2/2
Enq: Mohatli IE

To Ms. Malindi FC
University of Venda
Private Bag x 5050
THOHOYANDOU

Email : connymalindi@gmail.com

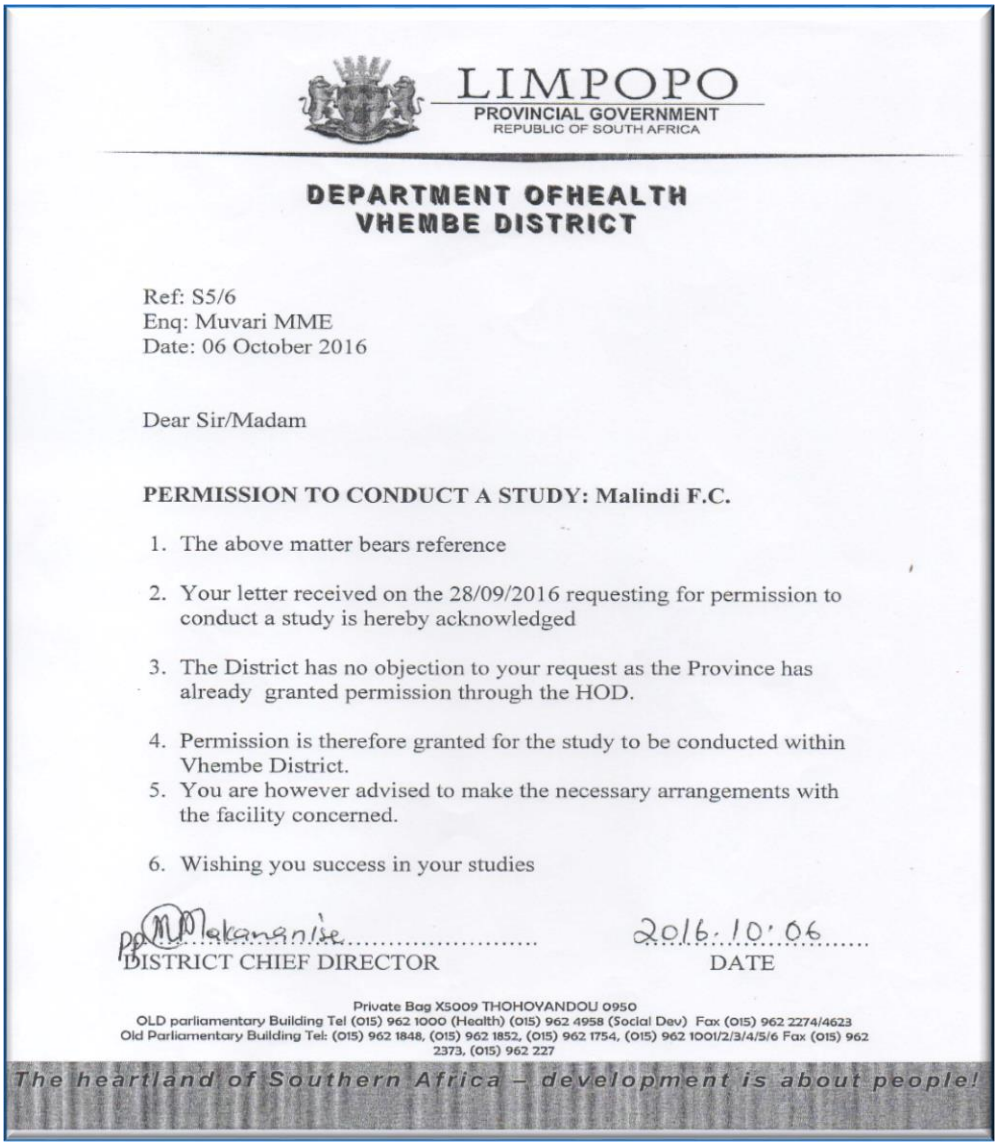
Re: PERMISSION TO CONDUCT RESEARCH IN MOPANI HEALTH FACILITIES: YOURSELF

1. The matter cited above bears reference
2. This serves to respond to the request submitted to research on the topic: **"Strategy to enhance sustainable family-centred prevention of Mother-to-Child Transmission (PMTCT) interventions in Limpopo Province, South Africa"**.
3. It is with pleasure to inform you about the decision to permit you to conduct research in the facilities within Mopani District.
4. You will be required to furnish Operational Managers with this letter for purposes of access and assistance.
5. You are further advised to observe ethical standards necessary to keep the integrity of the facilities.
6. The Mopani District wishes you well in your endeavour to generate knowledge

District Executive Manager
Date: 24/10/2016

ANNEXURE F

Permission from Department of Health-Vhembe District-to Conduct the Study



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OFHEALTH
VHEMBE DISTRICT

Ref: S5/6
Enq: Muvari MME
Date: 06 October 2016

Dear Sir/Madam

PERMISSION TO CONDUCT A STUDY: Malindi F.C.

