LEVEL OF MALE INVOLVEMENT AND FACTORS INFLUENCING INVOLVEMENT IN THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV IN THE OSHAKATI DISTRICT, OSHANA REGION

A THESIS SUBMITTED IN FULFILMENT

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BY

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DEDICATION

This is dedicated to all women living with HIV, in the sincere hope that this study will make a contribution to programme development and implementation.

DECLARATION

I, Karolina N. Shiyagaya, declare that the LEVEL OF MALE INVOLVEMENT AND FACTORS INFLUENCING INVOLVEMENT IN THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV PROGRAMME IN THE OSHAKATI DISTRICT is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Karolina N. Shiyagaya_____

DATE: _____

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ABSTRACT

The largest source of human immunodeficiency virus (HIV) infection in children is through mother-to-child transmission and the prevention of mother-to-child transmission (PMTCT) programme plays a big role in reducing the infection. However, its effectiveness depends on the involvement of male partners, considering the fact that men are decision-makers in many of the African families, who make important decisions that have a big impact on women's health. Male involvement remains a challenge in most low- and middle-income countries, including Namibia. In an effort to reduce the HIV infection among infants and young children in the country, the Ministry of Health and Social Services implemented the prevention of mother-to-child transmission of HIV programme in 2002, unfortunately, only 4.7% of the male partners managed to visit the ANC / PMTCT facilities in Oshakati District, for a period of ten years. A quantitative, descriptive, cross-sectional and analytical study on the level of male involvement and factors influencing involvement in the prevention of mother -to -child transmission of HIV programme in Oshakati district was carried out.

The purpose of the study was to determine the level of male involvement and factors associated with involvement in PMTCT in the Oshakati District. The objectives were to determine the level of male involvement and factors contributing to involvement in PMTCT. The population consisted of males, whose female partners were attending the antenatal care in the Oshakati District. A purposive sampling technique was used

to sample 115 male partners. A pilot test was carried out before the actual data collection. Data was collected using a standardised interview questionnaire and were analysed using a Statistical Package for Social Sciences (SPSS) software version 22. The data analysis revealed statistical significant associations between education level (0.001), age of female partners (0.002) and type of a relationship (0.005) and male involvement. Other factors identified were attitudes and beliefs about PMTCT, lack of information about PMTCT, culture, lack of trust within the relationship, time and health system.

The study recommended for the multi-sectoral approach and for the appropriate changes in labour legislations, in order to improve the PMTCT outcomes. The implementation of male champion strategy should be embraced as an attempt to change the negative attitudes and beliefs by men, by making them effective educators and advocators for PMTCT. The programme should consider involving men and opinion leaders in the monitoring and evaluation exercises through community consultative meetings since the key factors that influence male involvement in PMTCT include inadequate knowledge and misconception about HIV and PMTCT. The study concluded that male partners lack knowledge about PMTCT, hence their level of involvement is limited.

Keywords: Male involvement, prevention of mother-to-child transmission of HIV.

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ABBREVIATIONS AND ACRONYMS

ANC	Antenatal care
ART	Antiretroviral therapy
ARV	Antiretroviral
AIDS	Acquired immune deficiency syndrome
CD4 count	Count of a subset of T-lymphocytes with CD4 receptor per micro litre of blood
HCT	HIV Counselling and Testing
HIV	Human immunodeficiency virus
MDG	Millennium Development Goal
MTCT	Mother-to-child transmission
PMTCT	Prevention of mother-to-child transmission
STD	Sexually transmitted disease
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV / AIDS
VCT	Voluntary HIV counselling and testing
WHO	World Health Organization

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Namibia is ranked among the ten top countries with the highest HIV prevalence levels in the world (World Health Organisation, 2012), with 13.1% adult population living with HIV in 2013, while approximately 250 000 people, which is more than tenth of the population, were vulnerable and orphaned, many of them because of HIV (MoHSS, 2014). The HIV burden is much higher among the pregnant women, with the prevalence of 16.9% in 2014. The available data from the National HIV Sentinel Survey indicated the HIV prevalence among pregnant women rapidly increases from 4.2% in 1992 to 16.9% in 2014, having reached a peak of 22% in 2002, before it started showing some signs of stabilisation and statistically significant decline (MoHSS, 2014).

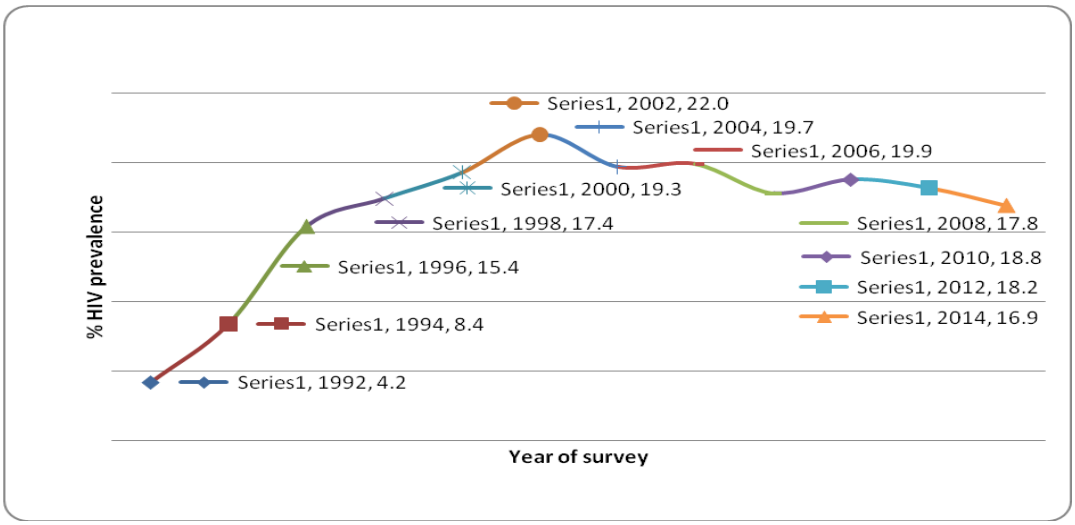

Figure 1.1:Surveillance trends in HIV prevalence among pregnant women receiving (Antenatal care in Namibia, 1992-2014; MoHSS, 2014)

Namibia has a generalized mature epidemic with HIV primarily transmitted through heterosexual means. The epidemic is sustained through specific sexual practices, community norms and practices, alcohol abuse that affects the decision on sexual behaviours in addition to low male circumcision and HIV risk perceptions. Other sources of new HIV infection are through mother-to-child transmission, which is the most common route of infection for HIV-positive children under the age of five years (MoHSS, 2010). According to the World Health Organisation (2012), Namibia had an annual incidence level of 5800 new HIV infections, of which one quarter was through mother-to-child transmission (WHO, 2012). Mother-to-child-transmission of HIV (MTCT) happens during pregnancy, birth or through breastfeeding (MoHSS, 2014) and has accounted for 240 000 cases of new HIV infections among children in low and middle income countries in 2013. The rate of HIV transmission from an

HIV-positive mother to her child if she is not receiving any antiretroviral medicine, ranges from 30 % to 45%, depending on the duration of breastfeeding (UNAIDS 2011).

With effective PMTCT interventions, including improved antenatal services, opt-in HIV counselling and testing for pregnant women, anti-retroviral treatment for HIV-positive pregnant women and new-borns, referral to support groups, counselling on options for safer infant feeding practices and continued follow-up and treatment for HIV-positive mothers and their children and where PMTCT programmes are fully implemented, this risk may be reduced to 2% (UNAIDS, 2011).

Factors influencing risk of vertical HIV transmission include, new HIV infection, maternal TB, high maternal viral load, low CD4 count, advanced diseases, poor nutrition, prematurity, multiple births, breastfeeding, mixed feeding, immature gastrointestinal tract, immature immune system, viral, bacterial, or parasitic placental infection, sexually transmitted infections, premature rupture of membranes, invasive delivery procedures such as episiotomy that increase contact with mother's infected blood or body fluids (MoHSS, 2014) .

The PMTCT programme plays a big role in reducing the MTCT, and its effectiveness depends on involvement of male partners considering the fact that men are decision makers in African families where PMTCT is offered. They make important decisions that have a big impact on women’s health. Male partner involvement has been seen to facilitate the recommended PMTCT interventions and

their involvement underscores their importance in reducing HIV infection in children. The benefits of involving men in the PMTCT services are enormous as their role in HIV prevention is critical in changing the course of epidemic. Male involvement is a key to preventing HIV infection among women as it increases couple voluntary HIV counselling and testing (VCT), increases disclosure of HIV status, facilitates early diagnosis of HIV among men, increases linkage of men to HIV care and increases condom use. Male involvement prevents unintended pregnancies among HIV-positive women by increasing uptake of contraceptives, promoting reproductive health choices and reducing intimate partner violence (Osoti, Han, Kinuthia, & Farquhar, 2014).

With male involvement in the PMTCT, a couple has a chance to make joint informed decisions on living positively with HIV, to share responsibility for preventing HIV transmission to the unborn child and to discuss safer sexual practices, as well as to make informed decisions to access care and treatment. In addition, men can also play a crucial role in supporting HIV-positive pregnant women, by assisting them to get to clinics or hospitals where chances of safe delivery are higher and to choose a safe infant feeding method. When men participate in PMTCT programmes, their knowledge of HIV increases, their behaviour becomes supportive and their receptiveness to HIV testing increases. Men's involvement positively impacts infant feeding practices and survival. When men know that their spouses are HIV-positive and are involved in a PMTCT programme, they allow their wives to access ARV for themselves and their babies. They permit and support safer / appropriate infant

feeding methods. They make an informed choice on future child bearing as a couple (Nkuoh, Meyer, Tih & Nkfusai, 2010). When male partners are involved, they are likely to support their wives at critical decision-making points such as practising safer sex, providing financial, psychosocial and other logistical support for their wives to access PMTCT services (Drasiku, 2010). Partner participation increases spousal communication about HIV and sexual risk. This becomes especially critical in HIV-discordant relationships when men's involvement may encourage the couple to address condom use and reduce risk, thus helping to prevent the transmission of HIV and other sexually transmitted infections to partners and offspring (Ramirez-Ferrero & Lusti-Narrasmhan, 2012).

1.2 BACKGROUND TO THE PROBLEM

Prevention of mother-to-child transmission of HIV is a four-pronged strategy that includes primary prevention of HIV, prevention of unintended pregnancies among HIV infected women, prevention of HIV transmission from HIV infected pregnant women to their babies, (which is a core PMTCT intervention) and provision of treatment, care and support for HIV infected women, their children and their families. The core PMTCT interventions include HIV counselling and testing (HCT), antiretroviral therapy (ART) for both partners and prophylaxis for the baby, as well as counselling on infant feeding practices (MoHSS, 2014).

In an effort to reduce the HIV infection among infants and young children in the country, the Ministry of Health and Social Services (MoHSS) piloted the prevention

of mother-to-child transmission of HIV programme in 2002 at the Oshakati and Katutura Intermediate Hospitals. The programme was later rolled out to 34 health districts countrywide. The statistics have shown that since the implementation of a PMTCT programme in 2002 in the Oshakati District, male partners were not coming forth as excepted, with only 4.7% managing to visit the ANC / PMTCT facilities with their female partners, for a period of ten years (MoHSS, 2012 / 13).

Studies that have examined male partner involvement in PMTCT in Africa have reported low levels of male participation. Only 5% of pregnant women attending a Nairobi Council Clinic in Uganda received HIV counselling with their male partners (Aluisio, Richardson, Bosire, John-Stewart, Mbori-Ngacha & Farquhar, 2011). In the Eastern Province of South Africa and in Uganda , only 5% and 14.9% of male partners were reported to have accompanied their female partners to the antenatal care clinic visits (O'Gorman, Njirenda, & Theobald, 2010; Peltzer, Sikwane, & Majaja, 2011; Byamugisha, Tumwine, Semiyaga & Tyllestar, 2010). Similarly, despite instituting a programme targeted at encouraging male partner participation in PMTCT and antenatal programmes, the observed percentage of men participating in such activities in a facility in Cameroon was only 18% (Nkuoh *et.al*, 2010). Falnes, Moland, Tylleskar, De Paoli, Msuya, & Engebretsen (2011) also note that very few men joined their partners for PMTCT or antenatal activities at five health clinics in northern Tanzania. In Congo and Malawi, studies have shown that low male partner involvement is one of the challenges to the success of the PMTCT programme in a country, as only less than 10 per cent of male partners were reported to have

accompanied their partners to ANC (Ditekemena ,Matendo, Koole, Colebunders, Kashamukwa, Tshefu, 2012; Nyondo, Chimwaza, & Muula, 2014).

1.3 STATEMENT OF THE PROBLEM

The Oshakati District has been recording fewer males on the Prevention of Mother-to-child transmission of HIV programme since its inception in 2002, although the PMTCT coverage has been reported to be 100%, in the sense that all the pregnant women who have been coming to ANC in the Oshakati District have agreed to be counselled and tested for HIV (MoHSS, 2010 / 2011). From 2008 -2012, a total of 22 621 pregnant women were offered prevention of mother-to-child-transmission services (PMTCT). These women were encouraged to bring along their male partners during the next antenatal care visits and only 1060 male partners (4, 7%) visited PMTCT sites. This represents a lost HIV prevention opportunity as men can infect their wives with HIV or be infected especially in discordant relationships where they are unaware of their status, hence unlikely to practise safer sex. This can be seen in a case where a mother tested HIV-negative during ANC while her husband was not tested. A few months after delivery, the baby, the mother and the father were tested HIV-positive, with the mother having a high CD4 count and her husband having a low CD4 count, which implies recent infection in the mother, possibly from her husband during pregnancy. There is also a potential for re-infection of HIV-positive women by yet another strain of HIV by a male partner. Without male involvement, women will also find it difficult to disclose their HIV status to their partners will find

it challenging to choose safe infant feeding options or properly adhere to anti retroviral treatment (Aluisio *et.al*, 2011).

This study, therefore, intends to identify factors contributing to low male involvement in the prevention of mother-to-child transmission of HIV / AIDS programme in the Oshakati District, with the aim of proposing interventions to ensure improved male involvement in the PMTCT programme as better male involvement can positively change the PMTCT outcomes.

1.4 PURPOSE OF THE STUDY

The purpose of the study was to determine the level of male involvement and factors associated with male involvement in the prevention of mother-to-child transmission of HIV in the Oshakati District of the Oshana Region.

1.5 OBJECTIVES OF THE STUDY

- To determine the level of male involvement in the PMTCT programme; and
- To determine factors contributing to male involvement in the PMTCT in the Oshakati District.

1.6 SIGNIFICANCE OF THE STUDY

The findings from the study might not only contribute to a body of knowledge, but might also be used to influence and inform policymakers and programme managers in matters pertaining to improving male involvement in PMTCT interventions, which

could help decrease HIV transmission to infants. This might be done by identifying the characteristics of the non- participating male population group and targeting them with suitable health interventions including behaviour change communication, with the possibility of reducing the HIV infection rate among children born to HIV-positive mothers. Active male involvement is one of the efficient ways to control this vertical transmission by making sure that both parents act jointly to implement all the prescribed PMTCT interventions. It would also inform whether the PMTCT setting could be an acceptable opportunity to counsel and test males for HIV, thus paving way for their participation in subsequent PMTCT endeavours. The Ministry of Health and Social Services in general might be able to achieve the Millennium Development Goal number 6, that of combating HIV.

1.7 DEFINITIONS OF CONCEPTS

The concepts to define are derived from the title "FACTORS INFLUENCING MALE INVOLVEMENT IN THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV IN THE OSHAKATI DISTRICT, OSHANA REGION. It also includes the main concepts in this study.

1.7.1 ANTENATAL CARE

Matongo, Hang'andua, Nzala & Malebe (2014) define antenatal care as the clinical assessment of a mother and foetus during pregnancy, for the purpose of obtaining the best possible outcome for the mother and child. It is an effort to maintain maternal, physical and mental wellbeing, to prevent preterm delivery and to

determine the HIV status of the mother-to-be. ANC is also an effort to anticipate difficulties and complications at delivery, to ensure the birth of a live healthy infant and to assist the couple in preparation for parenting. Antenatal care traditionally involves a number of routine visits for assessment, on a regular basis throughout the pregnancy. In this study, ANC is applied to services offered to the pregnant woman for which she needs support from her male partner, during the course of pregnancy.

1.7.2 Attitude

According to the Concise Oxford English Dictionary (2011), attitude is the way one thinks and feels towards someone or something. Gerrig, Zimbardo, Campbell, Cumming, & Wilkes (2012) defined attitude as the learned, stable tendency to respond to people, concepts, and events in an evaluative way. In this study, attitude is applied to the way a male partner of a pregnant woman thinks and feels (favourable or unfavourable) towards the prevention of mother-to-child transmission of HIV programme.

