

FACTORS CONTRIBUTING TO MOTHER TO CHILD TRANSMISSION (MTCT) OF HIV AT  
SESHEGO ZONE CLINICS, CAPRICORN DISTRICT IN SOUTH AFRICA

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### **Declaration**

I, **Ramashala Raisibe Maria** hereby declare that the mini dissertation titled “**Factors contributing to Mother to Child Transmission (MTCT) of HIV at Seshego Zone clinic, Capricorn district in South Africa**” submitted to the University of Venda, School of Health Sciences, Higher Degrees Committee has not been submitted before for any degree or examination at this or any other university, and that is my own work in design and execution and that all material or sources used have been dully acknowledged.

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## DEDICATION

The study is dedicated to my late parents Lesiba and Ramasela Ramashala who had hope and trust in me and my guardians Mashamba Elvis and Esther who were continuously praying for me.

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## **Abstract**

Mother-to-child transmission of HIV remains the most prevalent source of pediatric HIV infection. The prevalence of HIV is especially high among South African women of reproductive age and transmission of HIV from mothers to children is a significant concern. This study investigated the contributing factors that increase the MTCT of HIV in Seshego Zone Clinics. The study adopted a qualitative, descriptive, exploratory design, wherein eighteen semi structured interviews were conducted among female nurses who were purposively sampled from four clinics in Seshego. Clinics ethical considerations were ensured throughout the study. The collected data were analyzed using Teschs' method of data analysis and presented in themes and subthemes. All measures of trustworthiness of findings were ensured. The study revealed that poor socio economic status, traditional beliefs, religious and lack of knowledge among patients, were major contributory factors to the increase in MTCT of HIV. However, the study indicated that the nurses' knowledge about MTCT and HIV is high. Therefore, the study concluded that the patient related the contributing factors further high prevalence of MTCTC of HIV. The study therefore recommended the community health awareness campaigns be implemented to empower women to cast away their beliefs to promote PMTCT.

**Keywords:** Child, Factors, HIV/AIDS, Mother, Transmission, Clinic

## ACRONYMS

AIDS	:	Acquired Immunodeficiency Syndrome
AMFAR	:	American Foundation for AIDS Research
ANC	:	Antenatal Care
ART	:	Antiretroviral Therapy
ARV	:	Antiretroviral (drug)
AZT	:	Zidovudine
BANC	:	Basic Antenatal Care
CDC	:	Centers for Disease Control and Prevention
CD4	:	Cluster of differential type 4
EBF	:	Exclusive Breast-Feeding
ELISA	:	Enzyme-linked immunosorbent assay
HAART	:	Highly Active Antiretroviral Therapy
HIV	:	Human Immunodeficiency Virus
MDG	:	Millennium Development Goals
MTCT	:	Mother-to-child transmission (of HIV)
NDOH	:	National Department of Health
NNRTI	:	Non-nucleoside reverse transcriptase inhibitors
NVD	:	Normal Vertex Delivery
PCR	:	Polymerase Chain Reaction
PMTCT	:	Prevention mother-to-child transmission of HIV
RNA	:	Ribonucleic acid
RSA	:	Republic of South Africa
Sd-NVP	:	Single-dose Nevirapine
STI	:	Sexually transmitted infection
SA	:	South Africa
SSA	:	Sub-Saharan Africa
WHO	:	World Health Organization

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## CHAPTER 1

### OVERVIEW OF THE STUDY

#### 1.1. Introduction and background

The acquired immune deficiency syndrome (AIDS) epidemic is the greatest challenge to human kind in the 21st century. The Human Immunodeficiency Virus (HIV) is the virus that causes Acquired Immune Deficiency Syndrome. The virus weakens a person's ability to fight infections and cancers. Genetic research indicates that HIV was discovered in USA and it originated in West- Central Africa during the late nineteenth century by the United States Centers for Disease Control and prevention (CDC) in 1981 (Beyene, Mekonnen and Geresu, 2015). Since its discovery AIDS had caused an estimated 36 million deaths worldwide as of 2012 and approximately 35.3million people are living with HIV globally and approximately 16.8million of the latter are women who are still fertile and 3.4million are from low income countries (Sithole and Khunou, 2016).

The recent fact sheet by UNAIDS (2016), has shown that as a result of scaled-up HIV prevention services, there was a 70% decline in the number of new HIV infections among children between 2000 and 2015. Despite this significant progress, the number of children becoming newly infected with HIV remains unacceptably high. About 150 000 [110 000–190 000] children became infected with HIV in 2015, down from 490 000 [430 000–560 000] in 2000 (UNAIDS Fact Sheet, 2016). The risk of a mother living with HIV passing the virus to her child can be reduced to 5% or less if she has access to effective antiretroviral therapy during pregnancy, delivery and breastfeeding. In 2015, 77% [69–86%] of the pregnant women living with HIV had access to medicines to prevent transmission to their infants. Globally, it is estimated that more than 33.3 million people were living with the human immunodeficiency virus and Acquired Immuno Deficiency Syndrome in 2009. Finally over half of them were sexually productive women (UNAIDS, 2010). Mother to child transmission of HIV (MTCT) accounts for about 90% of HIV infection in infants and young children. It has been reported that over 370,000 infants acquire HIV infections globally each year with an estimated 1000 children acquiring HIV every day (UNAIDS, 2016). HIV infections in infants and young children occur during pregnancy, labor and delivery and postnatal through breast feeding. In breastfeeding populations 15-45% of infants born to HIV- infected mothers acquire HIV infection without any intervention (WHO PMTCT Strategic Vision, 2010-2015).

Sub-Saharan Africa (SSA) is highly affected by HIV, with an estimated 22.5 million people living with HIV/AIDS, representing 68% of the global HIV and AIDS burden. Women and girls in SSA are excessively affected by HIV/AIDS, with an estimated 12 million accounting for 76% of all women with HIV and AIDS globally (UNAIDS, 2010). In Tanzania where 1,400,000 of people are living with HIV and AIDS, 730,000 women and 160,000 children below 15 years of age are infected with HIV and AIDS (UNAIDS, 2010) Prevention of mother to child transmission (PMTCT) of HIV is an intervention which provides mothers with counseling, antiretroviral (ARV) drugs and psychological support to help prevent the infants against HIV infection. The intervention is aimed at ensuring that no baby is born with HIV infection by 2015 (UNICEF, 2010). PMTCT services ensure primary prevention of HIV among women of reproductive age; appropriate counseling of HIV infected women to enable decision about their future reproduction, in an attempt to prevent unintended pregnancies; ensuring that pregnant women receive HIV testing and access to ARV drugs for their health and prevention of infection to babies (UNICEF, 2010). PMTCT also provides HIV care, support and treatment to HIV-infected women and families. It is emphasized that PMTCT services must be consistently scaled up to reach all pregnant mothers and children in need regardless of geographical location and all should receive effective available drugs (UNICEF, 2010). HIV related childhood mortality is still high in Sub Saharan Africa, despite the availability of antiretroviral therapy.

Statistics have indicated that Republic of South Africa (RSA) has the highest number of HIV/AIDS infections worldwide, with the total number of people living with the virus estimated to be 5.51 million in 2014 (Statistics South Africa, 2014). The worrying fact is the HIV prevalence rate amongst antenatal clients across the country which is at 29% (National Department of Health (NDoH), 2006). It is also estimated that 28% of pregnant women attending antenatal clinics in South Africa are HIV-positive (NDoH, 2008), with NMM district at 25.1%. According to the NDoH (2012), Kwa-Zulu natal is the province with the highest prevalence of the vertical transmission from mother to child with 37.4%, followed by Mpumalanga, with 36.7%; Free State with 32.5%, and North West Province (NWP) with 30.2%. Mother-to-child transmission of HIV remains the most prevalent source of pediatric HIV infection (Torpey et al., 2012). The use of antiretroviral drugs for the prevention of mother-to-child transmission of HIV can virtually eliminate the risk of childhood HIV infection and improve maternal survival (Barker et al., 2011). Without interventions, children born to HIV-positive mothers have a 25% to 45% chance of being infected during birth or while the mother is breastfeeding (Williams, Lima and Gouws, 2011)

Less than 2% of the children born to HIV positive mothers are themselves infected in developed countries which shows that this interventions is working (Williams et al., 2011). CDC. (2016) found that in low and middle countries, there are numerous barriers to prevention of vertical transmission, while antenatal care attendance is low, particularly in rural areas, furthermore, few pregnant women have access to HIV testing; access to optimal antiretroviral prophylaxis or therapy is insufficient, and alternatives to breastfeeding are uncommon. Over the past 10 years substantial progress has been made in the implementation of prevention of mother-to-child transmission of HIV interventions in SSA (Aizire, 2013). In spite of these efforts, new pediatric infections remain unacceptably high, accounting for the majority (>90%) of the estimated 390,000 infections globally in 2010; yet prolonged breastfeeding remains the norm and crucial to overall infant survival (Aizire, 2013). It is this background that ignited the interest to explore the factors that contribute to mother-to-child transmission of HIV at Seshego, Capricorn District.

## **1.2. Problem statement**

The new Sustainable Development Goals number 3 places heightened emphasis on prevention of mother-to-child transmission in the context of better health for mothers and their children. Globally in 2015, there were 0.3 new HIV infections per 1,000 uninfected people, among children under 15 years of age, there were 0.08 new HIV infections. This data represents a decline of 45 per cent and 71 per cent, respectively, since 2000. However, despite this general decline, in South Africa, particularly in Seshego clinics, the statistical presentation of poor ANC visits by pregnant women can be linked to the high rate of new HIV infection of mother to child. The District Health Information System (DHIS Capricorn, Limpopo, 2016), PMTCT for the financial year 2015/2016, ANC 1<sup>st</sup> visit coverage stands at 94.8% and ANC 1<sup>st</sup> booking before 20 weeks rate was at 49.3% (DHIS, 2016). DHIS report further reiterated that ANC 1<sup>st</sup> tested HIV positive rate between 2015/2016 was at 16.1%, while those already on ART were at 24.6%. The statistics shows that the positivity rate for ANC is high as compared to the previous years. However there were still some concerns regarding the high percentage of babies born HIV positive (8) in 2016/2017. All these statistics compelled the researcher to initiate this study.

## **1.3. Rationale of the study**

South Africa is one of the worst burdened countries globally, where child and infant mortality rates have risen, mainly because of the burden of pediatric HIV disease, with more than half of the children's deaths being caused by HIV/AIDS (CDC, 2016). In South Africa studies regarding the contributing factors of MTCT in clinics are few, with many of this studies done in big hospitals. The introduction of the PMTCT programme in South Africa in 2002 has provided a significant chance to reduce infant mortality rates and for the general promotion of health of the mother and the child. Despite the advent of PMTCT, it has faced many challenges, with many of them underreported. The present study therefore focuses on the factors contributing to mother to child transmission of HIV in Seshego Zone Clinics in rural Limpopo Province.