1. The above matter bears reference
2. Your letter received on the 28/09/2016 requesting for permission to conduct a study is hereby acknowledged
3. The District has no objection to your request as the Province has already granted permission through the HOD.
4. Permission is therefore granted for the study to be conducted within Vhembe District.
5. You are however advised to make the necessary arrangements with the facility concerned.
6. Wishing you success in your studies

pa MM Makananise ..... 2016.10.06 .....
DISTRICT CHIEF DIRECTOR DATE

Private Bag X5009 THOHOYANDOU 0950
OLD parliamentary Building Tel (015) 962 1000 (Health) (015) 962 4958 (Social Dev) Fax (015) 962 2274/4623
Old Parliamentary Building Tel: (015) 962 1848, (015) 962 1852, (015) 962 1754, (015) 962 1001/2/3/4/5/6 Fax (015) 962 2373, (015) 962 227

The heartland of Southern Africa – development is about people!

ANNEXURE G

Information Leaflet for Participants

Dear participants/family members (husband, grandparents) health care workers.

Introduction

You are hereby requested to participate in this research study titled: “Strategy to enhance sustainable family-centred Prevention of Mother-to-Child Transmission (PMTCT) interventions in Limpopo Province, South Africa”. The reason you were selected is because of your knowledge of challenges you are facing as you are pregnant or you are the mothers of under-five who are living with HIV/AIDS and/or being the family member living with a pregnant woman and mothers of under-five who are HIV-positive or a health care professionals working in PMTCT programmes.

What is the purpose of the study?

To develop strategy that will enhance family-centred approaches to PMTCT interventions in Vhembe, Mopani and Capricorn districts of Limpopo Province, South Africa.

What are the research questions?

The following research questions will guide the study:

- What are the risk that contribute to MTCT between the age of 6 weeks and 18 month?
- What are the perceptions of family members regarding family support in PMTCT interventions?
- What are the factors that affect provision of family support in PMTCT interventions?

What are the objectives of the study?

The objectives of this study are:

- To explore the risk that contribute to MTCT between the age of 6 weeks and 18 month.

- To explore the perceptions of family members regarding family support in PMTCT interventions.

- To explore the factors that affect provision of family support in PMTCT interventions.

What are my rights as a participant?

Participation is voluntary. You may decline to participate or withdraw at any time without risking any penalty or prejudicial treatment.

What are the possible benefits of taking part?

The participants will help with development of a model to enhance the PMTCT sustainability and the family will have an opportunity to be counselled and to be tested and eventually start with ARVs in case they are HIV-positive. The recommendation of this study may help with the development of a policy to enhance family-centred approach in PMTCT interventions.

What will happen if I take part /what do I have to do?

You will be interviewed by the researcher and the interview will be tape recorded so that the information can be reproduced accurately. Each session will last 30 to 45minutes. You will be requested to fill in and sign a consent form prior to the interviews.

What are the possible risks or discomforts of taking part?

No risks are anticipated in the study. However discomforts may result since the participants will reflect back on their experiences of being pregnant or being a mother of under-five who are living with HIV concerning family support

Contact for further information

For further information about the research study, please feel free to contact:

Researcher: Malindi FC (0721541573)

ANNEXURE H

Informed Consent Form

Strategy to enhance sustainable family-centred Prevention of Mother-to-Child Transmission (PMTCT) interventions in Limpopo Province, South Africa.

I, ……., agree to take part in the research project. The research project has been explained to me. I understand that by agreeing to take part, it means that I am willing to:

- Be interviewed by the researcher;
- Allow the interview to be audio taped;
- Respond to questions asking about my experiences as a pregnant woman or a mother of under-five who are living with HIV concerning family support
- Make myself available for a further interview should that be required;
- Be informed about the research results; and
- Have the study results used in nursing publications or presentations.

I understand that the information provided by me shall remain confidential.

- My participation is voluntary;
- I can choose not to participate in part or the entire project; and
- I can withdraw at any stage of the project without being penalized or disadvantaged in any way.

Participants` signature: …….. Date: ……

Witness` signature: …… Date: ……

Researcher's signature: …… Date: ……

ANNEXURE I

Interview Guide for Mothers of Under Five Year Olds

Strategy to Enhance Sustainable Family-Centred Prevention of Mother-to-Child Transmission (PMTCT) Interventions in Limpopo Province, South Africa

- In your opinion what are the risk are factors that contribute to MTCT between the age of 6 weeks and 18 months?

- In your own opinion what support do you receive from family members (male partner & grannies) when you are practicing PMTCT interventions?

ANNEXURE J

Interview Guide for Grandmothers/Mothers-in-Law

Strategy to Enhance Sustainable Family-Centred Prevention of Mother-to-Child Transmission (PMTCT) Interventions in Limpopo Province, South Africa

- In your opinion, how can you prevent the risk of MTCT between the age of 6 weeks and 18 month?

- How do you feed the baby from 6 weeks to 18 months/

- In your own opinion, how can you support your daughter or daughter in-law who is having a baby between 6 weeks and 18 in PMTCT intervention?