1.7.3 Beliefs

Beliefs are defined as hypothetical constructs that represent a person's like or dislike for anything. They are said to be judgments, ranging from positive to negative or ambivalent, made on the 'attitude object' such as person, place, task, event, skill, etc. (Gerrig *et al.*, 2013). In this study, beliefs are used to describe specific statements that people define to be true and these were thought to be both deterrents to and supportive of male involvement.

1.7.4 Male involvement

Male involvement in PMTCT is a process through which males participate and help their spouses to participate in matters that include decision making and providing resources for seeking PMTCT services (UNAIDS 2011). In this study, male involvement in the PMTCT means including men in PMTCT (including voluntary counselling and testing) and involving them in all phases of ANC.

1.7.5 Male Partners

According to Drasiku (2010), a male partner is a person of the opposite sex with whom one has a sexual relationship. In this study, male partner refers to a biological male who is married to and / or a sexual partner of a woman who is pregnant.

1.7.6 Mother-to-child transmission

Mother-to-child transmission is defined as a vertical transmission of HIV infection from an HIV-positive pregnant woman to her infant. This can occur during pregnancy (intra-uterine), during delivery (intra-partum) or afterwards (post-partum) during breastfeeding (MoHSS, 2010).

1.7.7 Prevention of mother-to-child transmission

The prevention of mother-to-child transmission of HIV programme is defined as interventions that are aimed at reducing the transmission of HIV infection from mother to child during pregnancy, delivery and in the post-natal period. These

interventions include primary prevention of HIV infection in women, HIV counselling and testing for pregnant women and their partners, provision of anti-retroviral drugs (to mother, partner and child), counselling, and adoption of safe infant feeding methods, as well as provision of psychological support.

1.8 SUMMARY

This chapter introduces the concept of mother-to-child transmission of HIV. It provides the background information concerning low male involvement in PMTCT services in the health district under study. A statement of the research problem, purpose, significance of the study, as well as operational definition are presented.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter covers the literature review in relation to this study in terms of types, source, theme and content. A literature review is a compilation of resources that lay the foundations or groundwork for a study (Fulton & Krainovich-Miller, 2010). It directs the argument about the need for a new study, the research methods and the conceptual or theoretical framework (Polit & Beck, 2010). It also directs the planning and execution of a study (Brink, Van der Walt, Van Rensburg, 2012). In line with this, a preliminary search of literature that covers both the primary and secondary sources, was carried out to develop a more feasible research problem and research methodology, and to write both the research proposal and the report. The literature was in various formats, including journals, books, guidelines, reports, dissertations and conference proceedings that are findings from previous studies done to determine factors influencing male involvement in the PMTCT in various countries in Africa. These sources were then used in investigating the research topic, developing the study design and methods, and formulating the framework of the study.

2.2 MOTHER-TO-CHILD TRANSMISSION OF HIV

Mother-to-child transmission of HIV is the predominant mode through which children acquire HIV, contributing towards infant morbidity and mortality. It is the largest source of HIV infection in children below the age of 15 years globally, affecting approximately 380 000 infants per year. This accounts for more than 10% of all new HIV infections worldwide (UNAIDS, 2011). MTCT occurs during pregnancy, at the time of labour and delivery or after birth while breastfeeding the infant. In the absence of any interventions for prevention, the HIV transmission rate from infected mothers to their babies is estimated to be between 15 and 30%, but could be as high as 45% depending on duration of breastfeeding. Once a child is infected, effective antiretroviral treatment is required otherwise, half of these children would die before their second birthday (MoHSS, 2010).

With effective PMTCT interventions, including opt-in HIV counselling and testing, anti-retroviral treatment for both partners and counselling on options for safer infant feeding practices, the risk of MTCT can be reduced to less than 2% (MoHSS, 2010/11).

In high-income countries, MTCT of HIV has been decreased to about 1% through preventive measures, including effective voluntary or routine counselling and testing for HIV, antiretroviral therapy (ART) and the use of safe, affordable and accessible breast milk substitutes. While this fact signals the effectiveness of efforts to halt new infections, the reality in poor resource countries is different, as the coverage of

women and children with PMTCT interventions remains unacceptably low (Tudor-Car, Van-Velthoven, Brusamento, Car, Elmoniry, Majeed, Atun, (2011).

2.3 PMTCT STRATEGY

The PMTCT is one of the main strategies to combat HIV globally. The implementation framework for the elimination of new HIV infections among children and keeping their mothers alive is based on a broader four-pronged strategy:

- Primary prevention of HIV infection in parents-to-be
- Prevention of unintended pregnancies in HIV-infected women
- Prevention of HIV transmission from HIV-infected women to their infants
- Provision of comprehensive care to mothers living with HIV, their children and families

The PMTCT strategy provides the foundation from which national plans were developed and implemented. It encompasses a range of HIV prevention and treatment measures for both partners; as well as with essential maternal, infant and child health services, as an integral part of countries' efforts to achieve Millennium Development Goals (MDGs) 4, 5 and 6: that of combating HIV (MoHSS, 2010).

The prevention of HIV transmission from HIV-infected women to their infants is considered a key PMTCT intervention. During pregnancy, the following are considered: HIV counselling and testing, initiation of ARVs for MTCT and case management of malaria, sexually transmitted diseases (STDs) and other infections as

early as possible. This phase also makes provision for basic antenatal care services and educates about MTCT and infant feeding options. During labour and delivery, the following factors are considered: delay early rupture of membranes, reduce vaginal examination to a minimum, avoid the use of assisted delivery with forceps and reduce performing episiotomy (MoHSS, 2010).

According to the Family Health International (2012), experience form various PMTCT sites has shown that VCT in PMTCT programmes is a key to successful male involvement, especially when it takes the form of couple counselling. This view is supported by the UNAIDS (2011), which considers that VCT works with couples to be more successful than working with women on their own.

A second intervention that is considered important is the use of ARVs in PMTCT. Giving ARVs to the HIV-infected pregnant women decreases the rate of MTCT by reducing HIV transmission during pregnancy and child birth (Adeleke, 2013).

The third intervention considered important is counselling and support for appropriate infant feeding options. Though important, this intervention is also considered as one of the most demanding and challenging components of a PMTCT programme. Convincing HIV infected women to accept replacement feeding can be difficult due to affordability, lack of clean water, lack of source of energy for sterilising feeding bottles or fear of stigmatization. In addition, HIV counselling and testing for PMTCT increases knowledge of HIV status, identifies HIV-infected pregnant mothers or couples for appropriate infant feeding and promotes safer sex

(especially among discordant couples), thus reducing HIV transmission (Kalembo, Yukai, Zgambo, & Jun, 2011). In developed countries, where comprehensive PMTCT interventions are implemented with good adherence, transmission risk has been reduced from 13-43 % to less than 2 %. In poor resource settings where elective caesarean section and formula feeding are less feasible options, the MTCT rate can be reduced to less than 10% through the use of antiretroviral treatment (Kalembo *et al*., 2011).

2.4 MALE INVOLVEMENT IN PMTCT

Male involvement has been examined in terms of its meaning and importance. From the PMTCT programme perspective, male involvement may mean men supporting choices and rights of the female partners or men doing something about their own reproductive and sexual behaviours as a way of protecting their partners and their babies against HIV. Male involvement increases adherence to and improves outcomes of programmes to prevent mother to child transmission of HIV (Koo, Makin, & Forsyth, 2013). Male involvement can be initiated through an open communication which can help the couple to build equal and safe partnerships. It means providing financial or psycho-social support, i.e. paying for health services, supporting and promoting contraception to avoid unwanted pregnancies within HIV-positive couples and practising safer sex to avoid re-infection and other sexually transmitted infections during pregnancy. It also means participating jointly in antenatal clinic visits and undergoing counselling and HIV testing for better

understanding and promotion of the female partner's adherence to antiretroviral therapy and supporting and promoting safe infant feeding options (Kalembo *et al*., 2011).

2.4.1 Why male involvement?

Literature sources advocate the importance of including men in PMTCT activities as critical to the success of PMTCT programmes and programme uptake. This can make a real difference in improving women's uptake of PMTCT services as they feel supported and secured. Consequently, when men are engaged, they are far more likely to support women at critical points such as contraception to avoid unwanted pregnancies, deciding whether to take an HIV test, returning for test results, taking antiretroviral drugs, and practising safer infant feeding methods (Getu, 2011).

Men are decision-makers in many of the African settings where PMTCT programmes are offered. Without working with men, change would be very difficult or impossible. In addition, risk behaviours change dramatically among couples where partners are aware of their HIV serostatus. With male partner involvement in a PMTCT programme, a couple has a chance to make informed decisions jointly on living positively with HIV, share responsibility for preventing HIV in the unborn child, discuss safer sexual practices and make informed decisions to access care and treatment. Men can play an important role in supporting HIV-positive pregnant women to get to clinics or hospitals where chances of safe delivery are higher and

can also assist HIV-positive pregnant women to choose safe infant feeding methods (Osoti *et al*., 2014).

Men's involvement positively impacts infant feeding practices and mortality. A study by the World Health Organisation (2014) indicates that when men know that their spouses are HIV-positive and involved in the PMTCT project, they play an active role in applying the advice received, particularly related to exclusive breastfeeding and early weaning. The greatest impact of partner participation is revealed in a study in Tanzania on infant feeding practices. The study reports that of those with participating partners who choose exclusive breastfeeding, 64% successfully do not mix feed and stop breastfeeding at 4–6 months compared to 28% among those whose partners do not participate (Akarro, Deonisia, & Sichona, 2011). For those who chose formula feeding, where the partner was involved, 80% adhered to the method compared to 29% where the partner was not involved. In Kenya, male involvement is reported to have an impact on infant health outcomes as it lowers the combined risk of HIV acquisition and infant mortality (Aluisio *et al*, 2011).

It has been observed that there is low male partner involvement in PMTCT services in many sub-Saharan countries where male participation levels in hospital settings were reported to vary between 12.5% and 18.7%. Several factors have been found to be barriers to male involvement. These factors include culture, health system, socio-economic status, education, stigma, and lack of confidentiality (Kalembo *et al.*, 2011).

2.5 CONCEPTUAL FRAMEWORK OF THE STUDY

A conceptual framework may be defined as the end result of bringing together a number of related concepts. It explains or predicts a given event by giving a broader understanding of the phenomenon of interest or simply of a research problem. A framework assists the researcher to organise the study by providing a context in which a research problem is examined and data is gathered and analysed (Brink *et al*., 2012). The health belief model provided a framework for this study. The underlying concept of this model is that health behaviour is determined by individual beliefs and perceptions about a disease and the strategies available to decrease its occurrence. This model was preferred not only because it has been one of the most widely used conceptual frameworks in health behaviour research, but it also offers a framework to conceptualise and measure variables, making it a guiding framework for health behaviour interventions. The model has proved to be effective in explaining and predicting health behaviour. It offers an approach to understanding health-related behaviour and in so doing enables a researcher to determine methods that influence health behaviour and predict change (Glanz, Rimer, & Viswanath, 2010).

Perceived susceptibility to severity, perceived benefits, perceived barriers and perceived self-efficacy serve as the main constructs of the Health Belief Model. Each of these perceptions, individually or in a combination can be used to explain behaviour. The model has been extended to include cues to action. The Health Belief

Model proposes that people make their health decisions based on their perceived susceptibility to disease, their perceived severity of the disease, their perception of benefits versus costs and cues to action (Glanz *et al*., 2010).

The health belief model is illustrated in Figure 2.1.

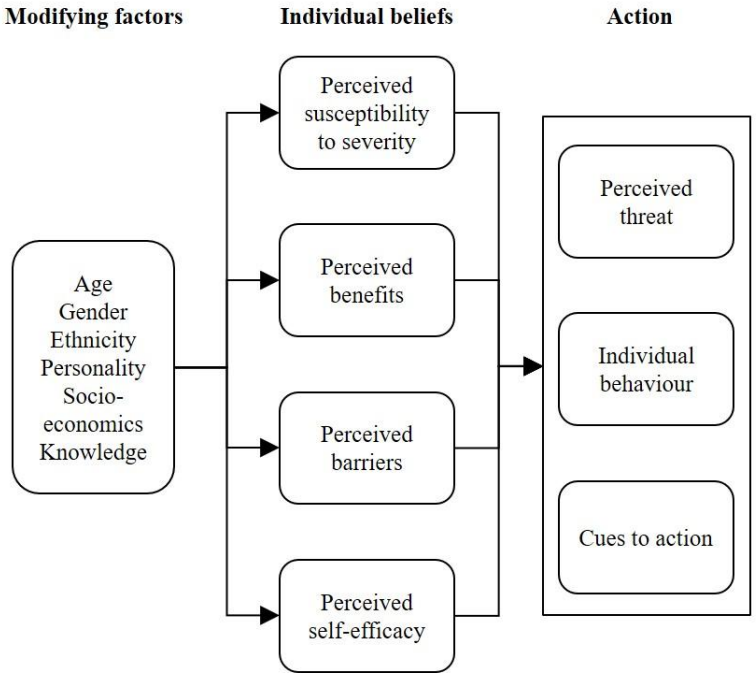

Figure 2.1: The health belief Model (Glanz, Rimer, & Viswanath, 2010)

Perceived susceptibility is applied by defining population(s) at risk and personalising it, based on a person's behaviour. Perceived severity is applied by specifying consequences of risks and conditions, which is HIV infection for both partners and their babies and a high cost of hospitalisation due to HIV-related illnesses or even death. Perceived benefit is applied by defining the action to take, how to take it and when and then clarifying the positive effects to be expected. In this case, men should

decide to accompany their female pregnant partners to the PMTCT clinics, where they will be counselled on HIV risk reduction, both tested for HIV, educated on HIV prevention measures, receive HIV care if tested HIV-positive and counselled on safer infant feeding options. This will prevent MTCT and reduce the number of HIV-infected babies. Perceived barrier is applied by identifying and reducing perceived barriers through reassurance and correction of misinformation. There are cues to action or stimulus that trigger the health-promoting behaviour. There are also strategies to activate readiness, which are applied by promoting awareness and making use of appropriate reminder systems like information, education, and communication (IEC) materials, advertisements in the media or advice from health professionals. Self-efficacy, which is a confidence in one's ability to take action, is applied through demonstrating desired behaviours. In this study, the desired behaviour is high male involvement in PMTCT programmes (Glanz *et al*., 2010).

2.5.1 OVERVIEW OF FACTORS INFLUENCING MALE INVOLVEMENT IN PMTCT

Several factors influencing male involvement in PMTCT were identified through a literature review. These factors include lack of awareness about PMTCT, educational level, males' negative attitude toward PMTCT, fear of testing for HIV, time constraints to attend the antenatal clinics with their spouses, marital problems, stigma, cultural norms, socio-economic factors, health systems, lack of trust and

communication within relationships and lack of incentives. These factors are summarised below.

2.5.2 Cultural factors and male involvement in the PMTCT

All cultures have values that give meaning and provide guidance to humans as they interact with the social world. These values and beliefs influence men and women living in the same society about what are considered appropriate behaviours. A number of cultural factors, which limit men's ability to take an active role in the PMTCT, have been reported. Kalembo *et al.* (2011) found that male involvement is inhibited by cultural norms, dictating that antenatal care services are not males' responsibility but systemically a women's domain. Similar findings have been confirmed by Osman, Unkels, Aliyu, Musa, Adpa & Mathew (2014) in his study on barriers to male involvement in the uptake of PMTCT of HIV in Sub-Saharan Africa, where men are reportedly faced with difficult cultural challenges; a major reason why they shy away from involvement in PMTCT programmes.

Reece (2010) (as cited by Osman *et al*., 2014) reveals the perception of male gender inequality as a barrier to male involvement in PMTCT. Men believe that ANC / PMTCT is culturally a woman's activity and is exclusively for women and that only weak men, controlled by their partners, visit such clinics. This has led to gender-based stigma.

In the Machacos county of Kenya, social and cultural beliefs are reported as factors hindering men from actively participating in these PMTCT programmes. Men have a

perceived superiority complex, which dictates that they would be lowering their dignity and self-esteem by accompanying their wives to health facilities (Ongweny-Kidero, 2014). Similarly, in Kilimanjaro (Tanzania), ANC, pregnancy, and delivery of a baby are regarded as women's affairs (Kalembo *et al*., 2011).

In Mthatha (South Africa), a similar perception that ANC and PMTCT are primarily a woman's affair and found to be one of the obstacles to men's involvement in the programme. A man attending an ANC clinic with his partner is reportedly perceived as weak by society. To avoid being ridiculed, men do not attend ANC clinics (Adeleke, 2013). The same study reports difficulties for men to approach their employers for a day off to accompany their partners to ANC clinics, due to the general societal belief that the programme is meant for women and children only.

Gender roles and a man's identity as the head of the house, rooted in the notion of masculinity, are found to inhibit males in the PMTCT programme. A Zambian study (Matongo, Hang'andua, Nzala, Malebe, 2014; Auvinen, Suominen,Valimaki ,2014, reveals that being heads of the households and commanding respect, men strongly believe that they are the decision-makers in the family. This notion prevents them from attending PMTCT programmes because these services target women, and when the men are to attend these programmes, this would undermine their position and masculinity.

