







































PMTCT programs and should endeavour to instil positive attitudes to lead to positive PMTCT practices.

**Nursing research:** To report and deviation from norm regarding knowledge, attitude and practices of antenatal pregnant that are HIV, and to get evidence base information on HIV infection among older as well as younger people whose lives might at stake in many areas. Nursing research reveals the needs of the antenatal attendees as well as the fears to maintain PMTCT program. According to (AVERT, 2018) Gender inequalities and harmful gender norms underpin this cycle and lower access to education, lower levels of economic independence and intimate partner violence erode the ability of women to negotiate safer sex and retain control of their bodies. Numerous HIV prevention programmes are trying to address this cycle of infection.

**Nursing education:** Midwives will be prepared to establish a strong nurse patient relationship as they are primary care giver of information on PTMCT, to improve the knowledge, attitude, and practices of HIV positive pregnant women towards the prevention of mother-to-child transmissions. The success of PMTCT is in the hands of the midwives. The World Health Organization (WHO) promotes a comprehensive approach to PMTCT programmes including the provision of appropriate treatment, care and support to mothers living with HIV, their children, and families ((AVERT, 2018). In-service training must be always done.

**Nursing administration:** To evaluate the standards that used if they are effective as prevention of mother-to-child transmission is dynamic. To improve the policies about the guidelines of PMTCT therefore the study may assist policymakers to develop

policies that render support for PMTCT program and improve the lives of the antenatal women living with HIV. To keep the nursing administrators up to date with the growing trend of prevention and keep the statistics of the antenatal pregnant women living with HIV accurate, as well increase the number of nursing personnel to prevent the long waiting periods. A nursing course or module on HIV/AIDS with PMTCT should be offered as short course by in the hospitals or clinics to improve the standard of nursing practice.

## **6. Research questions**

1. How to measure the knowledge of pregnant antenatal women living with HIV regarding prevention of mother-to-child transmission (PMTCT)?
2. How to measure the attitudes of pregnant antenatal women living with HIV towards the prevention of mother-to-child prevention?
3. Describe preventative practices of pregnant antenatal women living with HIV regarding the prevention of mother-to-child transmission?

## **7. Chapter outline**

This introductory chapter provides a background for this study. In addition, it presents the problem statement, research question, aim, objectives, significance, and the definition of key concepts used in the study. The aim of PMTCT is to identify all women who are HIV positive including those who seroconvert during pregnancy and breastfeeding, to provide ART, as soon as HIV positive status is known, for maternal health reasons and to prevent mother-to-child transmission of HIV as well as to improve maternal health and prevent mortality (Guidelines for maternity care in South

Africa, 2015). The HIV prevalence of all ages was 14.0% (95% CI 13.1-15.0), which is significantly higher than the 12% estimated in 2012 (National Consolidated Guidelines, 2020) therefore more intervention to the pregnant needs to be done. The rest of the thesis will be presented as follows:

**Chapter 2:** The literature review focuses on studies on PMTC programmes and knowledge, attitudes, and practices of pregnant women with HIV/AIDS.

**Chapter 3:** A detailed explanation of the research methodology.

**Chapter 4:** The results from the study

**Chapter 5:** Discussion of the results compared to empirical literature.

**Chapter 6:** The study is concluded by reflecting on its research objectives and aim and considering the findings in Chapter 4. The limitations of the study are identified, as are possible areas for further research.

## 8. Summary

This chapter provided an introduction and overview of the study, focusing on its background, problem statement, research question, aim, objectives, significance, and definitions of key concepts. In the following chapter, Chapter 2, a literature review is presented. Evidence has shown that the early use of ART keeps people living with HIV alive and healthier and reduces the risk of HIV transmission (National Consolidated Guidelines, 2020). PMTCT programmes supports safe childbirth practices and appropriate infant feeding, as well as providing infants exposed to HIV with virological testing after birth and during the breastfeeding period, ART for prevention and effective treatment (AVERT, 2018).