ANNEXURE K

Interview Guide for Male Partners (FGD)

Strategy to Enhance Sustainable Family-Centred Prevention of Mother-to-Child Transmission (PMTCT) Interventions in Limpopo Province, South Africa

- In your own opinion how can you support your wife in preventing risk that contributes to MTCT between 6 weeks and 18 months?

- How can you support your wife in PMTCT interventions?

- In your own opinion, how can you support your wife in preventing MTCT between 6 weeks and 18 months?

ANNEXURE L

Questionnaires for Midwives Who Are Working at PMTCT Clinic

Dear colleagues

You are hereby requested to participate in this research study entitled: **Strategy to Enhance Sustainable Family-Centred Prevention of Mother-to-Child Transmission (PMTCT) Interventions in Limpopo Province, South Africa**. The reason you were selected is because of your knowledge regarding the progress or failure of PMTCT programmes. You are under no obligation to complete the questionnaires, or to return it. Please place your questionnaires in the envelope provided and return it to the Area Manager-Maternity Services/Head of Department.

You are allowed to ask questions on matters which are not clearly explained in this letter.

Researcher: Malindi FC (0721541573)

Looking forward to your favorable response.

Yours sincerely

……..

Malindi FC

ANNEXURE M

Questionnaire

Strategy to enhance sustainable family-centred Prevention of Mother-to-Child Transmission (PMTCT) interventions in Limpopo Province, South Africa

Please answer all the questions in full. Tick where applicable, e.g., Gender:

Male	✓
Female	

SECTION A -DEMOGRAPHIC AND BIOGRAPHICAL DATA

1. Your gender

Male	
Female	

SECTION B-QUALIFICATIONS

2. Professional qualifications:

Midwifery	
Advanced Midwifery	
Nursing Education	
Masters in midwifery	

SECTION C -EXPERIENCE IN THE WORK PLACE

3. For how long have you been working at the PMTCT clinic in years?

2-4	
5-7	

8-10	
Above 10	

4. Have you ever worked in the PMTCT clinic before?

……

SECTION D: PCR STATISTICS

5. How many children come for PCR for the past 2 years?

6 weeks	
18 months	
Defaulters	

6. How many children are accompanied by both parents and/or grandparents for PMTCT interventions?

……

7. How many children are accompanied by both parents and/or grandparents for PMTCT interventions?

6 weeks	
18 months	
Defaulters	

SECTION E: HEALTH EDUCATION

8. Do you have a health education programmes?

Yes	
No	

9. How often do you meet with mothers of under-five for ongoing counselling regarding the risk of MTCT between 6 weeks and 18 month?

Once	
Twice	

10. Do you include family members (partner/grandparents) in feeding of the baby counselling?

Yes	
No	

SECTION F: FAMILY INVOLVEMENT

11. Do you involve family members in caring of the babies born to HIV-positive mother between the age of 6 weeks and 18 months?

Yes	
No	

12. Do you have enough space to accommodate family members for PMTCT interventions counselling?

Yes	
No	

SECTION G: CHALLENGES IN RENDERING FAMILY-CENTRED CARE PROGRAMMES

13. In your own words can you write down challenges that you are experiencing in rendering family-centred care in your institution with words that are not more than one page?

……

……

ANNEXURE N

Validation Instrument Questionnaire

STRATEGY TO ENHANCE SUSTAINABLE FAMILY–CENTREED PMTCT INTERVENTIONS

INSTRUCTIONS

1. Please tick or fill the appropriate gaps.
2. Do not write your name except the code provided.
3. Respond to all the questions.

SECTION 1: BIOGRAPHICAL DATA

Participant Code					
Age					
Gender					
Race Group	**African**	**White**	**Coloured**	**Indian**	**Other**
	1	2	3	4	5
Nationality	**Souh African**		1		
	Other, please specify		2		
Occupation	**Professional nurse**		**Operational manager**		**Maternal health manager**
	1		2		3
Years of Experience					
Highest level of education?	**Basic diploma/degree**		**Advanced midwifery**		**Master's degree**
	1		2		3
Trained on PMTCT	Yes		No		

SECTION 2: STRATEGY TO ENHANCE SUSTAINABLE FAMILY–CENTREED PMTCT INTERVENTIONS

BUILDING ON STRENGTHS				
STRATEGY	**ACTIVITY**	**AGREE**	**DISAGREE**	**COMMENTS, IF ANY**
Enhance increasing of human resource to provide PMTCT interventions	There must be a PMTCT trained midwife in 24 hours in order to motivate and involvement of family members in 24 hours, by doing this it will accommodate male partners who are usually working during the day and the school going teenage mothers.			
	In all PHC clinic there must be a PMTCT trained midwife in 24 hours and 7 days a week.			
	The number of mother mentors should be increased in order to have one mother mentors during the night to teach the family members about the risk of MTCT and prevention.			
	Support visit by PMTCT managers to be done on monthly basis to assess whether family members are involved.			
	Lower category should be trained in order to assist the midwife with health educating and encouraging the family member to be involved in PMTCT matters			
	Homebased carers should be trained to do door to door campaign to encourage family support in order to prevent MTCT in babies between 6 weeks and 18 months.			
	Mother mentors should organize support group for families to increase family support			