A systematic review to identify barriers and facilitators of male participation in PMTCT programmes of HIV reports the same notion that ANC is a woman's place

and that pregnancy was a woman's affair. As a cultural norm, men should not participate. The review further reports that some cultural beliefs deterred male involvement because they emphasised gender roles in such a way that men are not expected to help women (Morfaw, Mbuagbaw, Thabane, Nana, & Rodrigues, 2013).

2.5.3 Socio-economic factors and male involvement in the PMTCT

Though ANC and PMTCT services are officially free of charge in almost all Sub-Saharan African countries, the indirect cost of transport and the loss of income while waiting for long hours at the clinic are so high that many males are deterred from attending.

In Malawi, men are reported to have no time to attend ANC with their partners since they utilise the time to source money to take care of their families. In South Africa and Uganda; distance, poor roads, undeveloped transport systems, and the cost of getting to the hospital prevented men from being involved in the PMTCT, since most of them have few resources to travel and live a distance from the clinic or a hospital (Nkuoh *et al*., 2010). In Cameroon and in the Machakos county of Kenya (Kalembo *et al.*, 2011; Ongweny-Kidero, 2014), men complain of high ANC and obstetric care bills, overbearing demand of their wives for ANC money, and long waiting hours at the health facilities as obstacles to their participation in ANC / PMTCT. They feel that accompanying their female partners to hospital is a waste of time that would prevent them from attending to their means of a livelihood.

At the African Forum in Uganda, Morfaw *et al.* (2013) presented the findings that traditionally, males are the bread-winners of the household, and any work hours lost in a day are likely to cost the family much-needed income. In Zambia, men share the same sentiment that they cannot afford to spend time at the antenatal clinic when they must earn money for a living (Auvinen *et al.*, 2014). In addition, long distances to health facilities and the higher cost of transporting both partners to the health facility compel male partners to prefer providing transport to their pregnant partners only. In support of the above findings, Said (2014) of Rundu, Namibia, confirms that working long distances from home and being extremely busy at work are some of barriers to male involvement.

Related to socio-economic factors, the time factor seems to be another reason why men are not participating in the PMTCT. In South Africa, Nigeria, and Zambia (Matongo *et al*., 2014; Ademola, Adelekai, Edoni & Olaleye, 2014; Auvinen *et al*., 2014; Adeleke, 2013), waiting time during the provision of the service is cited as a barrier to male involvement in the PMTCT. Men are reported to be unwilling to wait for long hours at the health facility. Men would have loved to attend the clinic with their partners but are too busy to wait while they have jobs to do.

Similar views have also been cited in other studies in Africa (Maman, Moodley & Gloves, 2012; Godana & Atta ,2013) that, the requirements of men's jobs make it difficult to accompany their wives to PMTCT appointments, particularly the perception that an extended amount of time would be consumed at the clinic. In Sub-

Saharan Africa, women's economic vulnerability and dependence on men coupled with traditional male superiority over women increase their vulnerability to HIV by constraining their ability to negotiate the use of a condom and to discuss fidelity with partners. This indicates that if men are involved in the PMTCT, their understanding of HIV prevention will be higher and they will co-operate with their spouses in using condoms and other HIV preventive measures as men always play a leading role in terms of initiating sex. In Malawi, male dominance during sex is also confirmed by Kalembo *et al.* (2011) who report that men are the initiators of sex and women feel powerless to refuse or negotiate safe sex.

2.5.4 Health system factors and male involvement in the PMTCT

In Uganda, men are reportedly forced to wait an entire day for care at antenatal clinics, and are excluded from the sessions where their wives are examined and have to wait outside without any information about what is happening to their pregnant wives. Lack of adequate space at the antenatal clinics coupled with a shortage of health workers and an increase in women attending antenatal care are said to 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*., 2011).

These findings are supported by a study in the Machakos County of Kenya that reveal that men view health clinics as facilities for women, since they mainly offer services to females. Because of the unwelcome set-up of most health facilities for

men, and the negative attitude of health providers, men get discouraged to actively participate in these critical services (Ongweny-Kidero, 2014).

In the same study, ANC services are reportedly not supportive of men in the sense that, their presence at ANC is not recognised and respected by the health professionals and pregnant women attending the clinic. Most of the workers at ANC clinics are female nurses who do not openly share information about reproductive health with men. This is an issue that could have probably also contributed to the disparity of the knowledge among men as they are not well motivated to attend ANC where information on the PMTCT is easily accessed. Study findings in Mbeya City by Mbezi (2010) also suggest that a male health worker should attend to men.

A systematic review has identified barriers and facilitators of male participation in the PMTCT of HIV and ANC services as being male unfriendly, lacking in customer care and attention to male partners, and not trusting the health system confidentiality. These barriers result in men feeling left out of the programme and eventually choosing to stop going to health facilities with their partners (Morfaw et *al*., 2013).

HIV testing policies that have previously focused on the individual, rather than couples, to know their status, are thought to play a role in deterring male involvement in the PMTCT. The presence of VCT centres, therefore, provided the opportunity for male partners to test on their own. The PMTCT programme also utilises women as messengers of the invitation to men and this is viewed as a

deterrent to male involvement because men do not wish to receive instructions from women (Morfaw *et al*., 2013).

Another substantial factor related to PMTCT programming that affect men's involvement in the PMTCT turns out to be health education songs. Men reportedly state that nurses expect them to sing along with their spouses before the PMTCT service providers start their work. This makes them feel embarrassed, uncomfortable, and they are brand the whole thing as childish (Kang'oma, 2011). In Zambia, Matongo *et al.* (2014) report the inappropriate health facility structures that are designed to accommodate females only; something that hinders the male partners from getting involved in the PMTCT programme.

2.5.5 Education and male involvement in the PMTCT

Education is found to be one the factors influencing male involvement in the PMTCT. This has been confirmed in Eastern Uganda, Lilongwe, Zambia, and Nepal (Byamugisha *et al*., 2010; Kang'oma, 2011; Matongo *et.al*. 2014). The findings of all these studies confirm that men who have eight or more years of education are twice as likely to get involved in the PMTCT programme than their counterparts with less education. The educated ones are found to be exposed to technology like the Internet and media that are changing their perceptions positively.

2.5.6 Lack of awareness and knowledge on PMTCT and male involvement

Awareness and knowledge about the PMTCT programme are important for men's involvement. Men need information about the PMTCT and their possible role in these services and how they can access them (Akarro *et al*., 2011). In Lusaka, Zambia (Auvinen *et al*., 2014) lack of knowledge, including misconceptions and wrong knowledge represent a barrier to male participation in the PMTCT of HIV. This is also true in Uganda, where the study reveals that men feel marginalised by the inadequacy of access to information as they receive second-hand information from their wives that they find difficult to believe. They preferred to receive health information from fellow men (Kalembo *et al.*, 2011). In India and South Africa, the Family Health International (2011) confirms that when men are informed and involved at the beginning through couple counselling, they provide a better support to their female partners. As the diffusion of innovation theory states, adoption of the programme by the recipients is influenced by knowledge and awareness (Glanz *et al*., 2010).

In Malawi, in settings where a man moves to a woman's village when married, revelation of HIV-positive diagnosis by his wife leads to a husband being looked upon as the one who brought the infection to his wife's clan and kin. The experience of blame for infecting the family of his in-laws will commonly be so difficult to live with that the husband eventually leaves his wife and children to manage on their

own. This has led to the PMTCT programme being locally labelled "the divorce programme" (Byamugisha *et al*., 2010).

In Sub-Saharan Africa, Brusamento et *al*., (2010) (as cited by Osman, 2012) confirms that lack of awareness about the PMTCT completely ignores its importance to the well-being of families and represents a barrier to male involvement in the PMTCT. The study further explains that most PMTCT awareness efforts have been directed almost exclusively to women to such an extent that men do not have sufficient knowledge or a proper understanding of their roles in the prevention of HIV.

A similar observation has been reported in Lilongwe, where inadequate awareness and sensitisation of the importance about involving men in these programmes play a negative role in ANC and PMTCT services with men not realising their full impact (Kang'oma, 2011).

This is also true in respect of the findings from a study about exploring male attitudes on involvement in ANC in the Machakos County of Kenya, where men are reported to be ignorant about the benefits of attending the services as a couple as most reproductive health awareness programmes target women more than men, which create barriers and increase the number of ignorant men (Ongweny-Kidero, 2014).

A systematic review of barriers to male involvement in the PMTCT indicates poor awareness of the PMTCT programme as a barrier to male involvement that has led to the misconception that one's HIV status is viewed as a confirmation of the status of

the partner, such that men are not aware of antenatal VCT on their own volition. In addition, the community members also reportedly prefer to seek care from traditional healers, traditional birth attendants, and private midwives where HIV testing is not routinely conducted. Thus, male partners are unaware of their need to be involved in HIV / AIDS programmes, such as the PMTCT (Morfaw *et al.*, 2013).

In Rundu, Namibia, lack of knowledge and men being illiterate are reported as reasons for lack of involvement by males. It is further reported that men do not realise the importance of escorting their partners to the clinic and they do not consider their participation as beneficial to them (Said, 2014). In their study on exploring determinants of male involvement in PMTCT programmes in Zambia, Matongo *et al.* (2014) have recorded lack of knowledge about the PMTCT as a barrier to male involvement in the programme. The report further indicates that men would be more involved when they are adequately informed about the existence of the service and have a clear definition of their role in the service.

Mbezi (2013) concurs with the above findings by supporting the fact that, due to knowledge deficit and simply because PMTCT information and services are most likely to be found at ANC rather than somewhere else, 61.6% of males have never accompanied their partners to the ANC services. A study on married men's perceptions and barriers to participation in the PMTCT of HIV care in Nigeria reveals lack of knowledge on the PMTCT by male partners as a barrier to male involvement in the PMTCT. In Cameroon, Nsagha, Halle-Ekane, Nfor, Ngowe &

Nasah (2014) conclude that men have a role to play in the PMTCT and should be given adequate knowledge of the PMTCT for improved outcomes.

In Uganda, men believe that apart from testing for HIV, there are no other benefits for them in ANC. For this reason, they feel that they could test for HIV at VCT centres that provide a more private, user-friendly atmosphere for HIV testing and they prefer to deal with the results prior to disclosing to other people (Getu, 2011).

2.5.7 Attitudes of service providers and male involvement in the PMTCT

In a cross-sectional survey in Uganda, Byamugisha *et al.* (2010) have documented the rudeness and hostility sometimes experienced by men from health providers as an obstacle for male involvement in the PMTCT. According to the report, men describe the aggressive nature of physical examinations of their wives and state that in many instances, they are not allowed to enter the ANC clinics with their wives even if they wanted to. Ditekemena, *et al*. (2012), as cited in Osman *et al.* (2014), also confirm the harsh treatment meted out to men, such that they are discouraged to return or participate in PMTCT activities.

This is also true of the study in Lilongwe, which has found that a negative attitude and perceived rude behaviour of PMTCT service providers towards clients hamper men's participation in the PMTCT. Some nurses are said to ill-treat pregnant women to such an extent that men are reluctant to accompany their pregnant spouses to the hospital as they do not want to see their pregnant women being ill-treated in their

presence (Kang'oma, 2011). In Rundu, Namibia, Said (2014) also reports that Namibian clinics / hospitals are not male friendly during ANC visits.

2.5.8 Male attitudes and their involvement in the PMTCT

A systematic review of barriers to male involvement presented at the African forum in Uganda reveals that men perceive pregnant women to be a burden to them and their demand for accompaniment to seek services is an infringement of their rights and shows a lack of respect for them. The sight of a male partner escorting his wife to the facility or being in the labour suite is stigmatizing and symbolises a man who is henpecked. The presentation further confirms that relationship dynamics (weaker relationships, fidelity within the relationship, domestic violence, fear of divorce, a lifestyle of multiple sexual partners) are identified as barriers to male participation in the PMTCT. Men are reportedly afraid of being seen with either one or another of their sexual partners at the health facility, since being seen with another partner would stir up disgruntlement and accusations of favouritism. Also, when one female partner is known to be HIV infected, this would ruin the man's chances of maintaining several other relationships. It is also reported that some men are in illicit relationships and do not want to expose these relationships by being seen with their partners; especially those men who have married under-aged girls (Morfaw *et al*., 2013).

In addition, the "protective effect" against HIV acquisition of circumcision causes circumcised men to assume that they cannot be infected with HIV and that HIV

testing and related activities are not relevant (Ademola et al., 2014). Furthermore, men are reportedly reluctant to know their HIV status, have a tendency of avoiding the burden of care, and disagree with PMTCT teachings that encourage condom use for couples. The belief that a positive HIV result for either partner implies promiscuity and would lead to a marriage or family breakdown, deters male partner involvement in the PMTCT (Morfaw *et al.,* 2013). In support of male attitudes is Byamugisha *et al*., (2010), who explains that male health-seeking behaviour is a big challenge to some men as they are noted to have a low morale when seeking other health services in Uganda.

2.5.9 Lack of trust, poor communication, fear, stigma and low self esteem among couples and male involvement in the PMTCT

Poor communication about the PMTCT between spouses, stigmatization, fear of violence, and abandonment are reported to contribute to a low turnout of men at antenatal clinics. Studies in Uganda, Malawi, Nigeria, and Cote d'Ivoire (Kalembo *et al.,* 2011; Byamugisha *et al.,* 2010), reveal that women avoid talking about safe sex and HIV / AIDS to their partners because they feel embarrassed when they start the conversation on these issues. Some are afraid of being accused of infidelity by their partners.

At the African Forum in Uganda, Morfaw *et al.* (2013) indicated that fear of a positive HIV test result and possible subsequent stigma from the community are determinants of low male involvement in the PMTCT programme. As a result, males

perceive that they would rather wait for an advanced AIDS disease than submit themselves to a 'premature' HIV test. In the central province of Zambia and in Lilongwe (Matongo *et al*., 2014; Kang'oma, 2011), men's fear of being found HIV-positive during the PMTCT programme is identified as one of the reason men do not take part in the PMTCT. The findings are that men liked to have extra marital sexual relations and some are reported to have been married to more than one wife. They are, therefore, afraid of participating in the PMTCT because they know they would be required to get tested and when they look back at their sexual history, they suspect that they could already be infected with HIV.

Similar findings are reported in Uganda and Rundu (Kalembo *et al.*,2011; Said, 2014) that HIV related stigma, lack of confidentiality, low self-esteem, fear of an HIV test, and shame bar men from seeking VCT. Men are reported to be afraid of being labelled HIV infected, as they would lose their social privileges. They also express fear of meeting familiar people at HIV testing clinics; therefore, they prefer to test at distant clinics where they are not known by the people and staff. In support of the above findings, Getu (2011) commented that the mental torment of testing HIV-positive is too much to bear. As a consequence, men will never go for an HIV test on their own unless other circumstances lead to it.

In Cameroon, men are reported to fear the reactions of their wives to the positive HIV results are were also afraid of stigmatization (Nkuoh *et al.*, 2010). A belief by men that HIV test results of a partner indirectly confirm their own HIV status is of a

particular concern. In South Africa, some men are reportedly adamant that they will never go for an HIV test on their own volition, using their partners' HIV status during ANC as a proxy indication of their own status (Adeleke, 2013).

2.5.10 Lack of incentives and their influence on male involvement in the PMTCT

In Uganda, lack of incentives in the form of gifts and other recreational facilities that could attract more men to use PMTCT services is found to have an influence on their involvement in the PMTCT.

A study reveals that the promotion of first service priority given to women who are accompanied by their partners, is not enough to attract men to participate in the PMTCT services, given the long distance these women and their partners would have travelled from their homes (Kalembo et al., 2010). Furthermore, sometimes it is not fair to expect of the limited service outlets to prioritise couples. Matongo *et al.* (2014) confirm similar findings in Zambia that the absence of perceived benefits from the service by men coupled with their undermining of the importance of PMTCT to the family emerge as reasons for men's unwillingness to participate in PMTCT services.

2.5.11 Employment and its influence on their involvement in the PMTCT

Various occupation categories are found to have an association with male involvement. In Northwest Ethiopia, self-employed men and daily labourers are

reportedly less likely to get involved in the PMTCT than government workers (Amsalu, Tiruneh, & Abajobi, 2013). Consistently, findings from another study in the same country (Ethiopia) indicate that employees at governmental organisations are twice as likely to get involved in the MTCT service than privately employed men. The self-employed men and drivers are 3.1 times more likely to get involved in the PMTCT service than privately employed men (Abuhay, Abebe, & Fentahun, 2014).

In the Chibombo District of the central province of Zambia, employed men are four times more likely to get involved in the PMTCT programmes than their unemployed counterparts (Matongo *et al*., 2014).