#### **1.4. Purpose of the study**

The purpose of the study was to investigate the factors contributing to mother to child transmission of HIV in Seshego Zone Clinics in Capricorn District in South Africa.

#### **1.5. Objectives of the study**

Specifically, the study sought:

- (i) To explore health system factors contributing to increase in MTCT of HIV in Seshego Zone Clinics, Capricorn District of Limpopo Province.
- (ii) To describe patient related factors contributing to increase in MTCT of HIV in Seshego Zone Clinics, Capricorn District of Limpopo Province.
- (iii) To describe the nurses' knowledge and attitude on MTCT at Seshego Zone Clinics, Capricorn district of Limpopo Province.
- (iv) To suggest management strategies to improve the management of HIV positive mothers, to reduce the transmission of HIV to unborn and infants in Seshego Zone Clinics, Capricorn District of Limpopo Province.

#### **1.6. Significance of the study**

The findings of the study may provide findings to help inform policy makers to reform or review current policy in relation to management of HIV of pregnant women and protect unborn children from HIV infection. The findings will also assist nurses and the programme coordinators to evaluate on the PMTCT programme and fill in the gaps identified. The findings will further serve as a database for future studies in the field of mother to child transmission of HIV.

## 1.7. Definition of terms

- **Mother**

A mother is the female parent of a child, who inhabits or performs the role of bearing some relation to their children, who may or may not be their biological offspring. In the current study, a mother refer to women who are pregnant and those who are breastfeeding.

- **Child**

A child is defined in the Children's Act (Act no 38 of 2005) as a person under the age of eighteen (18) years. For the purpose of the current study, a child is defined as any person below 2 years.

- **Factors**

Factors are a circumstance, fact or influence that contributes to a results or something that helps produce or influence a results (Oxford Dictionary 2013). In the current study, factors mean obstetrical, maternal, viral and pediatric factors that contribute to MTCT

- **Antiretrovirals**

Antiretrovirals are defined as any group of drugs that inhibit or slow the growth of retrovirus, especially HIV, and are used in the treatment of HIV infection and AIDS (Martin, 2015). In the present study, antiretrovirals refer to the prescribed drugs according to standard guidelines in South African health system to treat HIV infection.

- **Breastfeeding**

Breastfeeding is defined as the normal way of providing young infants with the nutrients they need for healthy growth and development. In the current research study breastfeeding refers to a process of a mother feeding a baby with milk from her breast.

- **Health care providers**

Health care providers is defined as an individual who provides preventive, curative, promotional or rehabilitative health care services in a systematic way to people, families or communities and licensed to practice by a professional body (South African Nursing Council). In the present study a health care provider refers to any personnel who are faced with day to day Primary Health Care provision based on the needs of the community. Hence, it refers any person providing medical assistance.

- **HIV positive**

HIV positive is defined as having the retrovirus responsible for AIDS in the human system. There are two varieties, HIV-1 and HIV-2 (Martin, 2015). In the current study HIV positive will refer to the detection of HIV infection by any means of laboratory test.

- **Infant**

An infant is defined as a child incapable of any form of independence from its mother (Martin, 2015). In the current study, an infant will refer to a very young baby who is unable to walk, talk, or feed on themselves.

### **1.8. Conclusion**

The chapter outlined the introduction and background to the study, aim, objectives, rationale and significance of the study.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. Introduction

According to Hart (2018), the literature review shares with the reader the results of other studies that are closely related to the current study and it relates the study to a larger on-going dialogue in the literature about a topic. The literature review also provides academic viewpoints regarding the topic under examination. In the current study the typical purpose for analyzing or reviewing existing literature was to generate research questions, to identify what is known and not known about a topic, as well as to identify concepts of the theoretical traditions within the bodies of literature, and to describe methods of enquiry used in earlier work, including their success and shortcomings. However, given the broadness of the aspect of HIV/AIDS, the present review of literature specifically draws attention to the various published information and sources of literature, with specific focus on the contributing factors to MTCT of HIV, providing its global, national, regional and local perspective.

#### 2.2. Global perspective on HIV regarding MTCT

HIV continues to be a major global public health issue. In 2015, an estimated 36.7 million people were living with HIV (including 1.8 million children), a global HIV prevalence of 0.8% (Gourlay et al., 2013). The vast majority of these cases live in low and middle income countries. In the same year, 1.1 million people died of AIDS-related illnesses. Since the start of the epidemic, an estimated 78 million people have become infected with HIV and 35 million people have died of AIDS-related illnesses (WHO, 2014), with an estimated 25.5 million people living with HIV living in sub-Saharan Africa. The vast majority of them (an estimated 19 million) live in east and southern Africa, which saw 46% of new HIV infections globally in 2015 (Gourlay et al., 2013). In 2012, a study done by Rowan et al. (2015) showed that about 25 million people had died worldwide of HIV in that year. In 2001 29, 8 million people were living with HIV and in 2014 the number had gone up to 36, 9 million. In the same year 1, 2 million people have died of HIV. Sub-Saharan Africa is the most affected, with about 25,8 million people living with the virus, followed by Asia and the Pacific with 5,0 million. Third is western and central Europe and North America, with 2, 4 million (Henry, 2015).

#### 2.3. Sub Saharan African perspective on HIV regarding MTCT

HIV and AIDS, according to the World Health Organization (2010), is the leading cause of mortality among women of reproductive age. Sub-Saharan Africa has the highest HIV/AIDS



epidemic with South Africa (SA), at 17.9%, while Botswana 23% and Swaziland stands at 26.5% (UNAIDS, 2011). In 2010, an estimated 68% (22.9 million) of all HIV-positive cases and 66% (1.2 million) of all deaths occurred in this region. Furthermore, about 5% of the adult population was infected and HIV was to be the cause of 10% of all deaths in children of South and South East Asia (American foundation for AIDS Research (AMFAR), 2015). According to Krèamer et al. (2010), a quarter of the 4million cases of all people living with HIV, representing approximately 250 000 deaths and approximately 2.4million of these cases were in India. In 2015, there were 19 million people living with HIV which, is approximately half of all people living with HIV in the world and an estimated 960,000 new infections in East and southern Africa. The region accounts for 46% of the global total of new HIV infections. More than half of the people living with HIV in East and Southern Africa are women.

In 2015, about 470,000 people died of AIDS-related illnesses. Sub-Saharan Africa (SSA) remains the epicenter of the epidemic and accounted for nearly 70% of the world's burden of HIV and AIDS (De Cock et al., 2012). The Southern Africa sub-region experiences a high prevalence of HIV, especially some nine countries namely; Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. In Among these countries, Swaziland has the highest prevalence rate of HIV, followed by Botswana and Lesotho (De Cock et al., 2012; UNAIDS, 2013). A related study also revealed that a number of infections and people receiving Antiretroviral have gone up and that infections which occurred in Sub Saharan countries 90% were a result of mother-to-child transmission during pregnancy, labor and delivery, or breastfeeding (Gopalappa, 2014). Bhardwaj et al. (2014) attested that transmission during pregnancy was 5 – 10%, during labor and delivery is 10 – 20% while during breastfeeding its 10 –15%. Without intervention, there is a 20-45% chance that a baby born to an HIV- infected mother will become infected. However the risk of MTCT can be reduced by up to 2% if comprehensive approach of PMTCT is adopted. Women in countries of Sub-Saharan Africa have a higher HIV prevalence rate than men and a much greater proportion of the adult female population becomes infected (Neel et al, 2016).

HIV affects people's lives in many ways and alter population structures through high mortality in mid-age, as SSA remains the world's most affected region (Mutevedzi and Newell, 2014). Despite the overall prevalence increasing in all African regions, there is some evidence of a decline in HIV prevalence in young adults, which would suggest a reduction in incidence in this age group or a shift in age at acquisition (Mutevedzi and Newell, 2014). SSA accounted for 67%

of all people living with HIV and for 72% of AIDS related deaths in 2007. In some countries, such as Botswana, Lesotho and South Africa, HIV prevalence rate among pregnant women attending clinics is more than 30%. In Sub-Saharan Africa alone, the epidemic has orphaned nearly 12 million children under 18years (Cahu and Fall, 2011). Finally a high percentage of infants is at high risk of being infected with HIV and AIDS in SSA this is mainly due to the second most important route called “Mother-to-child transmission” (Malema et al., 2010).

#### **2.4. South African perspective on HIV regarding MTCT**

South Africa is the worst- affected country in the world, and it had an estimated 7.6 million people living with HIV and AIDS in 2017 (Statistics South Africa, 2017). The HIV/AIDS epidemic in South Africa poses a major public health threat associated with multi-faceted harmful impacts and socially complex outcomes (Ogunmenfun et al., 2011). The country has implemented a surveillance system through the national antenatal sentinel surveillance tool since the year 1990 to monitor the HIV epidemic trend annually (DoH HIV Survey 2013). This surveillance shows that the prevalence of HIV increased from 0.7% in 1990 to as high as 29.7% in 2013 (DoH HIV Survey 2013). South Africa has the highest burden of HIV infection in the world, with an estimated 5.7 million people infected with HIV (Karim et al., 2012). The provision of antiretroviral therapy (ART) in South Africa for HIV-infected adults at government clinics and hospitals began in 2004 with the aim of achieving universal coverage for all individuals meeting disease-stage eligibility criteria (Barron et al., 2013)

There are four provinces in South Africa which are recording high HIV prevalence, namely, Kwazulu-Natal, Mpumalanga, Free State and North West, Limpopo, Northern Cape and Western Cape are the three provinces with low HIV prevalence (Idele et al., 2014). The highest provincial HIV prevalence (of 40.1%) was recorded in KwaZulu-Natal in 2013. The district level HIV epidemic is significantly heterogeneous, with prevalences ranging from a low of 2.3% in Namaqua in the Northern Cape to a high of 45.9% in iLembe, KwaZulu-Natal (DoH HIV Survey, 2013).

HIV prevalence is higher in females than in males in South Africa. Previous research has shown that 12.2%, that is 6.4 million people in South Africa, were tested for HIV in 2012 and were found to be HIV positive and the overall HIV prevalence differed according to the provinces. It was also indicated that the prevalence is higher in unmarried woman than in married women because unmarried women had multiple sexual partners (Hosegood. 2014). A report that was

released by Statistic South Africa in 2016 showed that 1 in 10 South African is living with HIV (Statistics SA, 2016).

## **2.5. HIV in Limpopo Province regarding PMTCT**

In Limpopo, Capricorn, Mopani and Waterberg have recorded HIV prevalence less than 30.0% in the past five years and there is a moderate decrease in HIV prevalence recorded from 2009 to 2013. There is a moderate increase in HIV prevalence in Sekhukhune and 0.7% in Vhembe from 2000 to 2013 respectively (DoH HIV Survey 2013). Statistics South Africa (STATSSA) released a report in 2016 that showed that 30% of pregnant woman were living with HIV. In Limpopo, it was 20% of all pregnant women.