Enhance competence of human resources in order to provide PMTCT interventions	Conduct quarterly in-service training to keep the PMTCT trained midwives with new information about PMTCT so that they would keep up with new developments Increase the number of trained PMTCT midwives in order to render quality service and facilitate the involving family members.			
	There must be in-service training to all nurses who are working in PMTCT section about family involvement to increase support, and to reduce risk of MTCT.			
	Other category like enrolled nurses, enrolled auxiliary nurses and Community Health Workers should be trained in PMTCT, this will enable them to teach the community about PMTCT issues.			
Advice on financial management to facilitate adherence to PMTCT interventions	Facilitate the community awareness sessions encourage mothers who are staying away from the clinic or staying in mountainous area or in bumpy gravel roads to use their nearby clinic or mobile clinics to reduce cost of transport.			
	Intensify counselling to encourage mothers to disclose their HIV-positive status to their family members to prevent stigma and to use the nearby clinic, and in the process they will be able to get family support.			
	Family involvement should be strengthen by inviting men's forum like Tshitamboni. Male partner should be encourage to support their wives financially to attend PMTCT interventions.			
	Mothers should be encouraged to use their child grant of R 380.00. Grandmothers should also encouraged to support the unemployed mother financially at least until 6 months were the baby will be old enough to be introduced to solids to prevent the risk of MTCT.			
	There must be an involvement of community developer to teach unemployed mothers to possess skills that will help them to be self-employed.			
	Project such as greenery should accommodate mothers so that they will be taught the skill of planting vegetables and selling them to be financial independent			

	Mothers should be discouraged to move around clinics to avoid duplication of taking PCR to reduce cost, PCR is R 422, 00 per sample.			
Facilitate uptake of services for PMTCT interventions	Issue of distance between the clinic and home should be addressed by encouraging mothers to utilize their nearest clinic or the mobile clinic.			
	Ward councilor will be invited to be part of clinic meeting were the issues of servicing the roads speedily attended to.			
	The clinic committee to be involved to facilitate that mobile ambulances are serviced and in good condition to serve those who are staying far away from clinics.			
OVERCOMING WEAKNESSES				
STRATEGY	**ACTIVITY**	**AGREE**	**DISAGREE**	**COMMENTS, IF ANY**
Overcome the weaknesses when implementing the PMTCT interventions	There must be an established support groups where mothers will support each other to prevent the risk of MTCT. Strengthen counselling on disclosure to the HIV-positive clients to increase the acceptability of the status.			
	Heath care practitioner should practice confidentiality to increase trust and to support the mothers and family members to prevent risk of MTCT.			
	Information about risk of MTCT must be disseminated to the community at large through giving health education about risk of MTCT at indaba gatherings to increase knowledge. With knowledge PMTCT services will be acceptable			
	In all PHC clinic there must be availability of PMTCT services for 24 hours and 7 days per week			
	There must be a PMTCT trained midwife, mother mentors and lower category health practitioner 24 hours and 7 days per week in order to accommodate and teaching family members about the importance of family support to prevent the risk of MTCT.			

	There must be always enough ARV stock for every women who may tested HIV-positive during her pregnancy.			
	There must be available and sufficient stock of PCR test kits.			
	Utilization of condom should be reinforced, not just to distribute as it was regarded important to use it outside of marriage			
EXPLORING OPPORTUNITIES				
STRATEGY	**ACTIVITY**	**AGREE**	**DISAGREE**	**COMMENTS, IF ANY**
Exploring opportunities	Ensure availability of policies, guidelines and protocol at each PHC facility which must be easily accessible to the staff and the community members			
	Ward councilors and clinic committees to be involved on issues that hinder the uptake of PMTCT interventions.			
	Awareness and information sharing on cost effective use of social grant on the PMTCT interventions			
	Inviting of grandmothers and traditional healers to teach them about the dangers of MTCT and how to prevent them.			
	Grandmothers and traditional healers must be made to feel important and their knowledge can be utilized without risking the life of the babies such as: Allowing them to give traditional herbs but only after the baby is 6 months, teaching them to use protective clothing like plastic apron, gloves and washing of hands between the patients or between mother and the child.			
	Advise them to use /collect razor, gloves apron and linen savor from the clinic.			
	Husband should be encouraged to accompany their wives to the clinic, security should be advised to make sure that male partners have a place to park their cars and be allowed to attend the consultation with the mothers			