2.6 CONCLUSION

There is ample evidence documenting the positive impact that male partner involvement has on the PMTCT services. Male partner involvement improves the adherence of mothers to antiretroviral use, potentially reduces the incidence of HIV infection during pregnancy, improves child survival and encourages safe infant feeding practices in the postnatal period. The level of male partner engagement in the PMTCT in Sub-Saharan Africa is currently low. The extent of male partner involvement has been attributed to various factors such as the health system, socio-economic class, culture, education, lack of knowledge and awareness about the PMTCT, attitudes of male partners towards the PMTCT, attitudes of health service providers, lack of incentives to attract men into the programme, mistrust, poor

communication, fear, stigma and low self-esteem among couples. The PMTCT is one of the main strategies to combat HIV globally and male involvement is crucial for the success of this strategy. Without working with men, change would be very difficult or impossible. With male partner involvement in the PMTCT, a couple has a chance to make informed decisions jointly on living positively with HIV, share responsibility for preventing HIV in the unborn child, discuss safer sexual practices and make informed decisions to access care and treatment.

Given the key role that male partners should play in ensuring a successful mother-to- child transmission prevention, there is a need to design PMTCT programmes in such a way as to incorporate men, not just as facilitators for women, but as active participants in the preventive efforts. Male involvement in the PMTCT is the key to effective implementation of the programme in order to meet the Millennium Development Goals (MDGs), to reduce child mortality and improve maternal health.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter focuses on the research process and presents an overview of the methods used in the study, namely, the research design, study population, eligibility criteria, sampling, research instrument, data collection process, data processing and data analysis while also discussing relevant research ethics. The purpose of this chapter is to provide information on how this study was carried out. According to Brink,Van der Walt, & Van Rensburg (2012), the research methodology section informs the reader of what the researcher did to solve the research problem or to answer the principal research question.

3.2 RESEARCH DESIGN

Holloway & Wheeler (2010) defined a research design as a plan according to which data will be collected and utilised so that the desired information can be obtained. It is the overall structure of a study because its choice determines how the population is sampled, how measurements are collected and how data is analysed. This study employed a quantitative, descriptive, cross-sectional and analytical research design in order to investigate the level of male involvement and factors influencing the

involvement in the PMTCT in the Oshakati District. The motive behind the selection of this type of a design is described below:

3.2.1 Quantitative Design

The quantitative design was the most appropriate research design for this research as the study sought to investigate demographic characteristics of the male partners who were involved or not involved in the PMTCT programme. It enables the researcher to measure the frequency of responses and examine differences between key variables such as educational level, employment, type of relationship or residence.

A quantitative approach allows for the quantification of the factors on which the researcher focuses as it deals with the systematic collection of numerical information. It explains a fact by collecting numerical data that will then be analysed using statistical models. Quantitative methodology is applicable where the aim of the research is to ascertain "how many, what and where"? In seeking these answers, the approach relies on the use of predetermined response by utilizing a standardised data collection instrument, the structured questionnaire (Polit & Beck, 2012). In this study, a structured questionnaire was used during the interview process and numerical data was collected.

3.2.2 Descriptive design

This study, intending to identify factors influencing male involvement in the PMTCT, was best approached using a descriptive design. This type of a research

design is used to describe the characteristics of male partners that exist in a population and to measure the extent of a health problem in a population. The descriptive part of this study also entailed the description of men's knowledge, awareness, beliefs, and attitudes about the PMTCT (De Vos, Strydom, Fouche, 2011).

3.2.3 Cross-sectional design

This design was chosen because it is a perfect tool for analytical epidemiology purposes, easy and inexpensive to conduct and is useful for investigation of exposures that are fixed characteristics such as age or educational level. A researcher records the information that emerges from a specific population at the same time without manipulating the variables.

A large amount of data is collected at one point, making the results more readily available (Brink *et al*., 2012). This design is used to identify and justify problems with current practice, measures all relevant variables objectively at a specific time and makes judgments. It also represents the simplest variety of descriptive epidemiology that may be conducted on representative samples of a population (Brink *et al.,* 2012). Such a design describes the frequency of an attribute (health-related event) in a sample of a population at a given point in time. The cross-sectional study design provides a quick assessment of the strength of the relationship between a factor and a health outcome associated with the specific factor as the relationship exists within a specified population at a particular time. In this study,

male partners were interviewed once to collect information on factors influencing their involvement in the PMTCT programme. This design also allows for the measurement of exposure and effects simultaneously. In this study different variables considered as exposure variables such as age, educational level, occupation, type of relationship, place of residence and occupation were collected at the same time as the outcome variable- male involvement in the PMTCT- and the relationship between the various exposure variables and the outcome variable was assessed.

3.2.4 Analytical design

This approach is used to estimate the population parameters, such as proportions, odds ratios and totals that represent the magnitude of a risk factor and determine the extent of a health problem within a population. It is also used to test a hypothesis related to the degree of association between a causative factor and a health outcome within a defined population. The key feature is the presence of two groups of which one serves as a comparison group (De Vos *et al*., 2011). In this study, analytical design was utilised to determine association between male involvement and different variables as highlighted in the preceding section, using a chi-squared and a p-value to determine association or non-association.

3.3 RESEARCH METHOD

Research methods are the principles and ideas on which the researchers base their procedures and strategies. A research method focuses on the research process, the tools and procedures utilised (Holloway & Wheeler, 2010). Research method also

involves statistical analysis of the data, which in this study employed both univariate and bivariate analysis. Univariate analysis included computation of the frequencies of the variables and quantitative descriptive statistical methods were used to present the data using tables.

3.4 RESEARCH SETTING

The study setting is the physical location of the research, for instance a ward in a hospital, a clinic or the community (Holloway & Wheeler, 2010). This study was conducted at the Oshakati Health Centre and Okaku Clinic, both located in the Oshakati District. The Oshakati District, with an estimated population of 183 120 people (Government of the Republic of Namibia, 2011), is situated in the centre of the northwest, is 5 290 km² and shares borders with the following regions: Oshikoto to the east, Omusati to the south and west Ohangwena to the north. It comprises the three fast-growing towns of Oshakati, Ongwediva, and Ondangwa where many companies and industries have sprung up, influencing people to migrate from rural areas to these urban centres.

3.5 STUDY POPULATION

The population is the entire group of persons or objects that is of interest to the researcher and which meet the criteria which the researcher wishes to investigate (Brink *et al*., 2012). In this study, the population of interest was all male partners whose pregnant female partners were attending antenatal care services in the Oshakati District. A target population is the portion of the study population to which the

researcher has reasonable access (Polit & Beck, 2012), since studying the entire population is rarely possible. It is the group from which the sample is actually selected (De Vos *et al*., 2011). In this study, the target population constituted male partners of pregnant women who attended ANC / PMTCT services in two selected health facilities in the Oshakati District, regardless of their HIV serostatus. The study sample was selected from this target population. Demographic data was also collected from the female partners of the study sample in order to analyse and understand some characteristics in line with the objectives and main outcome of interest of the study, that is, male involvement in the PMTCT programme.

3.5.1 Inclusion criteria

To be included in this study, a participant had to be:

- A male, aged 19 years and older;
- Residing in the Oshakati District; and
- In a sexual relationship with a pregnant woman attending ANC in the Oshakati District.

3.5.2 Exclusion criteria

- Male partners whose female partners were pregnant, but they were non-residents of the Oshakati District;
- Male partners whose female partners are pregnant but they were outside the Oshakati District at the time of the study;

3.6 SAMPLING

Polit and Beck (2012, p.275) define sampling as "the process of selecting cases to represent an entire population so that inferences about the population can be made". Brink *et al*. (2012) defines sampling as a process of selecting a sample from a population in order to obtain information regarding a phenomenon in a way that represents the population of interest. Sampling is the most feasible way of studying large populations, given the resources, time and financial limitations. Researchers take samples to study because it is more economical and practical to do so as they cannot usually identify all the members of the population. Fortunately, this is not necessary as a carefully selected sample can provide representative data, allowing the drawing of inferences about the population. In this study, a non-probability purposive sampling technique was used. Purposive sampling enabled the researcher to search for a particular participant who can explain the phenomenon under study (Holloway & Wheeler, 2010; Brink et al., 2012). Purposive sampling maximises the range of specific information obtained from a particular context, in this case, male involvement in the PMTCT (Brink *et.al*. 2012; Du Plooy-Cilliers, Davis & Bezuidenhout, 2014). The researcher used the antenatal care (ANC) booking register as a sampling frame, to recruit/select male partners for the study from among pregnant women registered for ANC / PMTCT. Each individual from the population had an equal probability of being selected, thus ensuring that the sample would be representative of the population.

3.6 SAMPLE

A sample is a part or fraction of a whole, or a subset of a larger set, selected by the researcher to participate in a research study. It consists of a selected group of the elements or units of analysis from a defined population, providing it has the same characteristics as the population (Brink et al., 2010). In this study, a sample was drawn from male partners whose female partners were attending ANC services at Oshakati Health Centre and Okaku clinic. In this study, the researcher chose only males whose female pregnant partners were attending ANC and excluded those whose female partners were pregnant but were not attending ANC.

3.6.1 Sample size

The sample size refers to the number of targeted study participants about which the researcher wishes to acquire knowledge. The decision regarding sample size involves determining the number of people that must be studied so as to enable the researcher to obtain sufficient accurate answers to permit a decision about recommendations to be made (Polit & Beck, 2012). In this study, the minimum sample size was calculated, based on the assumption that there would be at least a 10% difference in non-involvement in the PMTCT between those with high education (secondary and tertiary) and those with low education (no formal education and primary education). The calculation was done using computer software, *Epi info* version 3.5. as follows:

- Confidence interval 95%;
- Power 80%;
- Ratio of exposed and unexposed = 1:1 (Exposed being the number of respondents with high level of education and non-exposed being the number of respondents with low educational level);
- Estimated frequency of non-involvement among low education group = 90%;
- Estimated frequency of non-involvement among high education group = 80%;
- Difference in proportion = 10%;
- Expected odds ratio 2:3; and
- Estimated total number of respondents = 418.

3.7 THE RESEARCH INSTRUMENT

The research instrument, namely a standardised structured interview questionnaire, through which data was collected, was developed. The questionnaire format and sections used from studies done on male involvement were adapted and modified for the use of this study. Findings from studies on male involvement were also adapted and included into the questionnaire items. The questionnaire consists of open and close ended questions, specific questions on how male partners were involved in different aspects of PMTCT as well as on factors influencing their involvement in PMTCT, negatively or positively. The questionnaire contained four sections: *Section A* captured socio-economic and demographic characteristics, that includes personal

information of the respondents; *Section B* captured knowledge and awareness on the PMTCT / ANC by the respondent*; Section C* captured attitudes and beliefs of the respondents; *Section D* captured level of male involvement in the PMTCT by the respondents.

3.8 PILOT STUDY

A pilot study refers to a preliminary small-scale study that is conducted by the researcher prior to the main study. The purpose of a pilot study is to:

- determine whether the research process and the research instrument would produce the desired data;
- establish the instrument's content validity;
- reduce ambiguity in the wording of the items and ascertain clarity;
- find out how long it takes for the researcher and the subjects to complete the questionnaire;
- determine the weaknesses in the administration and organisation of the questionnaire;
- enable the researcher to make improvements and corrections prior to embarking on the actual data-collection phase; and
- ensure that variables are actually observed and measurable (De Vos *et al*., 2011).

The pilot study is normally conducted using a limited number of subjects from the population at hand. In this study, the researcher conducted a pilot test at the Ou Nick Health Centre in the Oshakati District in February 2015 on ten male partners who were excluded from the main study. The purpose of the study was explained to the respondents. It emerged that some questions were not clear and the researcher had to rephrase or remove them. In the draft questionnaire, Question 2.10 "are pregnant women counselled and tested at ANC / PMTCT facilities" and Question 2.11 "are ANC / PMTCT services offered at the health facilities" may have the same meaning. If pregnant women are counselled and tested for HIV at ANC / PMTCT facilities, it means ANC / PMTCT services are offered at the health facilities. In the revised questionnaire, question 2.11 was removed. In question 3.6 "couples can use condoms to reduce chances of mother to child transmission of HIV", it was not clear when couples should use condoms. The question was rephrased in order to specify that couples should use condoms during pregnancy and during breastfeeding to prevent MTCT. In addition, the respondents took 40 to 45 minutes to complete the questionnaire, which was considered too long for their concentration span and the revised questionnaire was simplified to shorten the time needed to complete it.

3.9 DATA QUALITY

It is the aim of every researcher to produce quality research and to obtain research results that are accurate, consistent, meaningful and that reflect reality (Brink *et al*.,

2012). In this study, the researcher employed measures to ensure validity and reliability of the data collection instrument (De Vos *et al*., 2011).

3.9.1 Validity of the data collection instrument

Validity refers to the ability of an instrument to measure the variable that it is intended to measure (Brink *et al*., 2012). According to De Vos *et al*. (2011), validity is the degree to which an instrument measures what it intends to measure, given the context in which it is applied. It is the extent to which a measurement could be trusted and it is also referred to as the closeness of a measurement towards a true finding. Content validity refers to the degree to which an instrument covers the scope and range of information that is sought, while face-value validity is a subjective determination that an instrument is sufficiently adequate to obtain the desired information. In this study, both the content and the face-value validity were assessed. The researcher established face-value validity by submitting the questionnaire to her supervisors, who evaluated the questions in relation to the objectives of the study. Content-related validity was achieved through an extensive literature search on factors associated with low male involvement in the PMTCT, to ensure that the data collection instrument had all the necessary questions for addressing PMTCT-related issues.

3.9.2 Reliability of the data collection instrument

Brink *et al.* (2012) refers to reliability as the consistency and dependability of a research instrument as regards measuring a variable. It is the degree to which the

instrument measures the attributes it is supposed to be measuring. De Vos *et al.* (2011) relates reliability to the accuracy and consistency of the information obtained in the study. In general, reliability refers to the extent to which the independent administration of the same instrument consistently yields the same results under comparable conditions. In order to ensure the reliability of the data collection instrument, the researcher conducted repeated interviews with ten males during the piloting phase. The use of face-to-face interviews by the researcher alone was also another method utilised to improve reliability in the study.

3.10 DATA COLLECTION

Data collection methods refer to the process of selecting subjects and gathering data from these subjects (Grove, Burns, & Gray, 2012). The actual steps of collecting data are specific to each study and depend on the research design and measurement methods. Data collection is an important process which is critical to the success of a study (Brink *et al.*, 2012). In this study, the data collection focuses on the data collection procedures and techniques in terms of factors influencing male involvement in the PMTCT in the Oshakati District. The data collection instrument, data collection process and data collection techniques utilised in the study are discussed below.

3.10.1 Data collection process

After sampling was done, appointments to conduct individual interviews were made with the respondents through their female partners. An individual interview is an

interaction between the participant and the researcher where a data collector (researcher) questions a participant verbally (Grove *et al*., 2012; Holloway & Wheeler, 2010). It has the potential to generate in-depth information. According to Bordens and Abbott (2010), face-to-face interviewing can be done in any suitable place. In preparation for an interview, a quiet location free from distractions was located (Creswell, 2013). With an individual interview, the researcher develops an insight into a problem at hand (Le May & Holmes, 2012). The researcher agreed with De Vos *et al.* (2011) who pointed out that when interviewing, the researcher must structure the interview setting in a way that promotes the respondents' comfort. Interview procedures often involve the need for the researcher to establish rapport with and gain the cooperation of the interviewee who should feel comfortable and competent enough during the interaction (Silverman, 2011).

Since the researcher was interested in obtaining rich data on factors influencing male involvement in the PMTCT, an interview was considered the most appropriate. Therefore, in this study, the participants were all engaged in face-to-face interviews which allowed a dynamic interaction between the researcher and the participants. The researcher was actively involved in the process of collecting the data in order to obtain an authentic insight into the participants' knowledge, awareness, beliefs, and attitudes about the PMTCT and personally interviewed 115 males whose pregnant female partners were attending ANC at the Oshakati Health Centre and Okaku Clinic. The data was collected for the period of five consecutive months (March to July 2015). The data was collected at the ANC clinics as the respondents

accompanied their female pregnant partners to their routine antenatal care. The male partners who did not accompany their female partners were interviewed either at their residences, at their place of work, or at the site they preferred. Although the estimated sample size was 418, the researcher was only able to reach 115 respondents during the data collection period due to refusals and non-availability of the respondents. Also some of the male partners did not want to be identified with the female partners and opted to stay out of the study. The number of male partners who were interviewed at the health facilities was only five (4.5%) while 110 (95.6%) were interviewed as indicated.