## **2.6. Transmission of HIV.**

### **2.6.1. Mother to child transmission (MTCT) of HIV.**

HIV is transmitted in different routes, such as sexual contact, exposure to infected body fluid or tissue, hypodermic needles and from mother to child either during pregnancy, delivery or breastfeeding; it is also known as vertical transmission. (White et al., 2014). The main focus of the current study was the transmission of HIV to children through their HIV- positive mothers and thus the discussions on other mode of transmission is minimized. Mother to child transmission of HIV is the process whereby children are newly-infected by HIV (Kirsten et al., 2011). Approximately 35% of exposed infants can become infected with HIV by the age of 2 years and this happens mostly during pregnancy (maternal) or during delivery (obstetric) or postpartum as a result of breastfeeding (pediatric) (Mephram et al., 2010; Kirsten et al., 2011; Mephram et al., 2010). There are several factors which increase the risk of HIV transmission to infants. These include a low maternal CD4 count, maternal high viral load, concurrent STIs, maternal tuberculosis, prolonged rupture of membranes, vaginal delivery (as opposed to caesarean section), breastfeeding duration, mixed feeding, high breast-milk RNA levels, and maternal mastitis (Mephram et al., 2010). Acutely infected women are likely to be at a higher risk of transmitting HIV to their children than chronically-infected women, partly because the high levels of HIV viral load that occur during acute infection are associated with an increased risk of perinatal transmission and transmission through breastfeeding, and partly because the maternal immune response during acute infection may not be sufficiently mature to allow significant transfer of protective immunity to the child (Johnson et al., 2012).

## **2.7. Factors contributing to increase in MTCT of HIV.**

### **2.7.1. Health system factors contributing to increase in MTCT of HIV**

The health system in most African countries and other similar developing countries are affected by lack of available, poor accessibility, and inexpensive resources. This increases rate of MTCT (O'Neill, 2013). Simba et al. (2010), indicated that inadequate and inaccessible voluntary and counseling centers, coupled with long distance to the centers and long waiting lines acted as barriers to PMTCT service uptake. In a study conducted in the rural Malawi hospitals in which the records of HIV positive infants were reviewed, the authors found that inaccessibility to primary health care centers were among the reasons for the rise in MTCT (Simba et al. 2010). These findings show that MTCT in Africa is rising, especially in rural area hospitals. This is because of the unavailability of drugs for PMTCT of HIV infection and treatment of mothers with free antiretroviral drugs after delivery to decrease the chances of survival for HIV/AIDS individuals.

It has also been found that neither healthcare providers nor HIV-infected women always adhere to guidelines and recommendations made by PMTCT programs. Furthermore, low HIV testing rates during pregnancy, sub-optimal healthcare coverage, and poor patient retention are other issues responsible for the increasing the MTCT rate (Townsend et al., 2014). According to Litwin et al., (2015), accessibility to continuous care for HIV-infected mothers during the post-natal period and HIV-exposed infants are both low. Furthermore delayed testing of HIV-exposed infants' delays in initiation of ART. This resulted in missed perinatal care opportunities. Inadequate use of ART and insufficiently skilled care workers also pose challenges and it increases the MTCT rate and inadequate ante-natal visits, poor opportunistic infection screening, non-disclosure of HIV-positive status to partners, and inadequate family planning counseling. Furthermore, Litwin et al. (2015) allude that apart from the lack of drugs, staffing is also a stumbling block. Studies have shown that an increased workload among nursing staff resulted in adverse outcomes among the admitted patients (Kasenga et al., 2015).

In Nigeria improved staffing has been associated with improved quality of health care as well as the provider's level of satisfaction, thus, a decrease in MTCT, in particular. Furthermore, Sprague et al. (2011) reported that health workers in public health facilities are not working on a fulltime basis perhaps because they are studying at the same time. This raises a serious question of whether the service providers working at various clinics are being overworked or

not. It is therefore important to assess whether the current service providers are underutilized or not, and if they are underutilized, whether additional clients would be adequately attended without an added investment in labour. Further financial difficulties and cost, particularly costs associated with childbirth influenced decisions to participate in PMTCT services at health clinics, thus the rate of MTCT increased. This was the case in southeastern Nigeria, where researchers observed that high treatment costs influence the childbirth choices of HIV positive pregnant women (Iwelunmor et al., 2014).

### **2.7.2. Perceptions on the knowledge and attitudes of nurses and women on MTCT of HIV**

Knowledge is power and enables proper decision-making it is in this same vein that applies to ANC and PMTCT services. Basic knowledge about the disease and how it is transmitted seems to be increasing in most communities. Another study from Nigeria, reflects on the causes of the negative attitudes and practices of PMTCT, and suggested poor information about HIV and treatment among health care providers, as well as lack of protection materials in the facility were the possible causes (Iwelunmor et al., 2014). In sum, these studies concurred on the negative effect of the stigma and discrimination at the health facility on access and utilization of the HIV-related health services thus creating a negative attitude. PMTCT service is one of these services. It is unlikely that pregnant women access and utilizes them, when they are affected by the negative attitudes of nurses. The stigma and discrimination from nurses, non-acceptance, unfriendly attitudes and lack of confidentiality, were contributing factors leading to increase of MTCT of HIV. Access to and utilization of PMTCT services are influenced by the education level of the professional nurses. For example, in 2010 a study conducted in the Sudan, showed that acceptance of the HIV testing among pregnant women attending ANC service was high among the more educated and accepting nurses, compared to those with low levels education (Elsheikh, 2015). Another study conducted by Mogano et al. (2014), suggested that low literacy of the pregnant women was one of the factors that prevents pregnant women from utilizing the PMTCT services in sub-Saharan Countries.

Regarding, the uptake of PMTCT services and education level of the pregnant women belonging to the groups with a higher risk of HIV infection, there are no data available to reflect on that. However, the effect of education could be explained by the fact that, the educated women are likely to have more access to information about the MTCT to them and their infant than uneducated pregnant woman. Given this, the education level of the pregnant women is a

possible factor that increases the MTCT services, as literacy level among pregnant mothers South Africa is high. (Mbombo and Bimerew, 2012).

### **2.7.3. Patient related factors contributing to MTCT of HIV**

In reviewing the influence of patient related factors that contribute to MTCT, the role of nurtures was central. Nurturers refer to the influence of family and/or community contexts in positively or negatively shaping decisions and actions towards PMTCT service uptake in Kenya (Dahlberg et al., 2015). Family support, which is important in PMTCT programmes, also provides optimal access to preventative strategies such as adherence to ARV therapy. For example, in Lagos, disclosure of HIV status and subsequent treatment support from partners was reported to influence the level of adherence to ARVs among pregnant women (Iwelunmor et al., 2014). Disclosure of sero-positive status to partners also influenced the choice and maintenance of infant feeding with the support from the family.

Socioeconomic status also increases the MTCT of HIV; for instance, families where parents are ill with AIDS are often impoverished by a lack of employment and high medical bills. Therefore, even the pregnant mothers rarely seek HIV testing and counseling services, and only a minority of women had support from their partners when they decided to join the PMTCT programme while some women experienced direct discouragement from their partners, and half of the women women's partner's views had no influence on their final decision (Spangler et al., 2018). It could be that a partner who lives with the HIV-positive woman fears prejudice from the society more, and so will not encourage her to enroll for PMTCT, thus increasing MTCT increases.

As a result, current national targets in South Africa include ensuring that at least 80% of all pregnant women have access to voluntary counseling and testing; 80% of all HIV-exposed infants have access to early infant diagnosis services; 80% of all HIV-positive pregnant women and HIV-exposed infants have access to efficacious ARV's and 80% of HIV-positive pregnant women have access to infant feeding counseling (Mwisongo et al., 2015). Socio-cultural factors that influence and contribute to the increase in MTCT of HIV during pregnancy, during labor, delivery or breast-feeding were identified as important areas to look at, for the success of PMTCT efforts in Africa. Culture plays a vital role in determining the level of health of the individual, family, and community (Iwelunmor et al., 2014). It is therefore plausible that knowledge of socio-cultural factors may facilitate efforts aimed at decreasing MTCT.

Sociocultural challenges, such as pressures from family members and cultural practices, are associated with a risk of mixed infant feeding as a result of feeding preferences and poor maternal adherence to recommended infant feeding guidelines. Spangler et al (2015) found that access to HIV services prior to conception, family planning, tuberculosis screening, HIV disclosure, psychosocial support, and post-natal care, had not improved within the PMTCT services in a South African hospital, and that there had been an overall deterioration in consistent infant feeding messages conveyed to pregnant mothers who are HIV positive.

#### **2.7.4. Strategies in management of MTCT of HIV mothers**

In Nigeria, researchers found a positive and significant impact of health education on the awareness and acceptability of strategies to decrease MTCT (Iwelunmor et al., 2014). This included the establishment of a community peer support group for all nursing mothers (to prevent stigmatization) which will assist in changing community norms and beliefs while providing support for HIV positive mothers, especially those young mothers who choose to exclusively breastfeed their children.

Infection with HIV virus can be prevented through protection, counselling of infected people (couples), use of antiretroviral therapy, and female-targeted prevention programs during labour and delivery. It is a common misconception that pregnant women who are living with HIV will automatically pass the disease to the unborn child and that children born to these women will be infected with the disease. In other words, two out of every three babies born to women living with HIV will also be HIV positive if there is no intervention. However, with an effective PMTCT programme, this risk is substantially reduced (Mwisongo et al., 2015). It is recommended that all pregnant women living with HIV should be registered on the PMTCT programme and all pregnant women who do not know their status should have an HIV test early in their pregnancy. Increasingly, countries are designing programs to prevent mother-to-child transmission (PMTCT) of HIV.

These programs involve multiple strategies that focus on preventing the acquisition and transmission of HIV and supporting the needs of a woman and her family. Goga et al. (2018) argued that the effective use of family planning (FP) plays an important role by preventing unintended pregnancies among women with HIV, thus reducing infant HIV infections and the number of children needing HIV treatment, care, and support. An FP intervention will also



reduce the need for antiretroviral drugs for PMTCT. Provision of quality antenatal care screening HIV, which also involves controlling the spread of sexually transmitted diseases (STDs) such as syphilis and gonorrhoea, thus reduces the number of new HIV infections. According to O'Neill et al., (2013) early voluntary diagnosis of HIV, with fully informed consent and confidential with pre- and post-test counselling should be practiced in order to reduce mother-to-child transmission of HIV. In addition young women need to know whether or not they are infected. The provision HIV counselling and testing for women and their partners during pregnancy offers an opportunity to prevent HIV infection in HIV-negative women and to offer antiretroviral drugs and other advice for HIV-infected women to reduce MTCT.