	Condoms are available, to use cultural sensitive approach and encourage male partners to use.			
	Every health care practitioner must be computer literate as a way of communication			
	Manager should have access to airtime in case it get finish before moths-end. Land line must be attended to if it is not working. SMS is another way to pass information from clinic to the hospital			
	Mother should be encouraged to disclose their HIV status, and to discourage them from moving from one clinic to another which results to duplication of taking PCR test which is very expensive.			
	To submit a motivation to the Maternal Health Directorate on revision of the law of the right of no disclosure of HIV-positive status to the partner and other family members to encourage family support.			
	In all clinics there are guidelines, protocols and policies that can be utilized by health care practitioners to encourage community members to be involved in PMTCT interventions			
	Utilization of trained homebased carers and health care workers to disseminate information on risk of MTCT and the importance of family support to prevent it.			
	Mother mentors be trained to form support group where mothers may help each other in the community.			
	Encourage community to utilize the mobile clinics and the nearby clinics			
MINIMIZING THE THREATS				
STRATEGY	**ACTIVITY**	**AGREE**	**DISAGREE**	**COMMENTS, IF ANY**
minimizing the threat	Apply the available policies, protocols and guidelines to conduct awareness			

	campaigns in the community			
	During the awareness campaigns, motivate the unemployed mothers or male partners to involve themselves in community development projects to acquire skills, for example, gardening, as income generation.			
	Facilitate culture congruent information sharing sessions with male partners, grannies and mothers.			
	To assist the clinic committees and ward counsellors to involve private companies to sponsor with billboards, newsletters, pamphlets, and utensils such as mugs, stickers, out cover of registration books, printed t-shirts that bears the message of PMTCT and involvement of family members.			
	Strengthen information dissemination during campaigns on the importance of provision of correct contact details.			
	Involve clinic committees and ward counsellors in all issues that affect the functioning of the health facility. These stakeholders will be assisted to work in partnership with Vodacom, MTN, Cell C to assist with communication options they are having.			
	Strengthen couple counselling to encourage disclosure.			
	The law of having a PHC clinic within 5 or less kilometer must be must be applied for every mother to attend PMTCT services.			
	Strengthen the establishment of support groups			
	Collabourate with the local Chiefs, clinic committees and ward councilors to ensure that the mobile clinics are available or the roads to the health facility are regularly maintained.			

ANNEXURE O

Transcript of a Grandmother

R: Researcher

P: Participant

R *Good morning!*

P Good morning!

R *In your own opinion, how can you prevent the risk of MTCT between the age of 6 weeks and 18 months?*

P This days I will ask my daughter in law or my daughter to go to the clinic for testing and if she is positive she will get treatment to prevent the virus to pass from Mother-to-Child. I also wash my hands when I come from toilet to prevent my grandchild to have virus.

R *Can you continue?*

P I will also advise the mother to visit clinic where nurses and doctor will tell her that living with HIV is no longer something to be afraid of as many people are taking medication and they are well. I will also encourage the mother not to breast feed but to use formula feeding and to give healthy food.

R *Can you tell me about how you will protect your grandchild from being infected regarding traditional way of immunization (u thusiwa)*

P Yes my grandchild must be protected (u thusiwa) there is a family traditional healer whom we call after the baby is discharged from the clinic. The traditional healer cut the baby on the joints and when the blood is oozing she smear the powdered medicine (muti) for the protection of the baby. The very same day she bring the traditional herbs to be mixed with water and meal meal in a clay port. That will wait for two days, then use it to prepared soft porridge. The herbs are good for the children especially with colic or any abdominal discomfort. They are very good on the health of the baby. They help the baby with good digestion and prevent colic, the baby who is given the herbs does not suffer from diarrheoa and vomiting and the baby will not lose weight. but the problem is at the clinic they say the baby must eat after 6 months and traditional healer told me to give muti to the baby to protect

the baby, there I still have problems that comes from what I believe. If I don't take the baby to the traditional healer or prayer the baby will not be protected from witches and the baby will be always ill.

R *Can you tell me more about feeding of the baby?*

P My grandchildren are fed with (tshiunza) soft porridge mixed with traditional herbs. In order to protect them from childhood illness.

R *Can you tell me about forceful feeding?*

P This days I heard that babies are fed by a spoon. I am good at traditional way of feeding. I have taught my daughter-in-law how to do it correctly in case I am not around. Forceful feeding is the best way of feeding especially when the baby is sick. One cannot feed the baby by spoon if the baby is sick. If the mother is not around I feed my grandchild with mageu or children s tea which I buy from the shops.

R *Hmm What about Gokhonya?*

P Gokhonya is there and if it is not removed, the baby may die. Gokhonya kills, it shows by pimples or warts in the vagina of the mother and the baby will have red spot below occiput and the baby will be always looking down and shy to look at people. The traditional healer search the mother if she is having vaginal warts which cause the baby to be sick, and cut a warts like on the vagina of the mother, mixed with muti, burned them, and then the traditional healer will cut the baby on the or below occiput and smear the medication (muti).

R *What are the symptoms that show you that the baby is having Gokhonya?*

P The baby will be shy , does not look at the people, always look down, the baby may sometimes be weak or have diarrheoa and the baby cannot get well by any other treatment even at the clinic they cannot heal that baby.

R *How can we protect the baby from being infected during the removal of gokhonya procedure?*

P I think the baby will be protected as the contents will be burned and may be the virus may die by being burned, but I don't know if the virus may die by being burned or not, but heish I really don't know?

R *Hmmm is there anything to add?*

P Heish vho nurse (nurse) this Gokhonya can only be treated by speciazed old ladies. I think they know how to protect the baby.