3.11 DATA ENTRY AND ANALYSIS

Coding is the major data analysis activity that takes place after completion of the data collection process. Coding represents the operations in terms of which data are broken down, conceptualised and put back together in new ways (Brink *et al*, 2012). In this study, data entry was done using Microsoft Excel after coding was done. The database for the study was created. The data was imported into the Statistical Package for Social Sciences (SPSS) software package version 22 for analysis. Analysis consisted of an initial univariate analysis whereby frequencies of the various variables were computed and presented as numbers and percentages and the generated data was subsequently presented in tables and explained. Tables were generated showing the percentage distribution of the background variables of all the respondents. Further analysis included bivariate analysis with Pearson chi-squared

statistics and p-value to determine any associations between the dependent variables and the main outcome of interest. For this study the main outcome of interest was male involvement in the PMTCT and the main proxy indicator for this was taken as the male partner accompanying the female partner to an ANC / PMTCT clinic. Demographic variables and other variables of interest were analysed, to examine associations using the Pearson's chi-squared value and the p-value at 95% confidence interval. In order to evaluate the data, the researcher enlisted the assistance of an experienced person in data analysis.

3.12 RESEARCH ETHICS

Research ethics provide guidelines for the responsible conduct of a research, by educating and monitoring the researcher to ensure high ethical standards (Brink *et al*, 2012).

The main ethical issues when conducting research include the voluntary nature of participation, risk reduction to respondents, obtaining informed consent, ensuring confidentiality and privacy of respondents, as well as institutional ethical issues that include scientific integrity and obtaining authority to conduct the research (De Vos *et al*, 2011). The following steps were taken to ensure that ethical issues were adhered to:

3.12.1 Permission

Approval to conduct the study was obtained from the UNAM Postgraduate Studies Committee and permission was granted by the Ministry of Health and Social Services Research Ethical Committee. Permission to conduct a study in the Oshana Region was also granted by the Regional Management Team. In addition, before individuals were recruited as respondents, their written consent was also obtained.

3.12.2 Informed consent

Informed consent that included the identification of the researcher, purpose, objectives, methods, duration of the interview was written, explained, and handed to the respondents. The researcher also disclosed to the respondents the benefits of the study to the society. This interpretation of the consent form was also done in Oshiwambo, the language spoken by the majority of the respondents. The researcher ensured that respondents understood the information provided and voluntarily agreed to participate in the study.

3.12.3 Respect for persons

Respondents were informed of their rights to decide whether or not to participate in a study without the risk of penalty, their right to withdraw from the study any time, to refuse to give information and to ask for clarification about the purpose of the study. Any form of coercion was avoided. In this study, respondents were selected by chance and their participation in the research was completely voluntary. All the

respondents were equally valued and respected as they were approached without any form of stigma or discrimination.

3.12.4 Principle of fair treatment / justice

The fundamental ethical principle of fair treatment is based on the ethical principle of justice which implies being fair and impartial (Grove *et al*., 2012). This principle was ensured in the study because the study subjects were all selected for the reasons directly related to the research, and not because they were readily available or could be easily manipulated (Brink *et al*., 2012). In addition, all research subjects were asked similar questions in order to ensure the principle of justice. Any agreement that the researcher reached with the respondents was also respected. Since data collection was done in an interview form, the researcher tried to be punctual and terminated the process at the agreed time. Where necessary the interview duration was extended with the permission of the respondent.

3.12.5 Anonymity

Anonymity is preserved when a person's acts or statements are revealed without a disclosure of his or her identity (Polit & Beck, 2012). In this study, the subjects were all assured of anonymity with regard to names, contact details, reports, and publications of the study. Le May and Holmes (2012) states that, anonymity is preserved by coding the data in a way that participants cannot be identified in any presentation of the findings. The worth and dignity of the subjects was protected at all times during the study. Instruments and methods used during the interviews were

disclosed to the subjects. Their responses were anonymous and the information was treated with high confidentiality. Respondents could not be identified as their names telephone numbers, and addresses were not mentioned or recorded during the interview. Instead, they were allocated unique identifiers (codes).

3.12.6 Protection from harm

The researcher has an ethical obligation to protect the respondents against any form of harm that could result from their participation in a study (De Vos *at al*., 2011). The researcher should take an active role in promoting good and preventing harm in the world around him / her, as well as in the research studies (Holloway & Wheeler, 2010). In this study, the researcher protected the respondents from discomfort and harm by ensuring that the benefits of the study outweigh the risks (Brink *et al*., 2012). Therefore, in this study the researcher did not conduct any medical or other physical experiments on respondents.

3.12.7 Privacy and confidentiality

All information of the study was kept at a place only accessible by the researcher as this has prevented unauthorised people from having contact with the study information. All respondents in the study were assured that the information and opinions they shared would be treated with strict confidentiality. They were informed that data would only be used for the stated purpose of the research and that no other person would have access to them. Data was stored in a secured place where only the researcher had access.

3.12.8 Deception of respondents

The researcher is guilty of deception when he or she provides information to another person that is not true (De Vos *et al.*, 2011), even if this can sometimes be done unintentionally. To ensure respondents would not be deceived, the researcher provided the respondents with all the information about the research, as well as an official letter from UNAM outlining the research topic of this study. The researcher did not intentionally mislead respondents either by withholding information or giving incorrect information that influenced them to participate in the study. No false promises were made to anyone in the selected study sample.

3.13 SUMMARY

This chapter discussed the research methodology used in the study, focusing on the research design, study population, sampling, data collection method, validity and reliability of the data collection instrument, data processing, data analysis and research ethics. This study employed a quantitative, descriptive, cross-sectional, analytical design. The population for the study comprised males whose pregnant partners were attending antenatal care in the Oshakati District of the Oshana Region. The non-probability sampling method was used by utilising purposive random sampling to draw a sample size of 115 male partners. The validity and reliability of the data collection instrument and data collection procedure were ensured through evaluation by the supervisor and a pilot study, as a result of which certain changes and modifications were made. Data was collected through a face-to-face interview,

using a structured questionnaire. The study was conducted by taking ethical issues into consideration. Analysis of the data was carried out using SPSS software, version 22. The findings from the study will be presented in the next chapter.

CHAPTER 4

RESULTS OF THE STUDY

4.1 INTRODUCTION

This chapter presents the research findings and discusses the meanings and implications of the findings. The information required was collected by means of a structured interview questionnaire, which was administered to male partners of the pregnant women attending ANC / PMTCT services in the Oshakati District. It describes the demographic and socio-economic data pertaining to both male and female partners, male partner's knowledge awareness, attitudes and beliefs about the PMTCT programme, as well as factors influencing them in the PMTCT. Proportions, chi-squared statistics and p-values were computed for each variable in order to discover the existence of any possible statistical significance between variables at 0.05 level of significance. For this study, the main outcome of interest was male involvement in the PMTCT and the main proxy indicator for this was taken as the male partner accompanying the female partner to an ANC / PMTCT clinic. The data generated was presented in tables. Data was analysed according to the objectives of the study. The results are presented in the same order as the four sections in the questionnaire, which are: Section A on socio-economic and demographic characteristics of respondents, Section B on knowledge and awareness of the

PMTCT, Section C on attitude and beliefs about the PMTCT and Section D on factors influencing male involvement in the PMTCT.

4.2 DATA COLLECTION AND ANALYSIS

The aim and the objectives of the study were to determine the level of male involvement in the PMTCT programme and to determine factors contributing to poor male involvement in the PMTCT in the Oshakati District. In this study, the population of interest was all male partners whose pregnant female partners were attending antenatal care services in the Oshakati District. The target population consisted of male partners of pregnant women who attended ANC / PMTCT services in two selected health facilities in the Oshakati District, regardless of their HIV serostatus. The minimum sample size was calculated using computer software, *Epi info* version 3.5, to obtain the estimated total number of 418 respondents. The researcher used the ANC booking register as a sampling frame, using a purposive sampling procedure to select / recruit male partners from among pregnant women registered for ANC / PMTCT. A pilot study was conducted prior to the main study, using a limited number of subjects from the population at hand. The purpose of the pilot study was to determine whether the research process and the research instrument would produce the desired data, to establish the instrument's content validity, to reduce ambiguity in the wording of the items, to find out how long it takes to complete the questionnaire and to determine the weaknesses in the administration and organisation of the questionnaire.

Since the researcher conducted individual face-to-face interviews, the entire questionnaire was completed. The questionnaire consisted of four sections: Section A dealt with socio-economic and demographic characteristics, Section B with knowledge and awareness about the PMTCT, Section C with beliefs and attitudes about the PMTCT while Section D dealt with factors influencing male involvement in the PMTCT. Data was analysed using a Statistical Package for Social Sciences (SPSS) software package version 22. All 115 questionnaires were analysed. The analysis consisted of an initial univariate analysis whereby frequencies of the various variables were computed and presented as numbers and percentages. Further analysis included bivariate analysis with Pearson chi-squared statistics and p-value, to determine any associations between the dependent variables and the main outcome of interest. For this study, the main outcome of interest was male involvement in the PMTCT and the main proxy indicator for this was taken as the male partner accompanying the female partner to an ANC / PMTCT clinic.

4.3 RESULTS OF THE STUDY

4.3.1 Section A: Socio-economic and demographic data of the respondents (male and female partners)

Socio-economic and demographic data (Section A) includes age, level of education, type of relationship, employment status, as well as residence of both male and female partners. The results of this study also indicated the distribution and association /

relationship of male involvement in terms of the demographic data. The results are described as follows:

4.3.1.1 Age of male and female partners

The age of partners may be one of the demographic factors associated with male involvement in the PMTCT .It may indicate the level of maturity of individuals. The age of female partners was also considered. Thus, the researcher in this study investigated the variable "age" and data pertaining to age is presented in tables below.

Table 4.1: Age of male and female partners (N = 115)

Age	Male		Female	
	Frequency	Per cent	Frequency	Per cent
Younger than 20 years	1	0.9	48	41.7
20 – 29 years	32	27.8	38	33
30 – 39 years	50	43.5	29	25.2
40 – 49 years	29	25.2	0	0
50 – 59 years	3	2.6	0	0
Total	115	100.0	115	100

From the table above, the study revealed that out of the total number of male respondents of 115, 43.5% (n = 50) were in the 30 to 39 year age group and 0.9% (n = 1), in the group of less than 20 years. Those in the age group between 20-29 years

comprised 27.8% (n = 32), and those in the age group between 40-49 years comprised 25, 2% (n = 29) while those in the age group between 50-59 years were 2.6% (n = 3). The ages of female partners are reflected as follows: out of 115 female partners, 41.7% (n = 48) were below the age of 20 years, 33% (n = 38) in the age group of 20-29 years and 25.2% (n = 29) in the age group of 30 – 39 years. It emerged that female partners were younger than their male partners.

The analytical design of the study showed that the age of male partners was not statistically significant with male involvement in the PMTCT in the Oshakati District generating a p = factor of p = 0.080 as shown in Annexure F. This means male involvement in the PMTCT is not influenced by age. However, the study found a correlation between the age of female partners and male involvement at the 0.01 level (p-value of 0.002) (Annexure F). This could mean that there is a strong relationship between the age of female partners and male involvement as the older women were more likely to have their male partners involved in the PMTCT programme.

4.3.1.2 Level of education

The findings indicated that 73.9% (n = 85) of the male partners had attained a secondary level of education, 20,9% (n = 24) had attained a tertiary level while 1.7% (n = 2) had no formal education. The findings further indicated that all the female partners have undergone education at different levels. Eighty respondents (69.5%) had attained the secondary level, 21.8% (n = 25) had attained tertiary level, and 8.6%

(n = 10) had attained primary level. For both male and their female partners, the majority had at least a secondary level while a good number had tertiary level of education. That meant most of the respondents in the study could easily understand the message of male involvement in the PMTCT programme.

Table 4.2: Education level of male and female partners

Educational level	Male		Female	
	Frequency	Per cent	Frequency	Per cent
No formal education	2	1.7	0	0
Primary education	4	3.5	10	8.6
Secondary education	85	73.9	80	69.6
Tertiary education	24	20.9	25	21.8
Total	115	100.0	115	100

This study found a statistically significant association between the level of education and male involvement in the PMTCT at p = 0.001 (Annexure F). This means that education has an influence on male involvement in the PMTCT. The higher or the better the level of education, the better is the male involvement.

4.3.1.3 Type of relationship between partners

The findings from the study showed that 28.7% (n = 33) were husbands and wives and they lived together, 18.3% (n = 21) were girlfriends and boyfriends living together while 53% (n = 61) were girlfriends and boyfriends not living together. This

means that a high proportion of male partners were not living together with their female partners and this might diminish their chances of being together and accompanying each other to ANC / PMTCT services.

Table 4.3: Type of a relationship

Type of a relationship	Frequency	Per cent
Wife / husband	33	28.7
Girl / boyfriend living together	21	18.3
Girl / boyfriend not living together	61	53.0
Total	115	100.0

Thus, this study found a significant correlation (at the 0.01 level) between the type of relationship and male involvement in the PMTCT ($p = .005$). This means that male involvement is influenced by the type of relationship between partners. The less committed the partners are from one another, the lower the male involvement.

4.3.1.4 Employment status of male and female partners

The findings of this study indicated that 87.8% (n = 101) of the male partners were employed, whereas 12.2% (n = 14) were unemployed. Those that were employed were either employed part-time, 27% (n = 32) or full time 72% (n = 83). Those who were self-employed were 26%, those employed by government were 31.3%, (n = 36) and those employed by private organisations were 27.8% (n = 32). However, measuring employment was difficult because even those male partners who were

only cleaning one's yard, watering one's garden or selling sweets, were regarded as employed. These findings may mean that the employment rate of male partners was high during the study period.

The study further revealed that only 30.4% (n = 35) of female partners were employed at the time of the study, whereas 69,6% (n = 80) were unemployed. This indicated a high unemployment rate among female partners. The implication of this may be that many of the female partners were dependent on the male partners for economic survival.

Table 4.4: Employment status of male and female partners

Employment status	Male		Female	
	Frequency	Per cent	Frequency	Per cent
Yes	101	87.8	35	30.4
No	14	12.2	80	69.6
Total	115	100.0	115	100

The study did not show a statistically significant relationship between employment status of male partners and their involvement in the PMTCT in the Oshakati District (p = 0.157) as indicated in Annexure F. This means that the employment status has not influenced male involvement in the programme.

4.3.1.5 Residence of male and female partners

The study revealed that 16.5% (n = 19) of the male respondents lived in urban areas, 43.5% (n = 50), lived in semi-urban areas, while 40% (n = 46) lived in rural areas. That meant the majority of the respondents in the study lived either in the semi-urban or rural areas, with only a few living in urban areas, where PMTCT information could easily be accessed.

The findings further revealed that 45.1% (n = 52) of the female partners lived in semi-urban areas, while those who lived in urban and rural areas accounted for 28% (n = 32) each. The findings show that most of the respondents, both males and females, lived either in semi-urban or rural areas where it may be a challenge to access PMTCT services compared to those who lived in urban areas.

Table 4.5: Residence of male and female partners

Residence	Male		Female	
	Frequency	Per cent	Frequency	Per cent
Urban	19	16.5	31	26.9
Semi urban	50	43.5	52	45.1
Rural	46	40.0	32	28
Total	115	100.0	115	100

However, the study did not find a statistically significant relationship between the place of residence and male involvement in the PMTCT in the Oshakati District (p =

0.212). This means that male involvement is not influenced by the residential areas of the respondents.

In general, the study has shown that male involvement in the PMTCT may be influenced by some demographic factors. Although there was no evidence of influence due to age, such evidence was available when assessing the influence of education and the type of a relationship on men's participation in the PMTCT.

4.3.2 Objective 1: The level of male involvement in the PMTCT programme

The level of involvement was assessed in terms of knowledge and awareness of the PMTCT (Section B) and attitude and beliefs of the respondents (Section C).

4.3.2.1 Section B: Knowledge and awareness of the PMTCT

This focuses on five aspects namely, a woman can be infected with HIV while pregnant; an HIV infected woman can transmit the HIV virus to her unborn baby while pregnant; an HIV infected woman can transmit the HIV virus to her baby during delivery; an HIV infected woman can transmit the HIV virus to her baby during breastfeeding and respondents have heard about the PMTCT programme.

Table 4.6: Responses on knowledge and awareness of the PMTCT

Statement	Response	Frequency	Per cent
A woman can be infected with HIV while pregnant	Yes	111	96.5
	No	4	3.5

Statement	Response	Frequency	Per cent
	Do not know	0	0
An HIV infected woman can transmit the HIV virus to her unborn baby while pregnant.	Yes	73	63.5
	No	35	30.4
	Do not know	7	6.1
An HIV infected woman can transmit the HIV virus to her baby during delivery	Yes	108	93.9
	No	1	0.9
	Do not know	6	5.2
An HIV infected woman can transmit the HIV virus to her unborn baby during breastfeeding	Yes	102	88.7
	No	1	0.9
	Know	12	10.4
Have you heard about the PMTCT programme?	Yes	22	19.1
	No	93	80.9

The findings revealed that 96,5% (n = 111) had knowledge that a woman can be infected with HIV while pregnant as compared to 3.5% (n = 4) who had no knowledge. This means that the majority of the male partners have knowledge that a woman can be infected with HIV while pregnant.