In a bid to reduce MTCT of HIV, Antiretroviral treatment drastically reduces the level of HIV in the blood, thus reducing the rate of transmission from mother to child in the womb, during labour and at birth. It is important for ARVs to be taken during labor or during the last weeks of pregnancy (Leonard et al., 2014). The duration of treatment determines how low the viral load in breast milk will be and could therefore reduce the risk of transmission through breastfeeding. The current PMTCT guidelines recommend that all pregnant women should test at the initial ANC visit. For those who test negative, they should retest at 32 weeks gestation and information should be provided on how they can remain negative, by practicing safe sex at all times (Spangler et al., 2018). For those who test positive they should be enrolled onto the programme and should be supported to practice safe sex all the time. Nutrition also plays an important role in the management of persons with HIV, particularly in a bid to fight MTCT of HIV. A good nutritional status is important as it boosts the mother's immune system and lessens progression of HIV. Vitamin A deficiency impairs the mother's immune system and transmission of HIV/AIDS. Finally maternal STD infection during pregnancy may increase the risk of HIV transmission to the unborn child.

According to NDoH (2015), every pregnant woman must be counselled for HIV on her first visit, if the tests are HIV negative, it must be repeated every three months until the child is eighteen months. If the woman has tested HIV positive, blood should be taken for CD4 count and creatinine, then be started with ARV's. However, if the woman is pregnant already on ARV's, blood will be taken for viral load to check how the VL on first visit, and it will be taken every three months until the woman delivers the baby. After delivery, the baby will be managed-based



on the mother's VL. If the VL is <1000 copies, then the baby will only get NVP. However, if the mother's VL is >1000 copies, then the baby will get dual therapy, which is NVP and AZT.

## **2.8. Conceptual framework**

Health care utilization is the point in health systems where patients' needs meet the professional system. In this regard the present study was developed within the idea of Anderson Framework for Health Seeking Behavior. In 1960, the Anderson Framework for Health Seeking Behavior and Service Utilization was developed, to provide measures of access and utilization of the medical care (Holtzman et al., 2015). The aim was to study the interaction between the external environmental, predisposing, enabling and need factors in the access and utilization of the health services; besides, health outcome. It includes the following: firstly, predisposing factors, including the socio-cultural features of individuals that present before illness, such as demographic, education, gender, age, occupation, ethnicity, social networks, social interactions, and cultural health beliefs. Secondly, enabling factors which include the ability to pay for the services, knowledge of the services, and availability of the health services. Thirdly, perceived and evaluated needs. Environmental factors represent the context within which the utilization occurs and it includes health care system and external environment. Fifth, health behaviour includes personal health practice and use of the health services. Finally, the health outcomes include health status improvement and client satisfaction with the service provided (Andersen and Newman, 2005).

It is well known that apart from the need-related factors, health care utilization is also supply-induced and is thus strongly dependent on the structures of the health care system. Furthermore, many study findings have shown differences in health care utilization based on patients' social characteristics. For instance, women tend to the use outpatient health care services more often than men. In addition to the multitude of studies describing patterns of utilization in different health care settings, several scholars have developed explanatory frameworks identifying predictors of health care utilization. For example Limpopo Province is a poor rural province experiencing a high rate of HIV/AIDS and most of the ethnic groups still believe in traditional/cultural practices for pregnancy and childbirth which contributes negatively to utilization and access. Furthermore the primary health care clinics in the province have poor infrastructure, which jeopardizes counseling services due to confidentiality and privacy issues, shortage of resources (human and material) shortage of ARV stock and low education levels.

## **2.9. Conclusion**

This chapter outlined the literature reviewed relating to HIV/AIDS and PMTCT. The next chapter outlines the methodology of the study.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1. Introduction

Research methodology refers to the various methods that the researcher uses to conduct the research. These include theoretical procedures, experimental studies and numerical schemes (Rajasekar, Philominathan, and Chinnathambi, 2013). For the purpose of the present study this section describes the study design that was used, in the study area, sampling framework, data management (collection, ensuring data quality and analysis) and reporting. The process of ensuring trustworthiness of the data is also discussed.

#### 3.2. Study design

The nature of the study is qualitative descriptive and exploratory. It focuses on the factors that contribute to the mother to child transmission of HIV. The exploratory design was used because the researcher wanted to explore on what contributes to the increase in infection to infants. Qualitative study is defined as the research conducted using a range of methods which use qualifying words and descriptions to record and investigate aspects of social reality (Bless et al., 2006; Creswell, 2013).

### 3.3. Study area

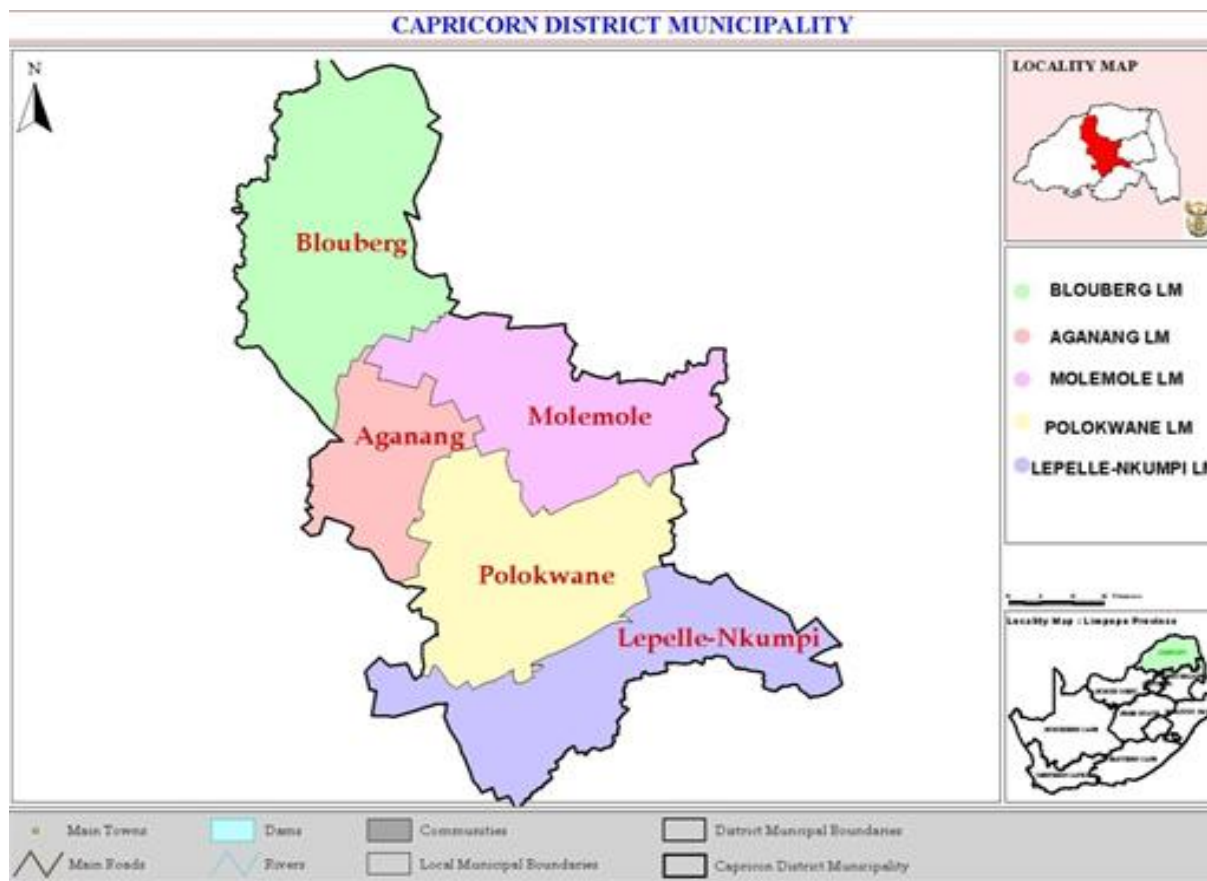


Figure 1: Capricorn district map retrieved from <http://goo.gl/images/fKyu3>

The research was conducted in Seshego Zone clinics, Seshego is a township situated in the Capricorn District of Limpopo Province in South Africa. These clinics are situated 7 kilometers away from Polokwane CBD on the Western side of the city. It serves a population of 12 765 and operates from 07h00- 16h30. Some patients are referred to Seshego Hospital which is 5km away. The clinics provide basic health care to several communities. The clinics are in Seshego zone 1, Seshego 2, Seshego Zone 3, Seshego Zone 4, The services provided by these facilities include, comprehensive integrated primary health care (PHC) services, using a one-stop approach, for at least 8 hours a day, seven days a week. Community access at the clinics is measured by the proportion of people living within 5km of a clinic, and all the clinics in the study area receive supportive monitoring visits at least once a month from district managers in order

to support the personnel, monitor the quality of services and identify the needs and priorities. At least six members of staff have completed a recognized PHC course. There are no doctors or other specialised professionals available during the day. Thus patients are referred to Seshego Hospital.

### **3.4. Study Population and Sampling method**

#### **3.4.1. Study population**

According to Brink (2017) a population is the study object and consists of individuals, groups, organizations, human products and events or the conditions to which they are exposed. For the purpose of the current study, the target population were nurses at Seshego Clinics (Zone 1, 2 3 & 4) who were specializing in diagnosing, dispensing medication for patients and monitoring adherence to medication of mothers of HIV babies.

#### **3.4.2. Sampling**

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 (Brink, 2017). A sample thus consists of a selected group of elements or units of analysis from a defined population. The non-probability sampling method was used in the form of purposive sampling. Purposive sampling, also known as judgmental, selective or subjective sampling, is a type of non-probability sampling technique. Non-probability sampling focuses on sampling techniques where the units that are investigated are based on the judgment of the researcher. The study purposively sampled 4 clinics in Seshego Zone and thirty two nurses. Data saturation was reached with eighteen female nurses who work with pregnant mothers. The following table shows the sampling frame of the population of the study.

**Table 1: The sampling frame**

<b>Name of Clinic</b>	<b>Number of Participants</b>
<b>Seshego Zone 1</b>	7
<b>Seshego Zone 2</b>	8
<b>Seshego Zone 3</b>	8
<b>Seshego Zone 4</b>	9
	<b>Total=32</b>

### **3.5. Data collection instrument for participants**

Data were collected using semi-structured interview guide which is presented in Appendix E. A semi structured interview is a method of vetting prospective employees that takes a flexible approach and permits questions to arise in response to the dialogue (Robinson, 2014). In a semi-structured interview, the researcher often puts together a series of themes to be explored, rather than having a formal structure and fixed question set. A semi structured interview guide was developed based on the study's specific objectives to guide the researcher during the interview process. The choice of an interview guide was to ensure that the study objectives are covered during data collection. Probing techniques were used to allow participants to freely explain their experiences in detail. With the interview guide, the researcher prepared questions ahead of time. It allowed the interviewer to be prepared and appear competent during the interview.