R *In your own opinion what do think about the mother expressing breast milk for you to feed the*

baby if the mother is at school or working.

P Breast milk is like waste products, i mean things like saliva, mucus, urine and faces. To tell the truth I cannot stand for that. Even in my family when you have just given birth and the breast milk is too much and the baby could not finish the breast milk, and is just flowing and sometimes even the T-shirts are wet with breast milk. I opt to cook and serve the mother rather than to eat food that is being cooked by the mother with a breast oozing milk all over. Breast milk has a smelling that I cannot tolerate.

R *If your daughter is working or still at school, and she express breastmilk and store it in the refrigerator, can you feed the baby with stored breastmilk?*

P No I can't feed the baby with stored breastmilk, I told you that breastmilk is disgusting. If I touch expressed breastmilk I will vomit, l*et al*one eat food that are stored in the same place with breastmilk. I will rather feed the baby with formula or soft porridge. No I can't stand expressed breastmilk.

R *In your own opinion how do you support your daughter or daughter in law who is having a baby between 6 weeks and 18 months in preventing the risk of MTCT?*

P I will support her by reminding her about her medication and to eat good food such as fruits and vegetable. I may also help her with giving medication to the baby.

R *Is there anything to add?*

P I think that is all.

R *Thank you for your participation.*

ANNEXURE P

Transcript of a Mother

R: Researcher

P: Participant

R *Good morning!*

P Good morning!

R *In your own opinion what are the risk that contribute to MTCT between the age of 6 weeks and 18 months?*

P I think by failing to give medication to my baby at the same time every day, or if I forgot to take my medication in time while breastfeeding. I also think that breastfeeding my baby may expose my baby to the virus.

R *Did you disclose your status to your partner and other family members?*

P Yes I disclosed my status to my partner but he just kept quiet and he didn't comment anything. To my surprise he keep on having sex with me without using condom, I think he knows that he is HIV-positive but he didn't admit that he is HIV-positive. I didn't disclose my status to my mother or any family members because one day I heard my mother criticizing people who are living with HIV. My mother talk too much I am afraid that if I disclose to her she will tell my sibling and before long everybody will know my status.

R *Can you tell me about protection during breastfeeding (safe sex)?*

P Heish protection is easier to talk about than to practice it. I was taught at the clinic that we must use condom in order to protect ourself and the baby, but is difficult, because sometimes we use condom, but most of the time we don't use the condom, and when I ask him about using condom he just keep quite. He may spend days quiet not talking to me. Usually when I tried to talk about the issue of using condom this he get offended.

R *Hmmm*

P Financially he support me. He buys grocery and everything we need in the family but when it

comes to issues of protection is difficult.

R *What about adherence to medication in order to protect your baby during breastfeeding?*

P Three years ago my partner ask me to go to the clinic to check my HIV status and when I found out that I am HIV-positive, I was shocked because I was not ill. I was initiated to ARV, s but I only use them for one month. I did not attend the ANC because I knew my status and I was not ready to disclose my HIV status. But now I since I gave birth I'm taking the ARV, s in order to protect my baby.

R *Can you tell me about feeding of your baby in a way where your baby will be protected from the risk of MTCT?*

P I will breastfeed my baby for three month and start with formula feeding in order to protect my baby. I will also give my baby soft porridge after three month as formula feeding will not be enough to feed the baby.

R *Can you tell me more about feeding of the baby?*

P My mother-in-law is the one who will feed my baby as I will be working and usually I leave home very early in the morning and came back very late, even my first born child was taken care by my mother-in-law. She is the one who will decide about feeding of the baby.

R *Can you tell me what are you going to do to protect your baby as your practicing PMTCT in case of breast engorgement and cracked nipples?*

P You know what? My mother-in-law told me that because my left breast is full and swollen I must not feed my baby on it because the milk is no longer good for my baby. She also told me that if I feed my baby on an engorged breast my baby will suffer from diarrheoa. She taught me to put my baby on the swollen breast and allow the baby to slide down the breast.

R *Hmmm*

P I think that maybe I may do hot compress to my swollen breast. In case of cracked nipple I will go to the clinic in order to get treatment

R *Do you receive support from family members (male partner and grannies?) When you are practicing the PMTCT?*

P Truly speaking I don't have support from my partner because he does not want us to talk about it I have tried several times but each time he just keep quiet. Financially he do support me with money and he buy groceries. My mother-in-law does not support me because I didn't disclose my status to her.

R *Thank you for your participation, I will call you if there is anything that need further explanation.*

P Thank you

ANNEXURE Q

Tshitamboni Male Focus Group

R: Researcher

FG: Focus Group

R *Good afternoon!*

P Good afternoon!

R *My name is Constance Malindi, I am from Tshidimbini, I am a student at the University of Venda, I am conducting a research about Strategies to enhance family support in PMTCT interventions in Limpopo Province. Today we are going to talk about support received by mothers from their male partners. With your own words can you tell me how do you feel as a men to accompany your wife to the clinic as a way to support your wife when she attend ANC or child health?*

FG1 It is possible as in this meeting we are being taught to support our wives.