The findings further indicated that 63.5% (73) had knowledge, 30.4% (n = 35) did not have knowledge, while 6.1% (n = 7) did not know that an HIV-positive pregnant woman can transmit the HIV virus to her unborn baby during pregnancy. This means by not being aware, male partners may not feel the need to take precautionary measures against HIV infection and mother-to-child transmission of HIV.

It appears that the majority of the respondents (63.5%) were aware that the unborn baby can be infected with HIV before birth, and only 22.6% mentioned that this could happen if the partners engaged in unprotected sex. By being unaware of the HIV transmission during pregnancy, the male partner may also not practise safe sex with his female partner, who in turn may infect the unborn child with HIV.

The study tried to find out if the male partners had knowledge that an HIV-positive pregnant woman can transmit the HIV virus to the baby during delivery. The findings were that 93.9% (n = 108) were aware that babies can get infected with HIV at birth. 0.9% (n = 1) responded that HIV is not transmitted during delivery while 5.2 % (n = 6) did not know that the HIV-infected pregnant woman can transmit the HIV virus to her baby during delivery. This shows a high level of awareness among the male partners that an HIV-infected pregnant woman can transmit the infection to her baby during delivery.

The study revealed that 88.7% (n = 102) knew that an HIV infected woman can transmit the HIV virus to the baby during breastfeeding, 0.9% (n = 1) said that HIV is not transmitted during breastfeeding while 10.4% (n = 12) had no knowledge that an HIV-positive pregnant woman can transmit the HIV virus to her baby during breastfeeding. This shows a high level of awareness by the male partners that a baby can become infected during breastfeeding by an HIV-positive mother. However, a significant proportion of the respondents do not seem to know that babies can become infected during breastfeeding by the HIV-positive mother. The implication

of not knowing that HIV can be transmitted to the child during breastfeeding means that the male partner may not practise safer sex or support his female partner to adhere to safe infant feeding options to prevent HIV infection.

The study revealed that only 19.1% (n = 22) of the respondents have heard about the PMTCT programme, compared to 80.9% (n = 93) who have not heard about it. Among the 22 respondents who have heard about it, 41.9 % (n = 9) could not remember what it entails since it was long time since they heard about it. This means that if the male partners do not have knowledge about the PMTCT, then their involvement may also be limited.

However, when the data was subjected to a test of significance. This may mean that knowledge and awareness about the PMTCT have not influenced them to get involved in the PMTCT.

4.3.2.2 Section C: Beliefs and attitudes about the PMTCT

This section focuses on seven aspects namely, a man should accompany his pregnant partner to the PMTCT / ANC clinic; a man and his partner should both undergo HIV testing at the PMTCT site; the HIV status of a female partner indirectly confirms the HIV status of a male partner; ANC / PMTCT services are for women and children only; if a pregnant woman has tested HIV-positive, it is a sign of being unfaithful to her partner and that a women can be divorced if found HIV-positive.

Table 4.7: Responses on the beliefs and attitudes about the PMTCT

Statement	Response	Frequency	Per cent
A man should accompany his pregnant partner to the PMTCT / ANC clinic	Agreed	6	5.2
	Undecided	20	17.4
	Disagreed	89	77.4
A man and his partner should both undergo HIV testing at the PMTCT site	Agreed	80	69.5
	Undecided	4	3.5
	Disagreed	13	11.3
The HIV status of a female partner indirectly confirms the HIV status of a male partner	Agreed	106	92.2
	Undecided	1	0.8
	Disagreed	8	7
ANC / PMTCT services are for women and children only	Agreed	38	33
	Undecided	5	4.3
	Disagreed	72	62.6
If a pregnant woman has tested HIV-positive, it is a sign that she has not been faithful to her partner	Agreed	54	47
	Undecided	19	16.5
	Disagreed	42	36.5
A woman should be divorced if found HIV -positive	Agreed	63	54.8
	Undecided	26	22.6
	Disagreed	26	22.6

The study findings established that 6% (n = 2) agreed, 17.3% (n = 20) could neither agree nor disagree while, 77.4% (n = 89) disagreed, that a man should accompany his

female partner to the ANC / PMTCT clinic. The data indicates a high level of disagreement and indecision about the fact that a man should accompany his partner to the ANC / PMTCT clinic. This level of disagreement does not support efforts to strengthen male involvement in the PMTCT and may require innovative strategies to overcome the reluctance.

The study further indicated that 11.3% (n = 13) disagreed, 3.5% (n = 4) could neither agree nor disagree and 69.5% (n = 80) agreed that they should both undergo HIV testing at the PMTCT site. This means that the majority of the male partners do subscribe to the idea of couple counselling and testing at the PMTCT sites .On the question of whether the respondents believed that ANC / PMTCT services are for women and children only, the findings established that 32% (n = 38) agreed, 62.6% (n = 72) disagreed and 4.3% (n = 5) could neither agree nor disagree with the statement. The implication of this belief is that male partners will not be able to attend ANC / PMTCT services, since they believe that it is solely a women's and children's arena. Failure to visit the ANC / PMTCT clinic means men will not be able to get tested for HIV, let alone taking part in other PMTCT activities, such as using preventive measures to reduce HIV risk or assisting and supporting the female partner to adhere to safer infant feeding options.

Whether it is believed to be a sign of being unfaithful to her partner if the women tested HIV-positive, the study found that 47% (n = 54) agreed, 16.5% (n = 19) could neither agree nor disagree while 36.5% (n = 42) disagreed with the statement. The

implication of this belief is that it creates feelings of distrust among families that prompt partners to blame one another for the HIV infection.

Another finding revealed that 92.2% (n = 73) agreed, 7% (n = 8) disagreed while 0.8% (n = 1) did neither agree nor disagree that the HIV testing result of the female partner indirectly confirms their own HIV status. A high percentage of male partners have a belief that their female partner's HIV testing is a proxy indicator of theirs.

It appears that the respondents had a belief that the pregnant women should be divorced if found HIV-positive. The findings established that 54.8% (n = 63) agreed, 26% (n = 22.6) could neither agree nor disagree, while 22.6% (n = 26) disagreed with the statement. The implication of this belief is that among those who agreed, it may create a tendency to blame and cause chaos among families, to the point of taking decisions to divorce one another. In this case, women will carry the blame. The majority of the respondents agreed with the notion.

When the data was subjected to a test of significance, a significant association was found between male involvement and the following variables: that the HIV status of a female partner indirectly confirms the HIV status of a male with male involvement (p = .004), that a man and his female partner should both undergo HIV testing at the PMTCT site (p = 030); that when a pregnant woman has tested HIV-positive, it is a sign she has been unfaithful to her partner (p = .000) and that a woman should be divorced if tested HIV-positive (p = .000). The significance of these variables is reflected in Annexure F.

4.3.3 Objective 2: To determine factors influencing male involvement in the PMTCT

4.3.3.1 Section D: Factors influencing male involvement in the PMTCT

The research sought from the respondents the reasons for their non-involvement in the PMTCT programme. The reasons provided are summarised in five main themes (Table 4.8):

Table 4.8: Responses on the reason for poor male involvement in the PMTCT

Statement	Frequency	Per cent
She is not sick, therefore there is no need to accompany her to the ANC / PMTCT clinic (Lack of information)	8	6.9
We are not staying together, where will I say I am going? What will my parents or the society say? (Culture)	12	10.4
I am afraid of the HIV test (Fear)	5	4.3
The ANC / PMTCT clinic is full and there are delays (Health system factor)	2	1.7
ANC is not for men (Culture)	8	6.9
I was not informed that I should go to ANC / PMTCT (Lack of information)	80	69.5
Not sure if the pregnancy is mine (Lack of trust)	5	4.3
I am a married man with my wife and children, she is just a mistress; the people will blame me if they see me in the company of the other women (Attitude)	2	1.7

The study found that 6.9% (n = 8) of the respondents felt that as long as the female partner is not sick, there is no need to accompany her to the clinic. This signals lack of understanding about the PMTCT. The other finding was that 10.4% (n = 12) felt since they were not staying together, it was difficult to inform the parents of the intention to accompany the partner to the clinic. They also felt that even the society would not approve of such behaviour. This may imply that the society is still living in an outdated era that may not facilitate HIV prevention. Fear of an HIV test was also expressed as one of the reasons for poor male involvement by 4.3% (n =5), while 1.7% (n = 2) said there were delays and the clinic was always full. These findings may mean that men did not weight the risk between HIV infection and being afraid of an HIV test and being impatient to wait for the service. The study also found that 6.9% (n = 8) of the respondents did not accompany their partners because they felt that ANC services are not for men as men do not carry pregnancies. This may mean that males were still rooted in outdated culture that needs to be changed.

However, the majority of the respondents (69.5%) expressed lack of information about PMTCT services as the reason for their poor involvement. This may mean that if male partners do not have information about the PMTCT, they may not know their role in the programme, and so are not likely to get involved. Surprisingly, 4.3% (n = 5) said they did not know if they were the fathers of the pregnancies, since they were not married to these pregnant ladies, while 1.7% (n = 2) stated their poor involvement to be caused by the fact that they cannot accompany a “mistress” as they have their wives and children at home. This may mean female partners who are

impregnated by married men have to cope with their pregnancies alone, including MTCT if tested HIV-positive.

4.4 SUMMARY

A descriptive, cross-sectional study about factors influencing male involvement in the PMTCT was conducted among 115 male partners of pregnant women attending ANC / PMTCT services in the Oshakati District of the Oshana Region in Namibia. The aim of the study was to identify factors influencing male involvement in the PMTCT programme in the Oshakati District. The socio-economic and demographic data, knowledge, awareness, attitudes, and beliefs about the PMTCT, as well as factors influencing male involvement in the PMTCT were assessed. The socio-demographic and economic data of female partners was also assessed. The data was collected by administering a structured questionnaire to the respondents.

The findings showed that all the male respondents were partners aged between 19 and 59 years and lived in both urban (28%), semi urban (45.2%) and rural areas (28%). The majority (73.9%) reported to have received secondary education while 0.8% had not received any formal education at all. The majority of male respondents were employed with only 12% who reported being unemployed while the employed female partners were only 34.4%. The main outcome of interest was male involvement in the PMTCT and the main proxy indicator for this was taken as the male partner accompanying the female partner to an ANC / PMTCT clinic.

The results show that only 11.3% of the male partners were involved while 87.8% were not involved in the PMTCT programme. Of the 115 male partners, 80.9% were not aware of the PMTCT programmes. The bivariate analysis revealed that various factors were associated with male involvement in the PMTCT in the Oshakati District; namely education level, type of relationship, attitudes, and beliefs about the PMTCT. Factors such as the age of the male partner, employment status, residence, knowledge, and awareness did not seem to play a significant role in the male partners being involved in PMTCT services. The next chapter will discuss, draw conclusions and make recommendations emanating from the study.

CHAPTER 5

DISCUSSION, CONCLUSION, LIMITATION AND RECOMMENDATIONS OF THE STUDY

5.1 INTRODUCTION

This chapter focuses on discussing the research findings and the results presented in Chapter 4. The discussion provides an in-depth analysis how the study findings are related to the research objectives and the comparison of the research findings with the existing literature. This chapter incorporates the conclusions regarding the research findings, the realisation of the research objectives and study recommendations, as well as any limitations identified during the study. The purpose of the study was to determine factors associated with low male involvement in the prevention of mother-to-child transmission of HIV in the Oshakati District of the Oshana Region. The researcher conducted interviews with the 115 male partners of female pregnant women attending ANC / PMTCT services in the Oshakati District.

The objectives of the study were to determine the level of male involvement in the PMTCT programme and to determine factors influencing male involvement in the PMTCT in the Oshakati District.

5.1.1 Section A: Demographic and socio-economic factors and male involvement in the PMTCT programme

The age range was between 19 to 59 years for males and between 18 to 39 years for females. Respondents had different levels of education that included primary, secondary and tertiary. However, among the male respondents, some had no formal education. Most of the male respondents were employed while for female partners, implying that economically, most of the females were dependant on their male partners

The majority of the respondents were not living together with their partners and only few were living together with their partners who were their wives. Furthermore, the majority were living in semi-urban areas. For this study, the main outcome of interest was male involvement in the PMTCT and the proxy indicator for this was taken as the male partner accompanying the female partner to the ANC / PMTCT clinic.

From the study, age of female partners, educational level and type of a relationship were found to have an association with male involvement. These study findings are in agreement with findings of other studies conducted in Zambia and Ethiopia that found association between male involvement and age, educational level and type of relationship (Abuhay *et al.*, 2014; Tilahum & Mohammed, 2015). These studies report an association between age and male involvement in the PMTCT in that those who are in the age range of 36–55 were almost two times more likely to get involved in the PMTCT programme than those who are 17–25 years old. This might be due to

a better understanding in older men about the PMTCT than their counterparts. However, this study did not find an association between age of male partners and male involvement, but has found an association between male involvement and age of female partners, possibly related to the context and the culture of the population. It could be that the older female partners were able to convince or persuade their male partners to be involved in the PMTCT programme. Other similar studies done did not assess the association between the age of female partners and male involvement.

The importance of finding an association between the age of female partners and male involvement is that a positive association may suggest that an increase in age has a positive influence on men's willingness to be involved in the PMTCT. The importance of finding an association between educational level and male involvement is that low formal education in men limits their understanding of issues on HIV and AIDS. It may also suggest that an increase in the level of education has a positive influence on men's involvement in the PMTCT. This is in line with the fact that people that are more knowledgeable could take care of HIV infection, as they easily understand both the transmission and prevention methods. The significance of finding an association between the type of relationship and male involvement is that when the partners accompany each other, they have a better chance of communicating to one another on matters pertaining to their lives.

It is interesting to note that this study has not found any association between male involvement and residence, contrary to the studies done in Ethiopia and Zambia

which revealed that residents of rural areas have lower access to all forms of media than their urban counterparts (Tirahum & Mohamed, 2015). Although employment was thought to make it easier for men to get involved in the programme, as they have money to pay for transport fares to ANC / PMTCT facilities, the study did not find an association between male involvement and employment status. This finding is contrary to the studies in the central province of Zambia, South Africa, and Sub-Saharan Africa, which reported that men who were employed were reported to be four times more likely to get involved in the PMTCT programmes than those who were not employed (Matongo *et al*., 2014; Musheke, Ntalasha, Gari, Mckenzie, Bond, Martin-Hilber, Merten, 2013).

Based on the study findings, male partners are less likely to get involved in the PMTCT programmes when:

- they are in a sexual relationship with female partners who are younger than themselves
- they have not attained a high education level
- both male and female partners are living in semi-urban or rural areas or
- they are living apart from their partners.

5.1.2 Objective 1: To determine the level of male involvement in the PMTCT in the Oshakati District

5.1.2.1 Section B: Knowledge and awareness of male partners on the PMTCT

Knowledge and awareness about the PMTCT programme is important for male involvement in the programme as lack of or insufficient knowledge about a health service may hinder an individual from taking effective action. Men need information about the PMTCT and their possible role in these services and how they can access it (Akarro *et al*., 2011). The study established that most of the respondents did not have knowledge about the PMTCT and few did not know that an HIV infected pregnant woman can transmit the HIV virus to her unborn child during pregnancy, contrary to what Matongo *et al*. (2014) found in Uganda. These studies confirmed high knowledge of HIV transmission during pregnancy among the respondents.

As illustrated by Nyondo *et al.* (2014) in the study they conducted in Malawi, this study also established lack of knowledge on HIV transmission from the mother to the child during pregnancy as a contributing factor to poor male involvement in the PMTCT. The study confirmed that the majority did not know how HIV is transmitted from the mother to the baby during pregnancy. This has a negative implication as far as MTCT is concerned. If male partners are not aware that the unborn baby can be infected through unsafe sexual practices, including sexually transmitted infections, they remain naive and will not do anything to prevent MTCT of HIV. In support of

these findings were Mbezi (2010) and Gebru, Kassaw, Ayene, Semene, Assefa, Hailu, (2015).

It appears that most males do not participate in the PMTCT programme because they do not realise their importance due to inadequate knowledge about the programme. The study found that only few male partners who participated in this study knew about the PMTCT programme. These findings correlate with a study conducted in Rundu, north -east Namibia and other studies conducted in other sub-Sahara African countries such as Zambia, Malawi, Kenya, Uganda, Ethiopia and Cameroon (Osman *et al*., 2014; Auvinen *et al*., 2014; Kang'oma, 2011; Ongweny-Kidero, 2014; Morfaw *et al*., 2013; Saidi, 2014; Matongo *et al*., 2014; Nsagha *et al*., 2014; Musheke *et al*.2013; Tirahum & Mohammed, 2015). These studies found that lack of awareness and sensitisation of what the PMTCT is, its importance to the well-being of families, misconceptions and wrong perceptions are some of the reasons for low male involvement in the PMTCT. By not involving men in these programmes, there is a negative attitude towards ANC and PMTCT services, with men not realising their full potential as they remain unaware of their need to be involved in HIV / AIDS programmes, such as the PMTCT. Well-informed men are likely to participate positively in the decision making for the wellbeing of the family, will be more motivated to undergo HIV testing and are more likely to adopt low-risk behaviour and increase mutual support.