### **3.6. Data management**

#### **3.6.1. Plan for data collection**

Data were collected through face to face semi structured interview. The interviews were conducted in the consulting rooms at the clinic for the nurses. The researcher met with the participants, to secure their consent and obtain verbal permission to audio record the interview. Prior to the participants signing the consent forms, the researcher explained the aim of the study, the study objectives, so that the participants had full information before giving consent. The participants scheduled the time and dates for the interview with the researcher, to avoid disturbing the participants' schedule. The interviews were conducted individually in English language because it was noted and believed that the trained nurses are fluent in the English. The interview was audio taped and field notes taken by the researcher and later the interview responses were reviewed in order to get patterns or themes.

#### **Pre-testing of the interview guide**

Pre-testing of the interview is where a questionnaire or interview guide is tested on a (statistically) small sample of respondents before a full-scale study, in order to identify any problem, such as unclear wording or questionnaire taking too long to administer (Greeff as cited in De Vos, 2015). Conducting a pre-testing beforehand allows a researcher to design and execute a large-scale project in as methodologically rigorous a way as possible, and can save time and costs by reducing the risk of errors or problems. Pre-testing of studies is thus common among qualitative studies, but is often also used by quantitative researchers. Pre-testing of study was conducted to test the procedures and techniques, to check if they work satisfactory.

Pre-testing study was administered on two nurses chosen at random from Polokwane-west Clinic, which were not under the Seshego zone clinics. The findings were verified to identify any problem and irregularities that may be caused by the data collection instrument. The probing techniques and the interview guide were improved before the actual data collection. The results of the interviews were not included in the final analysis.

### **3.6.2. Data analysis**

Like most types of research, the amount of analysis required varies with the purpose of the research, the complexity of the research design, and the extent to which conclusions can be reached easily based on simple analyses. Data analysis for qualitative studies progresses through classification of ideas, themes, topics, activities and types of people as well as other categories relevant to the study (Schensul and Le Compte, 2013). Audio-taped interviews were transcribed verbatim. Data were analyzed in a qualitative manner, using Tesch's eight steps.

#### **The Teschs 8 Steps of thematic method of data analysis by Creswell (2009)**

Step 1: The researcher reads all the transcriptions and jot down some of the ideas as they come into mind.

Step 2: He/she picks one document (one interview), shortest and one on top, and go through it. Asking what is all about.

Step 3: After engaging several participants make a list of all topics, the interviewer. Clusters similar topics, unique and major topics.

Step 4: The researcher takes the list and go back to data. Erect codes and write those codes on the segments.

Step 5: Find the most descriptive wording for the topics and turn into categories.

Step 6: Make a final decision on the abbreviation for each category and alphabetize the codes.

Step 7: Assemble the data material belonging to each category in one place and perform a preliminary analysis.

Step 8: Recode the existing data.

Report writing

### 3.7. Trustworthiness of the study Measurement to ensure trustworthiness

Lincoln and Guba (2012) define trustworthiness as the extent to which a research is worth giving attention to, and worth taking note of, as well as the issue of whether or not the reader is convinced that the findings are to be trusted. The aim of trustworthiness in a qualitative inquiry is to support the argument that the inquiry's findings are "worth paying attention to. To ensure the trustworthiness and rigour of qualitative findings, qualitative researchers considered that dependability, credibility, transferability and conformability as trustworthiness criteria (Lincoln and Guba, 2007).

#### 3.7.1. Credibility

Credibility is defined as the confidence that can be placed in the truth of the research findings. Anney (2014) added that credibility establishes whether the research findings represent plausible information drawn from the participants' original data and is a correct interpretation of the participants' original views. In the present study, the researcher established rigour of the inquiry by adopting the following credibility strategies that included prolonged/varied field experience, time sampling, reflexivity (field journal), triangulation, member checking, peer examination, interview technique, establishing authority of researcher and structural coherence. Each strategy is discussed in detail in the sub-sections below.

#### **Prolonged Engagement in Field or Research Site:**

According to Anney (2014) qualitative research data collection requires the researcher's self- to immerse him or herself in the participants' world. This helps the researcher to gain an insight into the context of the study, which minimizes the distortions of information that might arise due to the presence of the researcher in the field. The researcher as a nurse herself, extended time in the field to improve the trust of the respondents and provide a greater understanding of participants' culture and context. The purpose of allowing this time offered the research enough time to understand the pattern of the present contributory factors to MTCT.

**Triangulation:** Triangulation includes the use of multiple and different methods, investigators, sources and theories to obtain corroborating evidence" (Onwuegbuzie and Leech, 2007). Triangulation helps the investigator to reduce bias because it cross examines the integrity of participants' responses. For the purpose of the current study, data were collected using



different sources of data or research instruments, which included note taking, audio taping and participant observation.

**3.7.2. Transferability** refers to the degree to which the results of qualitative research can be transferred to other contexts/situations with other researchers and it is the interpretive equivalent of generalizability. Therefore, to ensure transferability of qualitative inquiry, the researcher must “collect thick” descriptive data which allows comparison of this context to other possible contexts to which transfer might be contemplated” and produce a thick description of the context, in order to make a judgment about it fitting in with other possible contexts. Non-probability purposive sampling was used to guarantee the transferability of the study findings.

**3.7.3. Dependability** refers to the stability of findings over time and it involves the investigator evaluating the findings and the interpretation and recommendations of the study, to make sure that they are all supported by the data received from the informants of the study (Cohen, Manion and Morrison, 2011). For the purpose of the current study dependability of the findings were established using a stepwise replication and code recode approach respectively. Stepwise replication is a qualitative research data evaluation procedure where two or more researchers analyze the same data separately and compare the results (Ary, Jacobs, Razavieh and Sorensen, 2010). All inconsistencies that arose from these separate analyses were addressed to improve the dependability of the inquiry, and to ascertain if the results of analyses are similar. Thus dependability of the inquiry was achieved.

**3.7.4. Conformability** refers to the degree to which the results of an inquiry could be confirmed or corroborated by other researchers (Cohen et al., 2011). In the current study conformability of qualitative inquiry was achieved through an audit trail and reflexive journal. An audit trail also involves an examination of the inquiry process and product, to validate the data, whereby a researcher accounts for all the research decisions and activities, to show how the data were collected, recorded and analyzed (Anney, 2014). Documents were also kept for crosschecking the inquiry process: raw data, interview and observation notes, documents and records collected from the field, thus ensuring conformability.

### **3.8. Ethical considerations**

#### **3.8.1. Permission to conduct the research**

Ethical issues involve protecting the rights of respondents and institutions in which research is done, and maintaining scientific integrity. A researcher is responsible for conducting research in an ethical manner and failure to do so undermine the scientific process and might have negative consequences. An investigator must address a range of ethical issues especially when a study involves human beings as these issues includes, permission of data collection, informed consent, right to refuse and informed consent. The research proposal was presented to the School Higher Degrees Committee (SHSDC) of the School of Human and Social Sciences as well as to the University Higher Degrees Committee (UHDC) at the University of Venda for recommendation and approval by the University Research Ethics Committee (SHS/18/PH/03/1204). The ethical clearance was then presented to the Department of Health of Limpopo Province and to Seshego Zone Clinics management for requesting for permission to access the respondents.

#### **3.8.2. Voluntary participation and informed consent**

Voluntary participation was observed in this study. In other words, all participants participated freely, and they were informed that they could withdraw from the study any time they felt unomfortable (Mouton, 2001). Consent forms were given to each participant to sign. The researcher ensured that all the essential information such as purpose of the study and significance of the study, as well as voluntary participation, were provided on the consent form to enable the participants to make an informed decision before signing the form. Participants were told that they have the full right to refuse from participating in the research (they could choose not to respond to some or all questions) and participants that do not wish to further participate in the study could withdraw at any time.

#### **3.8.3. Confidentiality and anonymity**

The researcher agreed to maintain confidentiality by not divulging in any personal information given by the participants unless they have agreed that the information be shared. The respondents' sensitive and personal information was protected and were not be given to any other person nor used by anyone else other than the researcher and supervisor. This enabled the participants to speak freely and assist in the research in the best way possible. The participants were also told that the information collected for this research project would be kept confidential as the data would be kept under lock and key and the information provided by the

participants would not be made available or divulged to any other person. The respondents were also given pseudo names or numerical numbers e.g. 1,2,3.... Their real names were not used. The researcher explained that information the participants provided during the interview/discussion would be impossible to identify for both by the facilitator and the investigator because it has no real names or other identification on it.

### **3.9. Conclusion**

The chapter focused on research methodology and design as well as measures to ensure trustworthiness and ethics in dealing with humans. The next chapter presents the study finding.

## CHAPTER 4

### PRESENTATION OF RESULTS

#### 4.1. Introduction

This section present the study findings. The purpose of the study was to investigate the factors contributing factors of mother to child transmission of HIV in Seshego Zone Clinics in Capricorn District in South Africa. The data was collected using semi structured interviews from eighteen (18) female professional nurses from the four clinics in Seshego. The findings are presented in sections, following the structure of the interview guide. Apart from the demographic details of the study respondents, the other study findings are presented in themes and subthemes, as identified during analysis as well as verbatim supporting will be presented respectively.

#### 4.2. Demographic profiles of participants

Eighteen female nurses were interviewed. The distribution of the participants from all four clinics was even, with the majority (n=8) being holders of Diplomas in Nursing Sciences, five being holders of degrees in nursing and three having honours in Nursing. The remaining two were holders of master of Nursing Sciences degree. The study revealed the participants were sufficiently experienced, with the majority having ten years and above experience and a small number (n=04) having less than ten years professional nursing experience.

**Table 2: Themes and subthemes**

THEMES	SUBTHEMES
Health-system-related factors contribute to MTCT of HIV	<ul style="list-style-type: none"> <li>*Lack of proper and well equipped facilities.</li> <li>*Poor service delivery contributes to the increase in MTCT of HIV.</li> <li>*The long distance to health facilities.</li> </ul>
Patient related factors contribute to the increase in MTCT of HIV	<ul style="list-style-type: none"> <li>*Traditional, religious beliefs and subjective norms.</li> <li>*Socioeconomic status of the mothers increases MTCT of HIV.</li> <li>*Fear of stigma increases MTCT of HIV.</li> </ul>
Knowledge and attitudes of nurses and patients about MTCT of HIV	<ul style="list-style-type: none"> <li>*The nurses are knowledgeable and have positive attitude towards MTCT of HIV.</li> </ul>

	<p>*The patients' knowledge about MTCT of HIV is low and this has affected their attitude towards EMTCT.</p> <p>*Level of education of patients negatively affects their understanding of MTCT of HIV.</p>
The management strategies to reduce MTCT of HIV.	*Health education and community empowerment can improve EMTCT.

### 4.3. Themes

#### Theme 1: Health system related factors contributing to MTCT of HIV

The first objective investigated the perceptions of nurses on the contribution of health system to the increase of MTCT in HIV mothers. A number of health care system factors were identified, including lack of proper facilities, poor service delivery and inaccessibility.