FG2 Yes, It is possible to support our wives but we were raised in a cultural set up were men do not involve themselves with women staff, more especially the issues of pregnancy and child bearing. Traditionally this is the responsibility of old ladies. When we grew up it was a taboo for a men to get inside the room where the baby is staying, l*et al*one to see the baby as it was said you will (u kanda nwana) that is you will cause the baby to get ill. We were also not allowed to talk to the mother until the elders tell you that now is the right time to see the baby, and we were not allowed to sleep at the same room with your wife until the elderly allow you to do so. If people can see you accompanying you wife to the clinic is like you are not a proper men, is like you have been given muti to soften you up. Or you are being controlled by your wife. I think this thing of supporting our wives is still new and we are trying but it is still difficult.

FG3 I think theoretical is possible but in reality is difficult to support your wife publicly. I will rather export my wife to the clinic using my car and when we reach the hospital my mother or elderly family member will accompanied my wife. If you happen to do it publicly your family members will be annoyed and the community will labeled you. Is like you are against the

traditional laws. I think in rural the community is not yet ready to accept a men walking with a women especially if the pregnancy is visible, people will speak negatively and men are usually proud they don't want people to talk about them behind their back.

FG4 Our minds were channeled through our culture, and there is a permanent ways of doing things culturally which is difficult to change. Our parents didn't have a good relationship with their wives. They were not used to each other. To move from that type of life style will change but not now. Maybe our children will be able to support their wives without feeling bad. During our time it was illegal to bring your girlfriend to your home but at least our boys bring their girlfriends for us to see them and we are still uncomfortable about that. Maybe this was brought by men who were working in Johannesburg while their wives were left at home, the only time they were together was when they want to have another child, and as a result there was no relationship between the husband and the wife.

FG5 Thank you mam for coming to talk with us about this because nobody cares about our feelings when it comes to our wives and our children. Nobody have ever encourage us to support our wives. We think that giving my wife money and buying food and other necessity is enough to support them. During our time marriage was managed by our parents. Some of us entered into arranged mirage were there was nothing that involve love. Parents were the once that will approved if your wife is suitable for you. Marriage ceremony was done during the night. Women were taught not to look at you. After I got married I came home from Johannesburg to see my wife, when I arrive home I was told that I cannot slept with her. I was told to wait for 2 days, and because I wanted to sleep with her I force her and grape her to my roundel and my wife run away from me through the window. I think she was also being told that she mustn't allow me to sleep with her until my parents give a go ahead. With the type of mindset instilled to us it is still difficult for us men to support our wives.

FG6 Nurses also cause us as men to lose interest to accompany our wives to the clinic or hospital. One day I accompanied my wife to the clinic and the nurse was so rude to me. She was carrying a red plastic as she pass next to me she shouted at me and said if it was your wife would you sit there to watch as am carrying somebody s baby who was aborted. Nobody told me that I'm not supposed to sit there. And I didn't know that that is where they pass carrying dead babies. On the other hand the security men and women don't want us to get inside with our cars, and they refuse to take responsibility of looking after our cars. When nurses are on tea time they don't want to attend to patients. The queue is too long and men are too proud, we don't want to be controlled especially by female nurses. Waiting period is also annoying. Nurses are slow to help, is like they don't care.

FG7 Some of the things that made us as men failing to support our wives is the education that we receive from our elders that if you see your wife giving birth you will lose interest in having sex with women whom you have witness her vagina stretching to deliver the baby. It was also said that the vagina took shape of the last part that come out of the vagina. The other thing is because we paid lobola to have them they are like properties to us. We feel like they

are the one who must support us not visa vesa. Again to God marriage is a good thing and devil want to destroyed marriage by lack of support. Negative influence to dilute positive influence. The church also played a role as we were taught not to emulate the world, even if something is good we as men don't want to copy from something that is done by the so called heathen. Again we men don't want our women to get used to us fearing that they will fail to respect us or listen to us. Men don't want to talk about anything that is associated with sex. We are not free to support our wives in public. We are only free when we are out like in Durban, but still we don't want our wives post our photo in social media. But in reality we want to support our wives, when we look at white couple and the way they support each other we just want to be like them but somehow we have a fear to support our wives publicly. We also envy those who are getting married. I think culture has left a permanent mark in our minds.

FG8 Men don't want to be seen by people helping their wives. For example my brother in law who is the husband to my sister , came back home because my sister is ill but every time my sister have to visit the hospital for checkup he will send me to do that even now that he is at home. Another thing is that women are jealous. If you are seen in public supporting your wife other women will speak badly about it. Nurses are jealous of the family that support each other. The other things that prevent us as women to support our wives publicly is because of extra marital affairs, when you have girlfriends is difficult to support your wife in public.

FG9 Men are born with inborn pride, as men we usually don't want to associate ourself with negative issues in our families. If it happen that the baby is HIV-positive, most of the men will run away from home and go and stay with girlfriends. Most of the time men does not want to associate themselves with problem.