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

A literature review was conducted to provide information about the study topic to enable the researcher to draw conclusions and link the findings of this study to the body of literature (Brink et al., 2012). This literature review will focus on the following topics relevant to the research; HIV/AIDS transmission, risk factors, mother-to-child transmission (MTCT), prevention of mother-to-child transmission (PMTCT) programmes, establishment of PMTCT programs in South Africa, labour, and delivery and PMTCT breastfeeding and PMTCT, Patients' knowledge, attitudes, and practices towards PMTCT.

### **2.2 HIV/AIDS and MTC transmission**

HIV/AIDS has remained a serious global emergency (Myles, 2016). Though, nationally the HIV prevalence among pregnant women continued to be stable at around 300%, young women between the age of 15-49 years of age as this age group is at increased risk of HIV acquisition (Woldesenbet et al., 2019). Two-thirds of the global HIV burden is in Sub-Saharan Africa, where HIV/AIDS is a leading cause of maternal and child morbidity and mortality rates (WHO, 2006). Without treatment, one third of children living with HIV would die at infancy with just over half living beyond the second year of life (WHO, 2006). According to AVERT (2018) number of countries have now reached the elimination threshold for mother-to-child transmission of HIV and syphilis.

## 2.3 Risk factors

Globally, 38 million people were living with HIV in 2019, 1.7 million were newly diagnosed or infected then 690 000 died from AIDS related illnesses (UNAIDS, 2020). Females between the ages of 15- 24 are four times more likely to contract HIV than their male partners (UNAIDS, 2020). Exposure to infected blood through parenteral exposure via transfusions or sharing needles or occupational exposure, risk of transmission is 0.3% and 0.09% after mucous-membrane exposure, with needle stick injury, risk of transmission is 1/300 and the overall transmission risk of HIV/AIDS in breast fed child is as high as 30-40% (Lette et al. 2019). Dr Fareed Abdullah CEO of the South African National Aids Council (SANAC) stated that these statistics are worrisome as one quarter of all new infections are in young women between the ages of 15 and 24 years” (SANAC 2013). In addition, in South Africa, 4 per cent of women who were initially HIV negative, later tested positive resulting in recommendations that all pregnant women (HIV+ or not) should be encouraged to use condoms to prevent sero-conversion during pregnancy (Maternal Guidelines, 2016).

## 2.4 Mother to child transmission (MTCT)

HIV can be transmitted from an HIV-positive woman to her child during pregnancy, childbirth or breastfeeding (mother-to-child transmission (MTCT), also known as ‘vertical transmission and this accounts for most HIV infections in children 0-14 years, (AVERT, 2019). Mother-to-child transmission is the transmission of the HIV virus by an infected mother to her child during the pregnancy period, labour, delivery, or breastfeeding period (Abajobir et al. 2013), at any point during lactation HIV transmission can occur through breast milk (Myles, 2016).

The World Health Organisation (WHO) based its recommendations on infant feeding for mothers living with HIV on the comparative risk of infants acquiring HIV through breastfeeding with the increased risk of infants dying from illnesses such as malnutrition, diarrhoea and pneumonia, which increases if they are not breastfed (AVERT, 2018).