5.1.2.2 Section C: Beliefs and attitudes about the PMTCT programme

Beliefs and attitudes are determinant factors in male involvement. Findings from this study revealed that the majority of the respondents did not believe that a man should accompany his pregnant partner to ANC / PMTCT facilities. These findings correlate with what Morfaw *et al*. (2013) presented at the African forum in Uganda, namely that men do not like to accompany their pregnant partners to ANC, since they perceive the partners as a burden and their demand for accompaniment to seek health services as an infringement of their rights and as showing a lack of respect for them. Their study further revealed that weaker relationships, fidelity within the relationship and fear of divorce, were barriers that prevent male partners from accompanying their pregnant women to health facilities. Men were reportedly afraid of being seen with either one or another of their sexual partners at the health facility for fear of being accused of favouritism. It was also presented that some men were in illicit relationships and did not want to expose these relationships by being seen with their partners, especially those men who were married.

This study found that most of the respondents did not believe that a man and his partner should both undergo HIV testing at the PMTCT programme. The respondents reported fear of an HIV test as a stumbling block to their involvement in the PMTCT services. This finding correlate with what Tabana, Doherty, Rubenson, Ekström, and Thorson (2014) have established in rural South Africa . Their study reveals that only

a few men were counselled and tested jointly with their female partners; the rest preferred either not to be tested or to be tested in a distant centre.

In this study, almost all respondents believed that the HIV status of their female partners indirectly confirmed their HIV status. This finding may have indirectly acted as a factor that hindered male involvement in ANC / PMTCT services. This finding concurs with a study conducted in South Africa, Ethiopia and Tanzania (Adeleke, 2013; Gebru *et al.*, 2015; Falnes *et al.*,2011; Goga, Dinh and Jackson, 2012; Koo et al., 2012) which concluded that men had a belief that HIV test results of a partner indirectly confirmed their HIV status. They were reportedly adamant that they would never go for an HIV test themselves, using their partner's HIV status during ANC as a proxy indication of theirs; a barrier that was associated with poor male involvement.

This study also established that some of the respondents believed that ANC / PMTCT services are for women and children only. With such a belief, male partners will be reluctant to go to an ANC/PMTCT clinic. These findings correlated with the findings of studies conducted in Uganda, South Africa, Malawi, Ethiopia and Tanzania (Kalembo *et al*., 2011; Osman *et al*., 2014; Adeleke, 2013; Morfaw *et.al*., 2013; Tirahum & Mohammed, 2015) that found an association between male involvement and a belief that ANC / PMTCT services were for women and children. These studies confirm a strong belief that antenatal care services are

programmatically a woman's domain and exclusively for women and those only weak men, controlled by the partners, visit such clinics.

As Ladur (2011) confirms in his study on factors influencing male involvement in the PMTCT in Cape Town, this study found a similar belief that when a pregnant woman has tested HIV-positive, it is a sign she has been unfaithful to her partner, a belief that was revealed by half of the respondents. This belief may also have played a major role in the limited involvement of male partners in ANC / PMTCT services in this study. It may have also resulted in female partners not informing their partners that they were tested for HIV and what their HIV status results were and what information they had received from heath workers. The findings correlated with studies conducted in Uganda and rural South Africa, Durban (Morfaw *et al.*, 2013; Tabana *et al.*, 2014; Maman *et al.*, 2011), which revealed that learning about each other's HIV-positive status was perceived as a confirmation of infidelity that would lead to a marriage or family breakdown.

The study revealed that half of the respondents believed that a woman should be divorced if tested HIV-positive, a belief that may have motivated them to move away from the relationship, especially those who are not staying together. The findings of this study concur with what Byamugisha *et al*. (2010) found in Malawi, that also found a correlation between HIV and divorce and that the revelation of HIV-positive diagnosis by the wife leads to a family breakdown.

5.1.3 Objective 2: To determine factors influencing male involvement in the PMTCT

The research sought from the respondents the reasons for their non-involvement in the PMTCT programme. Several reasons for non-involvement were given and were summarised into the following six themes: Culture, time, health system factors, fear, attitude, and lack of knowledge about PMTCT.

5.1.3.1 Lack of knowledge about the PMTCT

This knowledge deficit has been suggested to be one of the important factors contributing to low participation of men. This study found that the majority of men had no knowledge of the PMTCT; hence their participation in the PMTCT is low. In fact, some respondents expressed their surprise when they learnt that men are allowed to attend the clinic with their partners. Lack of knowledge was also expressed when they said those who carry pregnancies should go to the ANC clinic and only if the pregnant women were sick, was there a possibility they would accompany them. This is in agreement with studies conducted in Nairobi, Uganda, Tanzania, that found a PMTCT knowledge deficit among men (Adera, Wudu, Yimam, Kidane, Woreta, Molla, 2015; Amsalu *et al*., 2013). These findings are contrary to what Amanuel & Abajobir (2013) found in South Ethiopia that suggest that a good understanding of the PMTCT should help increase male participation in PMTCT programmes. Unfortunately, findings of this study do not link knowledge and understanding of the PMTCT to high participation of men in the PMTCT

programmes. Others felt since they were not living together, it would not be possible to know when the other partner has an appointment at the clinic.

5.1.3.2 Fear of HIV testing

Fear of knowing their HIV status was found to be one of the reasons men do not want to come with their partners for PMTCT programmes. The study established that very few respondents expressed fear of finding out the HIV-positive status and living in fear of death, and abandonment. This study further found that men have extra-marital sexual relations. They were therefore afraid of participating in PMTCT programmes because they knew they would be required to be tested. Men's fear of having an HIV test has been shown to present barriers to male involvement in the PMTCT as found in Zambia, Lilongwe, Malawi, Uganda and Cameroon, Rundu-Namibia (Haile & Brhan,2014; Said, 2014; Morfaw *et al*., 2013; Matongo et al., 2014; Kang'oma, 2011; Kalembo *et al.,* 2011).

5.1.3.3 Time factor

Going to the antenatal clinic to access PMTCT services involves spending long hours at the health facility. Respondents were of the view that they were unwilling to wait for a long period of time, and that this could be one of the reasons they were not participating in PMTCT programmes. These findings concur with what was found in South Africa, Malawi, Uganda, Brazil, Bangladesh and Nigeria: that men are too busy to wait at the clinic for the long procedures that women need to undergo.

(Adeleke, 2013; Kululanga, Sundby, Malata, Chirwa, 2012; Khuoh *et al*., 2010; Kalembo *et al*., 2011; Adelekan, Edoni, & Olayele, 2013).

5.1.3.4 Health system factors

In the study done in rural Uganda, Kabagenyi, Jennings**,** Reid**,** Nalwadda**,** Ntozi, & Atuyambe (2014) found an association between health system and male involvement in the PMTCT. This study revealed that some of the respondents said that antenatal care and PMTCT services were designed mainly for women. They complained of a lack of space in the ANC, that the place is congested and full of women even if one decided to go. These were also the findings from other studies done in South Africa, Kenya, Egypt, Eritrea, Ghana, India, Pakistan and Tanzania (Kalembo *et al*., 2010; Byamugisha *et al*., 2010; Ditekemena *et a*l., 2012; Ladur, 2011) which found the reproductive health system was designed to suit women.

5.1.3.5 Lack of trust in a relationship

Lack of trust seems to be a reason for poor male involvement. Some of the respondents expressed their feelings that they were not sure if the pregnancies were theirs, since they were not married. They do not want to be responsible for something that did not belong to them. This was the same revelation in Ethiopia, Kenya, South Africa, Ethiopia, Malawi (Ditekemena et al., 2012, Ladur, 2011; Abijobir and Zeleke, 2013; Kululanga *et al.,* 2012).

5.1.3.6 Cultural factors

The issue of being seen in the company of a pregnant woman other than your wife in case of a married man seems to go against culture. The male respondents expressed the reality that they were married men, who have wives and children at home. It is thus not acceptable to the society if they accompany "mistresses" to the ANC clinic. This was therefore the reason why they could not get involved. Some said they could not get involved because they are not living together and sometimes parents would not approve as they are already disappointed when their daughter becomes pregnant. Studies in Tanzania, Zambia, Nigeria, South Africa, and Malawi have also identified culture as one of the factors associated with male involvement (Akarro *et al*., 2014; Auvinen *et al*., 2014; Koo *et al*., 2013; Adelekan *et al*., 2013; Kangoma, 2011; Osman *et al*., 2014; Ongweny-Kidero, 2014; Matongo *et al*., 2014).

5.2 CONCLUSIONS

The involvement of male partners in the programme plays a crucial role in the success of a PMTCT programme. The study reveals that factors associated with poor male involvement in the Oshakati District include demographic and economic factors, knowledge and awareness, as well as beliefs and attitudes about the PMTCT programme. Thus, the conclusion may be drawn that, in this study, when the male partners had low educational level, when the partners are not living together, when the male partner has no knowledge about the PMTCT, when they were not provided

with information about the PMTCT and the important role that they have to play in the programme, then they are less likely to be involved in the PMTCT. Negative attitudes and beliefs of the respondents towards the PMTCT were recorded among respondents. This may be attributed to the societal norms and cultural barriers.

The study found an association between male involvement and the beliefs that:

- the HIV status of a female partner indirectly confirms the HIV status of a male;
- a man and his female partner should not both undergo HIV testing at the PMTCT site;
- if a pregnant woman has tested HIV-positive, it is a sign she has been unfaithful to her partner; and
- a woman should be divorced if tested HIV-positive.

However, no statistical association was found between male involvement and the following beliefs:

- that a man should accompany his pregnant women to an ANC / PMTCT clinic; and
- that ANC / PMTCT services are for women and children only

These beliefs are also affected by education. As the educational level of male partners is low, knowledge, awareness and access to information is also limited, such that they are not likely to get involved in the PMTCT. These beliefs are also affected

by culture. It is conventional in many African cultures for a man not to accompany his partner to ANC as pregnancy and child birth are regarded as a woman's affair, which has a negative influence in male involvement in the PMTCT.

5.3 LIMITATION OF THE STUDY

The researcher identified that the findings from this study may have been affected by the fact that respondents were recruited only from two health facilities in the district. Recruiting respondents from other facilities or from the community could have enhanced the richness of the information obtained. Secondly, the information from the female partners of the respondents could be useful for cross-checking the reliability of the information given by their male partners, however the females were not much involved in this study. The refusal by some of the male partners who did not want to be identified with their female partners or who simply refused to participate in the study was also another limitation to the study.

5.4 RECOMMENDATIONS

Several recommendations may be made as a result of this research study. These recommendations are based on the study objectives and are all aimed at improving male involvement in the PMTCT in the Oshakati District, Oshana Region.

5.4.1 Recommendations based on the level of involvement

The problem of HIV / AIDS is much larger than what meets the eye. The programme should be multi-sectoral and everyone should be involved, not only staff from the

hospitals and clinics but also people from all the ministries, community leaders (politicians, teachers and village headmen / women), private agencies and non-governmental organisations. In order to improve the PMTCT outcomes and achieve the target of zero new HIV infections and zero HIV / AIDS related deaths, the researcher wishes to make a recommendation to the policy makers and all stakeholders of the PMTCT and HIV / AIDS programmes. A draft policy should be created that will look at incentivising men who accompany their female partners to an ANC / PMTCT clinic, not only in terms of serving them first as they come, but also giving them gifts like baby hampers and the like. The Ministry of Health and Social Services should consider providing a waiting area for men at ANC / PMTCT clinics so that they have enough time to get educated on the PMTCT and other issues, while waiting for their partners. Appropriate changes should also be made to relevant labour legislations and policies to make provision for men to be allowed time off from work to attend ANC / PMTCT clinics with their partners and the Ministry of Health and Social Services should consider motivating for this need. In addition, the researcher recommends that men should also be involved in policy development stages. Currently, the majority of the policy recommendations are aimed at encouraging women to access PMTCT services while men are left out. Communities are sometimes not involved and consulted when new programmes are being introduced and this often presents some rigidity and sometimes resistance in their uptake. The researcher therefore strongly recommends active involvement of

communities in policy development, especially in relation to the PMTCT and other maternal and child health services.

The research has highlighted the fact that awareness and access to information on the PMTCT remains unacceptably poor. Since the goal of improved accessibility to the PMTCT is also hampered by the inability of male partners to access PMTCT information through other means like the internet, the study recommends that the Oshakati District assigns community health extension workers to all the villages in the district to provide the communities with comprehensive information and communication about the PMTCT in an effort to enhance PMTCT awareness in community members. It is important that males be provided with adequate information about what the PMTCT is, why the PMTCT is crucial and what their roles are. Therefore, providing the public with accurate, simple, consistent, and current information about the PMTCT and HIV through the available channels coupled with a male friendly PMTCT services, warrants priority attention. Print and electronic media, billboards and posters, and opinion / religious leaders are some of the vehicles through which framed information on the PMTCT can reach the community. Community-based volunteers could also be strengthened to bring the PMTCT agenda closer to the community. Promotion messages focusing not only on males' role in the PMTCT but also on the benefits of participation to themselves and the family should reach the community. Information packages should be developed in the local languages. Armed with such information, male partners are likely to make informed decisions about whether or not to participate in the PMTCT. The

primary goal of the PMTCT activities should be to help people to understand what the PMTCT entails and what services are available. It is also recommended that at the district level, health workers should provide comprehensive information about the PMTCT to the communities, particularly men. They should be vigilant to use every available opportunity, by giving information about the PMTCT concurrently when males present at the hospital, health centres or clinics for any other health conditions.

The study further recommends the implementation of interventions to change the negative attitudes and beliefs by men, by making men effective educators and advocators for the PMTCT. One of these interventions is a male champions strategy that aims at increasing male participation through the use of peer education by "male champions" within the community.

Additional posts should be motivated and proposed at the district level, as the current structure is not sufficient to give the required information to the patients. Community health extension workers that were recently trained should be equipped with all the necessary information about the PMTCT in order to access and equip men in the community. Health education aimed at breaking these attitudes and beliefs should also be instituted for men as a possible way to address the underlying gender norms and societal attitudes towards the PMTCT. Men could be brought to realise that it is unacceptable to preserve outdated cultural norms at the risk of losing their lives and endangering infants. If male partners are provided with information on the PMTCT programme, understand and believe its importance, they may be able to decide

whether or not to accompany their female partners and to be counselled and jointly tested for HIV. . The higher the positive beliefs and attitudes among male partners, the more they are likely to get involved in PMTCT services.

A further recommendation is to train more health providers to serve couples, conduct couples counselling and provide male-friendly PMTCT services if necessary. If service providers and the community are not well-informed about the PMTCT or equipped with skills to work with communities, they may not be able to adequately and correctly support clients, especially men. In addition, the study recommends that advocacy on the importance of the PMTCT to community leaders who may influence males' attitudes and beliefs about the PMTCT needs to be carried out in order to ensure that leadership in the Oshakati District accept the principle of the PMTCT and are able to mobilise men to take part. There is a need to identify men and train them in interpersonal communication. These men can then help in deepening other men's understanding on the benefits associated with HIV testing and motivate them to start accessing HTC in general and PMTCT services in particular. Men who have already been to the ANC can be used for this purpose as they are admired by the community and considered loving, caring and responsible husbands.

5.4.2 Recommendations based on factors influencing male involvement

The researcher recommends that the Ministry of Health and Social Services focuses on the planning, implementation and evaluation of client-centered, individualised, culturally appropriate and sustainable information, education, communication /

behaviour change communication (IEC / BCC) services relating to the PMTCT. The PMTCT programme needs to involve the community in the planning and implementation of social and behavioural change activities, aimed at transforming attitudes to improve the PMTCT uptake by men and promoting behaviours that reduce the risk of HIV transmission and promoting family health. There is also a need for community conversation aimed at empowering people at the grass-roots level to engage in open discussions about HIV and to take innovative steps to reverse the spread of epidemic. Participatory communication is important to tackle harmful attitudes and norms from which a programme can inspire strong and relevant responses.

The programme should consider involving clients and opinion-leaders in the monitoring and evaluation exercises through community consultative meetings. The key factors that influence male involvement in the PMTCT include inadequate knowledge and misconceptions about the HIV and PMTCT. There is a need to engage communities in a variety of ways to address these barriers through social and behavioural change communication.