R *Ok, can we go back and talk and do follow up on the issue of the attitude of nurses?*

FG1 Hey let me tell you that our wives usually remove their rings fearing that nurses will ill-treat them because they are jealous of married women. The other thing is that most of the nurses are not married so they are jealous for men who support their wives.

FG2 Lack of being appreciated by nurses make it difficult for us as men to support our wives. Nurses do not appreciate men's who openly support their wives. I think if nurses may start to welcome us at their clinics and hospital it will be easier for us to support our wives in ANC and also in Child health. Presently if we are supposed to scale them out of 10 nurses only three will accommodate us to support our wives. If you frequent visiting your wife nurses will mistreat your wife. I think nurses must be taught to appreciate men who come to the clinic to support their wives.

R *As a way of protecting the babies from MTCT mothers are encouraged to use condom during pregnancy and while the baby is on breastmilk, in your own words can you tell me about being comfortable with the issues of using condom use at home with your wife?*

FG1 No because if you start to use condom with your wife it shows that there is no trust. Protection is difficult when you are in marriage. As men we are afraid to be labeled as unfaithful men. Is difficult even to accept condom given by nurses at the clinic. We are afraid to buy condom fearing that somebody may see us and label us as promiscuous. Men are also afraid to buy condom at our local shops fearing that the cashier may tell people that we were buying condoms. The other problem is that when you buy condoms our wives usually count them; they make us to be accountable of condom used. If you happen to lose one condom that day you will never sleep. Our wives when it comes to condom they talk too much. If you have condom at home the wife will be always counting them and you have to explain to her where and who did you use the condom with. Men by nature they don't want to talk too much and they hate to explain themselves to their wives, and they feel being disrespected. Men usually hide their condoms inside their cars in a place where the wife will never find them, but as men we are free to talk about condom amongst ourselves. At my work place I am the one who feel the containers of condoms in our bathrooms, and each time when I check the containers will be always empty. This tell us men do use condom but not at home with their wives.

FG2 Using condom at home is still a problem. If the wife comes home to tell the husband that at the clinic she was told to use condom more especially if the nurse is a women and the wife is the one who is introducing issues of condom at home, that day the men must show the wife who is the boss at this house. Condom or utilizing condom at home brings conflict, because when the wife start to talk about condom is like she is saying that the husband is not faithful. As for now condom use between couple is still a huge problem. I think it is better if this issue of condom use be taught in couples meetings.

R *What if by chance the wife, the husband or both of them are infected and there is this new born in the family how we can as men or male partner can protect the baby from MTCT?*

FG1 I think that there is lack of communication between the husband and the wife. Women usually they do not communicate well when it comes to condom issues. Usually couple will be buzzy protecting themselves, fearing to be blamed and they forgot about the well-being if the child. Usually is women who does not trust their husband. When men avoid to be blamed they refuse to use condom, when use condom is like they are guilty of having extra marital affairs.

FG2 Condom were made for us to help us to protect our children. But this message is still a problem in most of our families. Statistically there is a large number of people who are HIV-positive. As Christian we don't want to talk about it as HIV is associated with living in sin. As a result Christian are dying without using free ARV, l*et al*one protecting their children.

FG3 Hey there is this rumors that is spreading that if you have sex with somebody who is HIV-positive and you go to the doctor and doctor gave you antiretoval you will never be HIV-positive and you won't transmit the virus to your wife. This is the information that is spreading fast.

R *As male partner how can we support our wives to prevent MTCT to our children?*

FG4 I think at church we still need a lot of information about this. In our church we have more single parents than couples, then we continue to talk about using of condoms is like we are saying that men can use condoms with single parents thus compromise our Christianity.

FG5 I think the other problem is that women does not disclose their HIV-positive status, then how can you support the person who didn't disclose. Most of the couple does not want to talk about sex issues. I think nurses should teach the women to disclose and to share with their husbands about sex issues. That brings us to issues of culture. In our culture women does not negotiate sex with their husbands. Men are expected to be the ones who negotiate sex issues, if the women talk about sex or be the one who start to tell the husband that she want to have sex with him, that women is labeled as promiscuous women. The society does not approve of that type of a women.

R *Is there anything to add?*

R *In the absence of question, thus bring us to the end of our conversation. In case of any clarification contact me through your pastor as he have my contacts. Thank you for being open and sharing everything. I really appreciate you effort.*

ANNEXURE R

Confirmation by Language Editor and Typesetter

Prof Donavon C. Hiss

Cell: 072 200 1086 | **E-mail:** hiss@gmx.us **or** | dhiss@outlook.com

12 May 2018

To Whom it May Concern

This serves to confirm that I have edited the language, spelling, grammar and style of the **PhD** thesis by **Fhulufhedzani Constance Malindi**, titled: "**Strategy to Enhance Sustainable Family-Centered Prevention of Mother-to-Child Transmission (PMTCT) Interventions in Limpopo Province, South Africa**" The manuscript was also professionally typeset by me.

Sincerely Yours

Cert. Freelance Journalism, Dip. Creative Writing, MSc (Medicine), PhD