- **Lack of proper and well equipped facilities.**

The study identified lack of proper facilities as a contributor to the increase in MTCT. The participants out pointed that the programmes such as PMTCT need a conducive environment, wherein the right of individuals to privacy and confidentiality is ensured. The study participants emphasised that despite the provision of clinics, upgrading is a pre-requisite to meet international standards. An experienced (twenty-seven years' experience) participant stated the following,

*"In my opinion we need enough infrastructure; the infrastructure we are working in is not suitable for offering this PMTCT because there is no privacy. We are working in an open space; the consulting rooms are few, as they are just four, so there is no privacy, it is not easy to ask questions in front of those who are not infected".* (Participant 13)

The other study participants shared the same views on the facilities are not user-friendly. Participant (10) supported the above sentiment as follows:-

*"The rooms are not enough for conducting this program; they are small and insufficient, I think they should be upgraded to make it better suited to cater for such a sensitive program. At the moment sometimes one room caters for two nurses with different patients".*

- **Poor service delivery contributes to increase in MTCT of HIV**

Poor service delivery was cited as being among the health system factors viewed as contributing to an increase to MTCT of HIV. Waiting time of patients were noted as a major reason for poor service delivery and it made some patients reluctant to consult or in some cases they did not adhere to medical prescriptions or they left the clinic without getting help because of the long queues. The study revealed that three hours was the minimum waiting period for a pregnant woman to be assisted at the facility. A participant who had been working with pregnant women for a long period confirmed this:

*“The normal waiting time normally is 3hours and I think it’s too long for our patients, especially the pregnant women because they will complain that they are going to work or to perform other activities like house chores but they have to wait for a long time”.*

Poor service delivery was further reported to be a result of understaffing at clinics. In as much as PMTCT is a crucial area it takes time per patient, hence more staff is required to exacerbate service delivery. The respondents reported that they were doing first come first serve, because of understaffing;

*“.....large number who come to attend ANC, for you to see one woman, it’s going to take you 1hr30min, just imagine if you have five women, it means the last one has to wait more than 3Hrs to be served, even if the staff is not enough. This waiting period gets worse. Some mothers are reluctant to come to the facility early ,we try our best to provide information and do all the assessments needed, that is why it takes time for one woman to get the entire package of PMTCT when they come to the facility for ANC”.*  
*(Participant 2, 12&17)*

- **The distance for the facility is too long**

The distance where each clinic is located was criticized for quality service delivery. The study revealed that the radius is too long which varied from approximately five to twenty kilometers. The issue of poor transportation and the fact that some patients’ crosses rivers to access it, make it worse. The remoteness of some areas within the radius were also criticized because on rainy days some mothers could not attend PMTCT programs. Two participants brought up two different views that supported the opinion that the distance is too long for quality service delivery;

*“5KM-20km, one needs others to accompany them to the clinic, if they fail maybe they don’t come and others are crossing the river. During rainy seasons, they don’t come to the clinic”.* *(Participant 02)*

*“The radius for people that we are supposed to serve is 5km but people come from as far as 20km which is a problem, as some of them get up at 4am to come and queue and when we come at 7am, the person is has a ticket number 120 ”.(participant 07)*

## **Theme 2: Patient related factors contributing to the increase in MTCT of HIV**

Patient related factors that contribute to MTCT of HIV were identified as complex and varied from area to area and from family to family. The second objective identified factors such as traditional and religious beliefs, stigma, and the socio-economic status of pregnant the mother, which included income and poverty.

- **Traditional and religious beliefs, as well as subjective norms**

The study established that MTCT of HIV increased because of the pregnant mother’s beliefs. The study noted that the majority of mothers who came to the clinic which they required, primary health care, after they have exhausted their traditional healers and faith healers’ remedies. It was discovered that these beliefs made them at risk and increased the rate of MTCT of HIV. The participants also reported that cultural and religious beliefs delayed mothers from seeking services on time; hence the increase in MTCT of HIV. The following sentiment were shared by participant number two:

*“Yes culturally our patients believe that, let me give you an example, when the woman is pregnant, the patient will take time to come to the clinic, she will start ANC at 30weeks, where we take blood and find that the patient is HIV positive, you think if the patient had come earlier, we could have protected the baby; so, culturally, our patients believe in traditional healers and prophets. ....our patients want to use traditional medicine, they believe traditional medicine is the best; they just go to the traditional healer and get the medicine and believe it’s better than western medicine and they won’t take our treatment, they take traditional healers’ medicine”. (Participant 2)*

As if that was not enough, cultural beliefs were also responsible for non-adherence of mothers to ARVs, because of subjective norms. It was also noted that some mothers consult and don’t use and follow the directions on the medication, as some family members influence them to adopt unscientific ways of treatment, which includes prayers, ZCC holy tea and traditional medicine. As a result, the viral load increases and dangers the unborn child. Participants from all clinics shed more light on the aspect of subjective norms and the following sentiment reports were made:

*“Firstly, let’s start with the issue of married women, because the man is still the head of the family, if the man refuses to use condoms, even if they know they are HIV positive, there is nothing the women can do. Even when the mother is breastfeeding, you find that the mother is on ARVs and the husband is not on ARVs but still he wants to sleep with the woman without condom...so, you see the risk on the baby is very high. The other thing is traditional use of medicine, that’s how culture affects us. They are using ARVs and herbal medicines, they end up with high VL”. (Participant 4 &5)*

- **Socio-economic status of the mother as a contributing factor to the increase in MTCT of HIV**

The study established the socio-economic status of the pregnant mother is a contributory factor in increasing the MTCT of HIV. The participants indicated that most of the mothers were from economically disadvantaged families and ill social backgrounds, wherein some did not have a steady income and they only relied on social grants. Therefore, it was difficult for them to meet their appointment dates because they did not have money for transport, and this negatively affected the PMTCT;

*“It does affect the programs, because some of the patients you give them the dates and they don’t have money to come or the husband did not get paid, and they say that is why I didn’t come last month, maybe you were supposed to do something to the baby or give the mother some medication”. (Participant 11)*

Poverty was also identified as affecting the dietary requirements of the affected mothers, as they could not afford a balanced which is a prerequisite for the success of PMTCT. Apparently, despite the advice by nurses for patients to start small gardens, but they do not do so:

*“They have many children because they depend on the child grant and they don’t eat well -balanced diet because they cannot afford it, they can’t because they are not working and the unborn baby becomes malnourished and this results in preterm”. (Participant 03)*

- **Fear of stigma increases MTCT of HIV**

The study also identified stigma as central to the high rate of MTCT of HIV in the Seshego community. It was reiterated by three participants who noted the importance of societal acceptance of people living with HIV for the success of PMTCT. This is not the case with the mothers in Seshego; the perception of the participants was if patients were free to disclose their status, they would be stigmatized. This did not assist in the management of the situation, not



only for disclosure after consultation. It was worse when the mother was on treatment and they felt stigmatized and failed to take treatment on time or in the presence of family members;

*“They also don’t disclose their status as they are afraid of being discriminated and if they don’t disclose their status, they won’t take treatment on time because if there are family members in the sitting room and is time for medication, it will be difficult because they don’t want to be seen doing so”. (Participant 15& 13)*

The study revealed that the viral load is always high among the mothers because of these delays, due to societal stigma;

*“As we all know taking ARVs is not easy, the mothers need love and support because there are some side effects involved. Also, there is a stigma involved, but if the person receives support it makes things easier. So, some people, once they tell their family members that they are HIV positive, they start to be discriminated against, and the VL increases; it affects the unborn”. (Participant 09)*

### **Theme 3. Knowledge and attitudes of nurse and patients about MTCT of HIV**

The present study established that the nurses are knowledgeable and it has consequently affected their attitudes toward the MTCT of HIV. On the contrary it was shown that the patient’s knowledge about MTCT is not sufficient, and hence their attitude does not influence the uptake of PMTCT.

- **The nurses are knowledgeable and have a positive attitude towards MTCT of HIV.**

The participants have attested that they are knowledgeable of MTCT of HIV as majority of them reported that they had attended courses on PMTCT

*“Pregnant women are our priority; they must leave the facility with treatment the same day. Again you must check the VL of all pregnant women every 3month. For those who start ANC being on ARVs, the first day they come, we want to know the VL, to check whether the treatment they are taking is working for them or if they need change it or if they are not adhering to treatment.*

Another participant revealed her adequate knowledge on MTCT, as she reported that she had worked at all the clinics in Seshego said,

*“And the babies now, if the VL is suppressed, the mother’s VL is undetectable. The baby will get NVP for 6weeks but if VL is high or the mother has taken ARVs <4weeks the baby will get NVP and AZT when a pregnant woman comes being positive, you give treatment immediately and take blood for CD4 count. If the woman is already on ARVs, you take their blood for viral load”. (Participant 06)*

The participants also revealed that they were continuously receiving in-service training and showed commendable level of skills in terms of how to deal with MTCT which included the do's and don'ts for a mother who is pregnant and living with HIV. Among other things, the study showed that the pregnant mother living with HIV, is supposed to practice safe sex, adhere to treatment and visit the clinic regularly as advised by the nurse.

*“Yes I was trained for 5 days in 2015 on MTCT and they gave us reports. I learned about disclosure, which ARVs to give, because not all pregnant women will get the same ARVs, what to do in case of challenges. Before giving ARVs you screen the patient to check if they qualify for the ARVs and sometimes you come across some challenges where the patient does not qualify for a certain medication so we have learned what to do and which patients to refer to specialist”.* (Participant 18)

The participants displayed a high level of understanding of the National Consolidated Guidelines, which is an instrumental document which strives to promote the health of the affected mothers and for the success of PMTCT. The majority of participants shared the following sentiment;

*Yes, in the new guidelines we have universal test and treat (UTT) and we initiate treatment regardless of CD4 count and regarding the VL suppression, for each pregnant woman, we must check the VL yearly (Participant 01, 02, 12, 08&14).*

- ***The patient's knowledge about MTCT of HIV is low and this affected their attitude towards EMTCT***

Given the influence of cultural beliefs and myths, the patients' knowledge of patients about MTCT is low. The study indicated that even those who were knowledgeable about it had a negative attitude on PMTCT because of issues of stigma and denial.

*“I can say they have the knowledge but some as I said before, they are still in denial or not disclosing. There is problem of disclosure in our community because you find that the mother is the only one who knows the status, but helpers at home don't know it”.*  
(Participant 05)

In addition to the above the subjective norms emanating from cultural beliefs, there needs to an improvement in the knowledge of the patients;

*“It negatively impacts MTCT because if they don't have knowledge, they really have to get tested and it depends, some have pre-knowledge and some might tell you “ my husband got tested last week at work, so there is no need for me to be tested”, relying on the husband's results”.*

- **Level of education of patients negatively affects their understanding of MTCT of HIV**

The level of education of pregnant mothers was viewed as a contributory factor to the increase of MTCT of HIV. The participant pointed out that through their pre-knowledge test during health education sessions they had noted with great concern that most women who are HIV positive, are not educated and it has challenged them in understand PMTCT better.