In order to better share the findings of monitoring and evaluation among stakeholders, effective community-based monitoring should be implemented. This participative approach engages the community early on and in all phases of the M&E process, promotes better awareness and appreciation of the expected standards, to assess performance. In order to monitor services, communities need access to timely

information on indicators related to the delivery and use of health care and the health status of the community

Positive attitudes and beliefs by male partners will help them to acknowledge the benefits of the PMTCT, such as decreasing the burden on the household and health system, by reducing the number of HI- infected children and reduce suffering from HIV / AIDS in children and parents. Men will also acknowledge the fact that the PMTCT provides an entry point to early and comprehensive HIV care, including ART therapy for the mother, the partner and the child. In addition, men would be able to understand that the PMTCT promotes behaviour change (i.e. use of dual methods of family planning, improve attendance of antenatal care and infant feeding options) and provides opportunity to plan for the future. Such information may help male partners to make the correct decisions. The PMTCT should be monitored and evaluated from time to time, especially the issues of breaking cultural barriers and understanding the programme.

5.4.3 Recommendations on areas for further research

There is a need to do a comprehensive research on male involvement, looking at different settings to compare disparities in the private and public health facilities. There is also need to do an in-depth assessment of women's experiences when tested HIV-positive at the ANC, as well as to develop strategies to improve male involvement. The study again recommends formative research on the use of incentives to promote male involvement in the PMTCT programme. Another

possible research area could be on the use of religious and social organisations to promote male involvement in the PMTCT programme.

5.5 SUMMARY

This chapter has discussed the research findings in light of the two objectives of the study. In general, it was found that a higher proportion of males does not accompany their partners to ANC / PMTCT clinics. Male participation was also found to have a statistically significant relationship with age of female partner, educational level, type of relationship, knowledge awareness, attitude, and beliefs towards the PMTCT. The chapter also drew conclusions, made recommendations, and presented a possible contribution of the research, with its limitations.

The role of male partners is crucial in scaling up the PMTCT programmes so as to stop new HIV infections among children and improve a full PMTCT service utilisation which is considered as a guarantee to bring the zero new HIV infections of a child into reality.

5.6 CONCLUSION

The importance of male involvement, in a developing country such as Namibia, cannot be overemphasised. The poor male involvement in the PMTCT of 13%, which was documented in this study among male partners in the Oshakati district in the Oshana Region, indicates the need for strategies to be designed to address the situation. The study concluded that male partners are not aware of the PMTCT

programme, hence their knowledge on how HIV is transmitted to the baby during pregnancy, labour and delivery is also limited. Poor male involvement in the PMTCT programme in the Oshakati District is associated with age, education level, type of relationship, lack of knowledge and awareness, as well as negative beliefs and attitudes by male partners about the PMTCT. This study also identified specific areas for intervention and calls for the involvement of other stakeholders, for the successful outcome of the PMTCT programme in the Oshakati District. Men are decision makers in many societies and families in sub-Saharan Africa, they make important decisions that affect the health of the family members positively or negatively. Lack of male involvement implies low uptake of PMTCT interventions and increase in mother-to-child transmission of HIV. Therefore, there is a need for more research studies in Namibia to find innovative strategies that do not only consider male partners as mere supporters of women at PMTCT facilities but rather as active participants. Such strategies should also incorporate ways of changing the mind set of Namibian men of perceiving motherhood and the PMTCT as women's domain but rather as a collective responsibility.

The researcher has learnt that male partners lack knowledge about the PMTCT. Based on the findings, the study provides useful information on male partner's beliefs and attitudes that inhibit their involvement in the PMTCT. This will inform health service planners to design a strategy to increase male involvement in the PMTCT of HIV in the Oshakati District. Academically, the study findings have helped the researcher in designing relevant recommendations for the effective

PMTCT of HIV infection. For the Ministry of Health and Social Services, this study will serve as a useful reference material to provide appropriate strategic interventions to prevent MTCT. However, the researcher feels that further research areas, such as strategies to improve male involvement, disparities between male involvement in public and private sectors, are needed.

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ANNEXURE A: PERMISSION LETTER FROM THE UNIVERSITY OF NAMIBIA POST GRADUATE COMMITTEE TO CONDUCT A RESEARCH STUDY

☎ +264 61; 206 3111
Website: www.unam.na

UNIVERSITY OF NAMIBIA

340 Mandume Ndemufayo Avenue
Private bag 13301
Windhoek
NAMIBIA

Inspiring minds, Shaping the future

RESEARCH PERMISSION LETTER

Date02 July 2014

TO WHOM IT MAY CONCERN

RE: RESEARCH PERMISSION LETTER

1. This letter serves to inform that student: **Karolina Shiyagaya** (Student number: **9001565**) is a registered student in the School of nursing and Public Health at the University of Namibia. Her research proposal was reviewed and successfully met the University of Namibia requirements.
2. The purpose of this letter is to kindly notify you that the student has been granted permission to carry out postgraduate studies research. The School of Post- graduate Studies has approved the research to be carried out by the student for purposes of fulfilling the requirements of the degree being pursued.
3. The proposal adheres to ethical principles.

Thank you so much in advance and many regards.

Yours truly,

Name of Main Supervisor: Dr K Shikongo

Signed: ----------

Dr. C. N.S. Shaimemanya

Signed: ----------

Director: School of Postgraduate Studies
Tel: 2063523
E-mail: cshaimemanya@unam.na

ANNEXURE B: PERMISSION LETTER FROM MINISTRY OF HEALTH AND SOCIAL SERVICES TO CONDUCT A RESEARCH STUDY

9 – 0/0001

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2510
Fax: 061 – 222558
E-mail: eshaama@mhss.na

OFFICE OF THE PERMANENT SECRETARY

Ref: 17/3/3
Enquiries: Ms. E. Shaama

Date: 08 October 2014

Ms. Karolina N. Shiyagaya
Private Bag 5538
Oshakati
Namibia

Dear Ms. Shiyagaya

Re: Factors influencing male involvement in the prevention of mother to child transmission of HIV programme in Oshakati District, Oshana region, Namibia.

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. Kindly be informed that permission to conduct the study has been granted under the following conditions:

3.1 The data to be collected must only be used for completion of your MPH Degree;
3.2 No other data should be collected other than the data stated in the proposal;
3.3 A quarterly report to be submitted to the Ministry's Research Unit;
3.4 Preliminary findings to be submitted upon completion of the study;
3.5 Final report to be submitted upon completion of the study;
3.6 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,

PERMANENT SECRETARY
MINISTRY OF HEALTH AND SOCIAL SERVICES

15 OCT 2014

Andrew Ndishishi (Mr)
Permanent Secretary

"Health for All"

ANNEXURE C: PERMISSION LETTER FROM REGIONAL DIRECTOR OF THE OSHANA REGION

REPUBLIC OF NAMIBIA
Ministry of Health and Social Service
DIRECTORATE: OSHANA REGION

P/Bag 5538
Oshakati
Namibia

Tel:065-2233119
Fax: 065-220303

Enquiries: Ms Leena Nghukufwa

25 November 2014

Ms Karolina N.Shiyagaya
Private Bag 5538
Oshana Region

APPLICATION FOR PERMISSION TO CONDUCT A RESEARCH STUDY

Your letter dated 05 November 2014

Permission to conduct a research study on: **Factors influencing male involvement in the prevention of mother-to-child transmission of HIV programme in Oshakati District in Oshana Region** is hereby granted.

Yours Sincerely

.....
Mr S. Taapopi
Regional Director

2015 -11- 25
OSHANA REGION
REPUBLIC OF NAMIBIA

ANNEXURE D: INFORMED CONSENT

My name is Karolina Shiyagaya, a health professional working for the Ministry of Health and Social Services in the Oshana Region. I am conducting a study on factors influencing male involvement in the prevention of mother to child transmission of HIV programme in the Oshakati District. You have been selected by chance to participate in this study. Although the study may not benefit you directly, it will provide information that might enable medical personnel to identify men's needs in PMTCT and assist them to meet those needs and those of their wives or partners. The study is approved by the training institution (UNAM) where I am studying, as well as by the Ministry of Health and Social Services. It may take you about 20 minutes to respond to the questions. You are free to ask any question about the study if you need more clarification. Your participation in this study is voluntary and you have the right to refuse to participate. You also have the right to withdraw at anytime. The information collected from you will be coded so that it is not linked to your name and your identity will not be revealed at any time in a study. All data will be kept in a secure place and will not be shared with any other person without your permission.

This consent form has been read and explained to me and I voluntary consent to participate in this study

Signature: _____ Date: _____

I have explained this study to the above subject and I have sought his understanding for informed consent

Signature: _____ Date: _____

ANNEXURE E: INTERVIEW QUESTIONNAIRE FOR THE STUDY ON FACTORS INFLUENCING MALE INVOLVEMENT IN THE PMTCT PROGRAMME IN THE OSHAKATI DISTRICT, OSHANA REGION

Section A: Demographic characteristics and economic factors

1.1.1 In which age category do you fall?

1. 19 years and younger ☐
2. 20 to 29 years ☐
3. 30 to 39 years ☐
4. 40 to 49 years ☐
5. 50 to 59 years ☐
6. 60 years and older ☐

1.2 Have you ever attended school? 1. Yes _____2. No_____ If yes, which grade have you completed?

1. No formal education ☐
2. Primary education ☐
3. Secondary education ☐
4. Tertiary education ☐

1.3 Which type of relationship do you have with your current partner?

1. Wife_____
2. Girlfriend (living together) _____
3. Girlfriend (Not living together) _____

1.4 Are you employed? If

1. Yes_____
2. No_____

If Yes,

1. Part time___
2. Full time____

1.5 What is the source of your employment?

1. 1. Employed government? _____
2. 2. Employed private ____

lf employed

3. employed Corporate organisation _____
4. Other _____

1.6 Where do you live?

1. Urban _____

2. Semi-urban _____
3. Rural _____

Section B: Knowledge and awareness of PMTCT

Instructions: Tick one of the appropriate statements reflecting the respondent opinion as follow: Yes, No, or Do not know.

2.1 Is it possible for a woman to acquire HIV when she is pregnant?

1. Yes____ 2. No_____ 3. Do not know_____

2.2 What will happen to her HIV status when a woman who is HIV-positive becomes pregnant?

1. Remains positive ____ 2. Become Negative_____ 3. Do not know _____

2.3 Can a mother who is HIV-positive transmit the HIV virus to her unborn child during pregnancy?

1. Yes____ 2. No_____ 3. Do not know_____

If Yes, how does it happen?

1. Through unprotected sex ☐
2. ☐
3. ☐
4. ☐

2. High viral load
3. When the mother is sick (advanced HIV)
4. When partners have an STI 5. Do not know how

2.4 Can a mother who is HIV-positive transmit the HIV virus to her unborn child during delivery?

1. Yes ____ 2. No ____ 3. Do not know____

If Yes, how does it happen?

1. Through Vaginal delivery ☐
2. Through assisted hospital procedures ☐
3. Prematurity of the baby ☐
4. Do not know how ☐

2.5 Can a mother who is HIV-positive transmit the HIV virus to her unborn child during breastfeeding?

1. Yes ____ 2.No ____ 3. Do not know

If yes, how?

1. Through unprotected sex ☐
2. Sores on the mouth of infant ☐
3. Sores on the breasts of the mother ☐
4. Do not know how ☐

2.6 Is giving antiretroviral medicine to the mother and the child reduce the chance of transmission of HIV from a mother to her child?

1. Yes ____ 2. No ____ 3. Do not know____

2.7 Can delivering the baby by operation reduce the chance of HIV from the mother to the child?

1. Yes ____ 2. No____ 3. Do not know ____

2.8 Have you ever heard about the prevention of mother to child transmission of HIV programme?

1. Yes ____ 2. No ____

If Yes, do you know what it is all about?

1. Partners counselled and tested for HIV together ☐
2. Partners are counselled about feeding options ☐
3. Partners are put on ART treatment ☐
4. Mothers are counselled and tested ☐
5. Mothers are put on treatment ☐
6. Cannot remember ☐

Section C: Attitude and beliefs

Instructions: Circle the appropriate number reflecting the respondents' opinion as follows: 1 = strongly agree (SA), 2 = agree (A), 3 = undecided (U), or 4 = disagree (D), and 5 = strongly disagree (SD).

Item number	Statement	SA	A	U	D	SD
3.1	A pregnant woman can be tested for HIV without the permission from her husband/partner	1	2	3	4	5
3.2	A man should accompany his pregnant wife /partner to PMTCT clinic	1	2	3	4	5
3.3	A man who accompany his pregnant wife /partner to /PMTCT clinic is weak or bewitched	5	4	3	2	1
3.4	It is not necessary for a man to discuss HIV testing during pregnancy with his wife/partner	5	4	3	2	1
3.5	A man and his wife/partner should undergo HIV testing at the PMTCT site together	1	2	3	4	5
3.6	Couples can use condoms to reduce chances of mother to child transmission of HIV	1	2	3	4	5
3.7	ANC/PMTCT services are for women and children only	5	4	3	2	1
3.8	If a pregnant woman has tested HIV-positive, it is as sign that she has been unfaithful to her husband /partner	5	4	3	2	1
3.9	If a male partner has tested HIV-positive, it is as sign that she has been unfaithful to her wife/partner	5	4	3	2	1
3.10	If a pregnant woman is found to be HIV-positive, she should be divorced	5	4	3	2	1

Item number	Statement	SA	A	U	D	SD
3.11	If a pregnant woman if found to be HIV-positive, she needs care and support from her partner because it is both their problem	1	2	3	4	5
3.12	At the ANC / PMTCT clinics, man should only be attended to by male health workers	5	4	3	2	1
3.13	An HIV test result of a pregnant women indirectly confirm the HIV status of her partner	5	4	3	2	1
3.14	Health care workers at ANC / PMTCT clinics do not keep secret about client HIV testing results	5	4	3	2	1

Section D: Level of involvement

4.1 Can you please tell me the reason why you did not accompany your partner to ANC clinic?

4.1.1 Cultural issue _____

4.1.2 Fear _____

4.1.3 Employment _____

4.1.4 Time _____

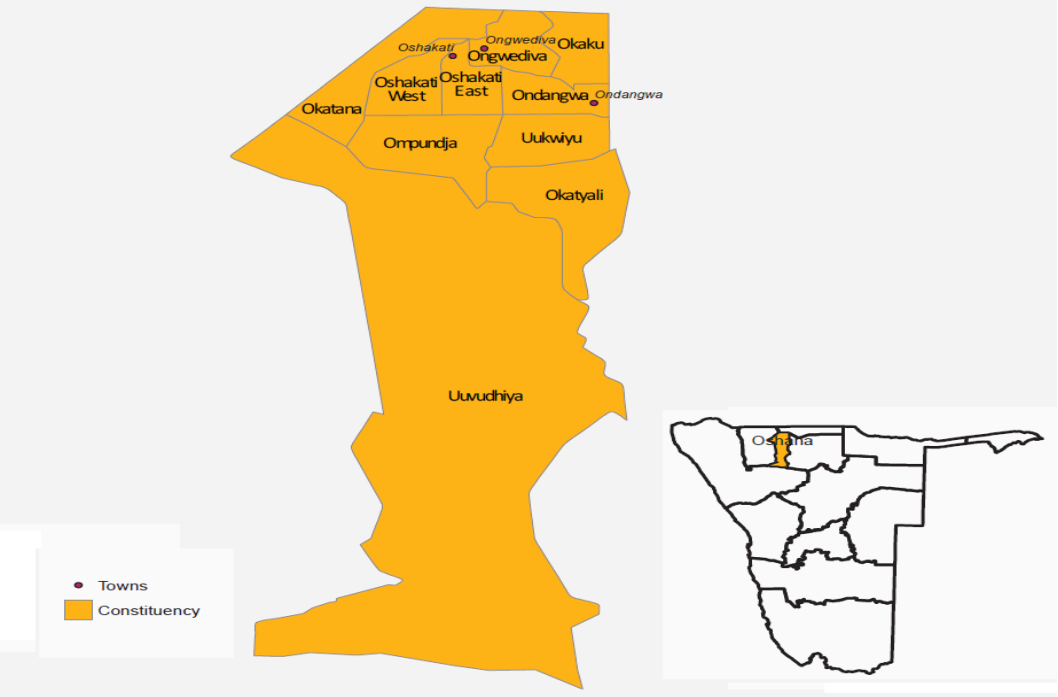
4.1.5 Attitude _____

4.1.6 Lack of knowledge about PMTCT _____

4.1.7 Others (Please specify) _____

Thank you for your time!

ANNEXURE F: A MAP INDICATING A LOCATION OF THE OSHAKATI DISTRICT IN THE OSHANA REGION



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ANNEXURE G: ASSOCIATIONS BETWEEN MALE INVOLVEMENT AND DIFFERENT VARIABLES

Variable	P value	
Age of male respondents	-.164	0.080
Age of female partners	-.282**	0.002
Level of education	-.314**	0.001
Type of relationship	.258**	0.005
Employment status	.133	0.157
Residence	.117	0.212
HIV status of a female partner indirectly confirms the HIV status of a male with male involvement	.269**	0.004
A man and his female partner should undergo HIV testing at the PMTCT site together	.202**	0.030
If a pregnant woman has tested HIV-positive, it is a sign she has been unfaithful to her partner	.369*	0.000
A woman should be divorced if tested HIV-positive	.389*	0.000

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).