*“They don’t have the knowledge even when you try to fill the gap, they don’t understand the HIV in pregnancy and the effects on the baby. Their knowledge is lacking but we try to explain to them but they are not knowledgeable as some of them are not educated enough to understand HIV and the processes”. (Participant 10).*

#### **Theme 4: The management strategies to reduce MTCT of HIV**

The study also indicated several possible strategies that can be adopted to reduce the rate of MTCT of HIV among mothers in Seshego communities. The major strategy suggested was the upgrading of the existing facility and building of new facilities, with proper support, with qualified staff and the required equipment. The study established that challenges such as long waiting time and distance can only be solved when new clinics are built within acceptable radiuses and enough medication is provided.

*“When I talk in terms of support like the issue of infrastructure, they must make sure that our structure has enough consulting rooms, and then enough staff, and then it will also reduce the 3 hour waiting period because we will be able to manage those who come to the clinic and leave the clinic without being checked.”(Participant 12)*

- **Health education and community empowerment can improve EMTCT**

The participants also indicated that it is the responsibility of the Department of Health to empower the community to fight against the HIV stigma. People need to be assisted dealing with issues of denial, and this will be possible only if they have proper information through intensive workshops, to make their attitude positive towards PMTCT. The study also identified the need for well-trained mother mentors, to educate the mothers with HIV as a success strategy for PMTCT;

*“Mentor mother are needed, to establish the relationship in order to assist them to solve those problems because if a clinical nurse practitioner (CNP) is working alone, Involving mentor mother assists a lot because they don’t only talk about PMTCT specifically but they also address other social issues that the mothers might not have mentioned. We do medical assessment in our consulting room as a CNP, they reach out because they*

*have been there, they even ask according to the experience because they have been in the PMTCT programme” (participant 09)*

The essence use of using media in health promotion was suggested as crucial, as one of the participant indicated:

*“we can use the media to communicate with the patients or clients at large, where we give in-service and health education regarding the importance of early ANC booking, adherence and compliance of ARVs, taking them every day at same time, as prescribed by the practitioner and coming up for follow up visit then we will be able to be win the battle against MTCT”. (Participant 01)*

#### **4.4. Conclusion**

The present chapter presented the narratives from study participants. The next chapter discusses the findings with the support of literature.

## CHAPTER 5

### DISCUSSION OF THE RESULTS

#### 5.1. Introduction

This chapter discusses the results of the study and relate it to the literature review and other related information. The results will be discussed in relation to the themes derived from the data and reviews the contribution of the study in terms of the research's main and specific objectives. The results will also be discussed in relation to their implication to the theoretical approaches on contributory factors to MCTC of HIV. The purpose of the study was to investigate the factors contributing factors of mother to-child-transmission (MTCT) of HIV in Seshego Zone Clinics in Capricorn District in South Africa. Several themes and themes were identified and the discussion will be made accordingly.

#### 5.2. Health system related factors contributing to the MTCT of HIV

The study found that the perceptions of nurses on the contribution of health system responsible for the increase in MTCT of HIV mothers. Furthermore, lack of proper facility, poor service delivery and inaccessibility were identified as the main health system factors. The present study identified lack of proper facilities as a contributor to the increase of MTCT; PMTCT needs a conducive environment, where the right of individuals to privacy and confidentiality is ensured. In a similar study, in Pretoria, Tshwane by Ogbonna, Govender and Tumbo (2012) it was consistently conducted that the availability of adequate facilities and equipment for PMTCT program is essential for good quality and sustainability of the PMTCT services provided to the clients. The study further revealed some reasons which were not highlighted by the present study, wherein they pointed out that the funding of the PMTCT program is mostly public (government), which they blame on financial constraints.

The poor service delivery with regard to long waiting period, characterised by long queues was revealed to be among the health system factors that contributes to an increase to MTCT of HIV. Even though the present study did not clearly reveal the possible reasons, consistent studies conducted in West and Southern African have indicated that long waiting periods were caused by the shortage of the workforce, such as a limited number of counsellors, midwives and laboratory personnel. These affects the implementation of the PMTCT program (Balira et al., 2015). Furthermore, in a study conducted in Ethiopia it was concluded that the scaling of the

PMTCT services needs an adequate number of trained staff hence influencing the PMTCT services quality and de-motivating the pregnant women's uptake of PMTCT services (Merga, Woldermichael and Dube, 2016).

The current study revealed that the radius is too long which varied from approximately five to twenty kilometers. Furthermore, poor transportation was noted, as some patients were from remote areas. These study finding are in line with the findings of Lankowski et al. (2014) in their study in Sub-Saharan Africa, who found that PMTCT services are inaccessible to most pregnant women in need and particularly those with no referral system in place. A study, conducted in South Africa shed more light, as it further indicated that HIV pregnant women living near the health facility are more likely to be utilizing PMTCT services than to those residing too far from the facility (Clouse et al.2018).

### **5.3. Patient related factors contributing to the increase in MTCT of HIV**

The findings established that the MTCT of HIV is high because of the pregnant mother's cultural and religious beliefs. It was revealed that they consult traditional healers and faith healers, first before seeking health care from the clinics. These findings contradict with the situation in Europe and America, where it was found that beliefs do not prevent black Africans living in London from accessing HIV testing or starting antiretroviral therapy. According to a study by Flint (2015) it was found that strong religious beliefs about faith and healing do not act as a barrier to accessing HIV services or antiretroviral treatment. However, the findings of African studies in Ghana support/correlate with the present study, as they concur that faith and traditional sacred beliefs often important to people from African communities. In the indigenous religions of Ghana, both groups presented difficulties when treating HIV, wherein HIV positive women came to the health center for follow up visits, while their husbands defaulted. In short, health and religion are uniquely connected in African communities, especially when an HIV patient begins treatment. S/he is considered lucky if he or she starts to improve right away, as traditional healers and Pastors commonly preach that they have a cure for HIV.

Overall, the findings of the literature reviewed are congruent with the notion that culture matters when determining the level of health of the individual, family, and community context. Our findings also lend support to the idea that culture-centered interventions focused on the factors that nurture the individual, including family contexts, is crucial to the success of PMTCT service uptake such as HIV testing, infant feeding choices, and adherence to ARV's. Finally, while we

examine the role of culture in this study we are also making the case for faith-based intervention research, as very little is known about the intersection of culture and faith, particularly in the context of families. We believe this is an important area of future research

#### **5.4. The socio-economic status of mother as a contributing factor to the increase in MTCT of HIV**

The current findings also established that most of the mothers were from economical disadvantaged families and socially ill backgrounds, wherein some didn't have a steady income, where they only relied on social grant. These findings were found to support what transpired in the poverty-stricken Sudan, where pregnant women who lived in poverty faced many barriers to accessing prenatal care; structural barriers such as lack of transportation, no telephone; health care provider shortages, cultural and linguistic barriers, and high levels of stress (Schnake and Sommers, 2017). The authors further found that poverty leads to maternal health conditions like diabetes, hypertension, anemia and obesity and uncontrolled. These conditions can lead to poor PMTCT among pregnant mothers.

The present study revealed that stigma is central to the high rate of MTCT of HIV in Seshego community, wherein societal acceptance is poor. Two studies in Africa reached the same conclusion, wherein HIV-related stigma and motivation to have an HIV test were found. The main barrier was not only fear of knowing one's HIV status but also the fear of being stigmatized (Katz, 2015). Stigma at the individual level may be a barrier to access and utilization of the PMTCT services by the pregnant women in Africa, A cross sectional study in Tanzania, conducted among pregnant women in 2010 pointed out that fear of the HIV related stigma was one of the causes of refusal of HIV testing provided in ANC services (Mc Mahon et al., 2017).

#### **5.5. Knowledge and attitudes of nurse and patients about MTCT of HIV**

The study participants found that nurses are knowledgeable about MTCT of HIV. Ogbonnar, Govender and Tumbo (2016), shared the similar sentiment as they revealed that to implement the PMTCT program effectively and combat MTCT, it is necessary for healthcare professionals to have adequate knowledge of and comply with the implementation of the guidelines. The practice and attitude of these health workers will depend on how much of this knowledge they have and how often they update their knowledge. Lankowski et al. (2014) added that poor knowledge of HIV transmission and ARV drugs emerged frequently as a reason for dropping out of PMTCT programs. The understanding of National Consolidated Guidelines by participants of



the present study was satisfactory and it was also in line in the study findings of Flint (2015) who showed that the practices of PMTCT amongst doctors and nurses were noted satisfactory.

Despite the nurses' high MTCT knowledge and contrary to the influence of cultural beliefs, subjective norms and myths, the knowledge of patients/pregnant mother with HIV regarding MTCT was found to be low in the present study. Consistently to given views, in Sudan married women relied on lay people regarding MTCT, in such as elderly women in the family, peers and care providers. In support of the findings of the study, a quantitative study in rural South Africa found that, women with higher PMTCT knowledge scores were more likely to adhere to treatment (Gourlay, 2013). Merga, Woldermichael and Dube (2016) shed more light on the influence of the mother's knowledge regarding MTCT, wherein it was discovered that, pregnant women with a secondary education and above were more knowledgeable about MTCT and prevention methods and sources of information could affect her attitude towards PMTCT services. For instance, Adeneye et al (2007) in their study involving pregnant women in Nigeria, revealed that pregnant women with adequate information about HIV and MTCT are more willing to use PMTCT services.

As the study has chosen Anderson framework for health seeking behavior and service utilization, it concurs with the findings as the nurses has expressed their knowledge on how inadequate space, lack of privacy of patients and shortage of staff hinder the provision of MTCT services at the clinics. A study conducted by Anderson and Newman (2005) showed that health behavior, which includes personal health practices and the use of health services, influence the health outcome of clients. In the current study, women's religious and traditional beliefs affect MTCT, as the women started at traditional healers and pastors before seeking help at the clinics. The findings also showed that nurses are knowledgeable about the current MTCT guidelines, as they understand all the changes and how to manage HIV in pregnant women.

## **5.6. Conclusion**

The chapter discussed the study findings and used the literature to refute or support the discussion. The next chapter discusses the recommendations, limitations and conclusions.



## CHAPTER 6

### RECOMMENDATION, LIMITATIONS AND CONCLUSIONS

#### 6.1. Introduction

The purpose of the study was to investigate the factors contributing factors of mother-to-child transmission (MTCT) of HIV in Seshego Zone Clinics in Capricorn District in South Africa. This chapter presents the limitations and recommendations based on the study findings. The conclusions were drawn from the findings which were presented in themes, following the specific objectives of the study

- To explore health system factors contributing to increase in MTCT of HIV in Seshego Zone Clinics, Capricorn district of Limpopo Province;
- To describe patient related factors contributing to increase in MTCT of HIV in Seshego Zone Clinics, Capricorn district of Limpopo Province;
- To describe the nurses' knowledge and attitude on MTCT at Seshego Zone Clinics, Capricorn District of Limpopo Province and
- To suggest management strategies to improve management of HIV positive mothers to reduce the transmission of HIV to unborn and infants in Seshego Zone Clinics, Capricorn District of Limpopo Province.

#### 6.2. Themes emanating from the research objectives

##### 6.2.1. Health system related factors contributing to MTCT of HIV

- The present study concluded that facilities are not user-friendly, accompanied by lack of proper facilities and the required equipment for PMCTC, are contributing factor to MTCT of HIV among pregnant mothers.
- The study concluded lack of conducive environment, where the right of individuals to privacy and confidentiality is ensured.
- The study concluded that there is waiting time of patients is too long (minimum of 3 hours) that might contribute to MTCT, as poor service delivery is characterised by long queues.
- In addition to the long waiting time, the findings concluded that understaffing at clinics is another contributing factor to MTCT of HIV.

- The distance that each clinic in Seshego is serving was found to be too long for quality service delivery.

#### **6.2.2. Patient related factors contributing to the increase in MTCT of HIV**

- The study concluded that the traditional, cultural, religious beliefs and subjective norms are contributory factors to MCTC of HIV.
- Pregnant mothers with HIV believed in faith healers and traditional healers for traditional medicine and prayers.

#### **6.2.3. The socio-economic status of the mothers contribute to the increase in MTCT of HIV**

- The study concluded that poverty, characterized with lack of finance and low income, contribute to MTCT of HIV
- The study concluded that fear of stigma and lack of central acceptance are central to the high rate of MTCT of HIV in Seshego Community, Limpopo.

#### **6.2.4. Knowledge and attitudes of nurse and patients about MTCT of HIV**

- The study concluded that the professional nurses in Seshego are highly knowledgeable and have a positive attitude towards MTCT of HIV.
- The study concluded that the nurse knowledge is high because of in and out service training on MTCT.
- The patients' knowledge about MTCT of HIV is low and this affected their attitude towards PMTCT
- The patient level of education is low and this is assumed to be contributing to the MTCT of HIV

#### **6.3. Limitations**

The study was conducted in the community of Seshego in Capricorn and may be context-specific and this may affect the generalizability of the findings to other sites. However, despite the context it can be used for comparison. Other limitations may emanate from possible unnoticed biases arising from the use of instruments developed by an inexperienced researcher and from possible incorrect information given by respondents who happen to be nurses.

#### 6.4. Recommendations

The study through its findings and the discussion, makes the following therefore recommendation:

- There is a need for further studies on this topic to identify key barriers to MTCT and develop strategies to address unmet needs, such as for family planning services for women living with HIV
- Efforts should be made to adapt audience-specific informational and educational materials, strengthen existing community involvement and address patient-related factors such as unknown maternal HIV infection status before pregnancy, late commencement of antenatal care services, unplanned pregnancies, and low levels of educational status.
- There is also a need to increase family-oriented and culture friendly community-based PMTCT programs and improve performance, to expedite projects. The limited resources could be optimally used to tackle key challenges encountered during delivery of PMTCT services.
- Women living with HIV should be encouraged to disclose their HIV status to their partners, and should be helped to overcome barrier like retaining women in care, which is responsible for poor treatment adherence through dedicated efforts
- To increase their knowledge and awareness about PMTCT, information about the program should be given to all women and to those w o m e n in reproductive age. This information could be provided through couple counselling or campaigns to sensitize all women to the issue.
- To reduce the negative influence of socio-cultural beliefs and opinions among mothers, context-specific and cultural sensitive messages should be formulated and disseminated through health education on reproductive health and PMTCT.
- PMTCT clinics should be made friendlier to women and service providers should ensure that all efforts should involve men from the beginning in every PMTCT intervention.
- Broadly, the study recommends that looking at social and cultural factors that contribute to MCTC, it is crucial to involve men in PMTCT. The call for involving men in PMTCT is important because men do influence women's access to health services through their control of finances, women's mobility and means of transportation.

Furthermore, health care decisions are more crucial in the African context, because of the rapid spread of the HIV/AIDS pandemic and because of cultural norms and taboos which reinforce negative stereotypes about male involvement in PMTCT programme.

## **6.5. Conclusion**

The chapter discussed recommendations, limitations and conclusion of the study.

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## Appendix A: LETTER OF PERMISSION

P.O BOX 794

LADANNA

0704

08 August 2018

THE HEAD OF DEPARTMENT

DEPARTMENT OF HEALTH

P/BAG X 9316

POLOKWANE

0700

ATTENTION: PROVINCIAL RESEARCH ETHICS COMMITTEE CO-ORDINATOR

REQUEST FOR PERMISSION TO CONDUCT THE STUDY AT THE PROVINCIAL HEALTH FACILITY (SESHEGO ZONE 1, 2, 3 and 4 CLINIC)

Dear Sir/ Madam

I, Ramashala Raisibe Maria, a master's student at the University of Venda, under supervision the of Professor DU Ramathuba, hereby request permission to conduct a research study at the healthcare facilities at Seshego Zone 1, 2, 3 and 4 clinic of the Limpopo Province. The title of my research project is: Factors contributing to mother to child transmission at Seshego Zone Clinics, Capricorn district in South Africa.

The main purpose of the study is:

To investigate factors contributing to mother to child transmission at Seshego Zone clinics, Capricorn district in South Africa. The objective of the study is to explore health system factors contributing to increase in MTCT of HIV, to describe the patient related factors contributing to MTCT and to suggest management strategies to improve management to HIV positive mothers to unborn and infants at Seshego zone clinics.

The researcher will invite participants to voluntarily participate in this study. There should be no risks or discomfort to participants in sharing their experiences during individual interviews. The researcher will conduct an in-depth one-to-one unstructured interview that will last not more than one hour in a private room without disturbances. The researcher will use a voice recorder to capture all interview proceedings. Field notes will be written to capture the non-verbal cues which cannot be captured by the voice recorder.

The recording will only be used by the researcher to remember what has been said. As soon as the tape has been transcribed, the tape will be erased once the promoter and co-promoter give their permission to do so. Participants' names or any information that identifies them will not appear on the tape or on transcripts to ensure confidentiality. Furthermore, the identity of participants will not be revealed when the study is reported or published. Participants have the right to autonomy and can withdraw at any stage of the research process.

Findings of this study will benefit the institution, and results will be made available on request.

The proposal has been approved by the Faculty of Health Sciences: Ethics Committee

I trust that my application will receive your favorable consideration.

Yours Sincerely

Ramashala Raisibe Maria

Tel no Work: (015) 223 6895

Cell no: 078 159 7694/ 076 682 5212

E-mail address: [mariaraisibe76@gmail.com](mailto:mariaraisibe76@gmail.com)



RESEARCH AND INNOVATION  
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:  
**Mrs RM Ramashala**

Student No:  
11530412

PROJECT TITLE: **Factors contributing to mother to child transmission (MTCT) of HIV at Seshego Zone clinics at Capricorn District in South Africa.**

PROJECT NO: SHS/18/PH/03/1204

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Prof DU Ramathuba	University of Venda	Supervisor
Prof AK Tugli	University of Venda	Co - Supervisor
Mrs RM Ramashala	University of Venda	Investigator - Student

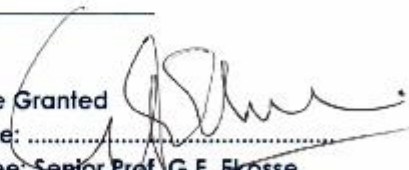
ISSUED BY:  
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: June 2018

Decision by Ethical Clearance Committee Granted

Signature of Chairperson of the Committee: .....

Name of the Chairperson of the Committee: Senior Prof. G.E. Ekosse



UNIVERSITY OF VENDA DIRECTOR RESEARCH AND INNOVATION 2018 -06- 13 Private Bag X5050 Thohoyandou 0950
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University of Venda

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DEPARTMENT OF HEALTH

Enquires: Stander 55 (015 293 6850)

Ra<sup>n</sup> LP 2018


Ramashala R.M  
University of Venda

Greetings

RE: Factors contributing to mother to child transmission (MTCT) of HIV at Seshego Zone Clinics at Capricorn Districts in South Africa

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:
  - Research must be loaded on the NHRD site (<http://nhrd.hst.org.za>) by the researcher.
  - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager
  - In the course of your study there should be no action that disrupts the services, or incur any cost on the Department.
  - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
  - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
  - The above approval is valid for a 1 year period.
  - If the proposal has been amended, a new approval should be sought from the Department of Health.
  - Kindly note, that the Department can withdraw the approval at any time

Your cooperation will be highly appreciated.

  
Head of Department

31.01.2019.  
Date

Private Bag X9302 Polokwane  
Fidel Castro Ruz House, 18 College Street, Polokwane 0700. Tel: 015 293 6000/12. Fax: 015 293 6211.  
Website: <http://www.limpopo.gov.za>

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## Appendix B: University of Venda consent form

Statement concerning participation in a Research Project.

Name of Project

TO INVESTIGATE FACTORS CONTRIBUTING TO MOTHER TO CHILD TRANSMISSION AT  
SESHEGO ZONE 1, 2, 3 and 4 CLINICS

I have read the information on /heard the aims and objectives of the proposed study and was provided the opportunity to ask questions and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.

I understand that participation in this Project is completely voluntary and that I may withdraw from it at any time and without supplying reasons. This will have no influence on the regular treatment that holds for my condition neither will it influence the care that I receive from my regular doctor.

I know that this Project has been approved by the Research, Ethics and Publications Committee of Faculty of Health, University of Venda. I am fully aware that the results of this Project will be used for scientific purposes and may be published. I agree to this, provided my privacy is guaranteed.

I hereby give consent to participate in this Project.

.....

Name of patient/volunteer

Signature of patient or guardian.

.....

Place

Date

Witness

Statement by the Researcher

I provided verbal and/or written information regarding this Project

I agree to answer any future questions concerning to Project as best as I am able.

I will adhere to the approved protocol.

.....

Name of Researcher

Signature

Date

Place

### **Appendix C: Interview guide for nurses**

1. To explore health system factors contributing to the increase in MTCT.
  - What is your perception of health care facility's ability to offer quality MTCT services?
  - What is the radius of the places that you serve at the clinic and how do you think the distance can affect rendering MTCT?
  - What is the waiting time at your clinic and how does it affect you in rendering MTCT?
  - How does the clinic structure affect you in providing MTCT?
2. To describe patient related factors contributing to the increase in MTCT.
  - How does the patient's culture contribute to increase in MTCT?
  - How does patient's knowledge contribute to increase in MTCT?
  - How do socio-economic factors such as poverty and support in the family contribute to MTCT?
3. Nurses' knowledge and attitude towards MTCT.
  - Are you aware of the current MTCT guidelines and what do it says?
  - Have you undergone any training on MTCT and for how long?
  - Specifically what have you learned that you think will help reduce the increase in MTCT?
4. To suggest management strategies to improve the management of HIV positive mothers, to reduce the transmission of HIV to unborn babies and infants
  - What do you think the government can do to improve EMTCT?