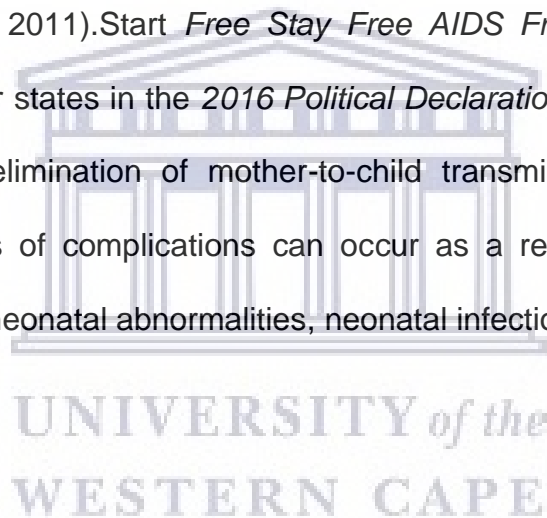
Keeping women and infants in PMTCT programmes after delivery has been noted to be challenging due to the high numbers of women who stop care and treatment resulting in more infant's infections occurring during the postnatal period due to breastfeeding rather than pregnancy (AVERT, 2018). In 2017 UNAIDS launched Start Free Stay Free AIDS Free, also known as the Super Fast-Track Framework and Action Plan which builds on the successes achieved under the Global Plan Towards the Elimination of New HIV Infections Among Children by 2015 and Keeping their Mothers alive by bringing additional focus to the HIV prevention and treatment needs of children and adolescents (AVERT, 2018).

## **2.5 PMTC Programmes**

HIV infected woman are at risk of transmitting the virus both horizontally and vertically throughout their reproductive years (Joshi et al., 2011). To prevent vertical transmission, early antenatal care registration with immediate HIV testing in the first trimester is recommended (Joshi et al., 2011). In 2014, data extracted from the South African National Health Laboratory Service (NHLS) Corporate Data Warehouse (CDW) reported a decrease in early MTCT with a total of 4 078 HIV PCR-positive results or infants <2 months of age despite an increase in HIV PCR tests performed (Guidelines for Maternity Care in South Africa, 2016). These results suggest an early MTCT rate of

1.8% and the successful achievement of the South African National Strategic Plan target of <2% by 2015 (Guidelines for Maternity Care in South Africa, 2015). A study done by AVERT (2018) expressed a concern that PMTCT is not 100% effective and that the elimination of HIV should be defined as reducing the final HIV transmission rate to 5% or less among breastfeeding women and to 2% or less among non-breastfeeding women by 2020.

The provision of dual therapy and highly active antiretroviral therapy (HAART) to HIV positive pregnant women has reduced the risk of mother-to-child transmission to less than 5% (Goga et al., 2011). *Start Free Stay Free AIDS Free* embraces the goals adopted by UN member states in the *2016 Political Declaration on ending AIDS* which commits to the dual elimination of mother-to-child transmission of both HIV and congenital syphilis (lots of complications can occur as a result of syphilis such as miscarriage, stillbirths, neonatal abnormalities, neonatal infections and death (AVERT 2018).



With the aim to prevent MTCT, prevention of mother to child transmission (PMTCT) programmes has been recommended (National Department of Health, 2015). It is recommended that pregnant women on ART's viral load are to be checked every three months in pregnancy (antenatal), labour, delivery and at six weeks (National Department of Health, 2015). In addition, the Expanded Programme on Immunisation (EPI) for children to be followed three monthly and during the breastfeeding period (National Department of Health, 2015). The guidelines also recommend that all the women with contra-indications to be re-considered high risk and should receive a fixed dose combination and are started on AZT and referred immediately for an urgent



initiation of triple therapy (National Consolidated Guidelines for PMTCT and Management of HIV in Children, Adolescents and Adults, 2015).

A concern is loss to follow up with a study done in South Africa showed that 22.3% loss to follow up with antiretroviral treatment at 12 months and irregular antenatal care attendance due to reported low levels of trust in health workers and possibly aggravated by previous experiences within PMTCT workers (Hailu et al., 2018).

## **2.6 The establishment of PMTC programme in South Africa**

PMTCT was introduced in South Africa by the Department of Health in different sites in 2001 with the Western Cape as leading province in 1999 (NSP, 2007). PMTCT was initiated with a single dose of Nevirapine given to the mother at the onset of labour, with little intervention during labour and postpartum and then a single dose was given to the baby (SANAC, 2008). This programme was revised by WHO (2012) to dual therapy. HAART and WHO guidelines recommended lifelong antiretroviral treatment for women living with HIV, and ARV prophylaxis for their infants for six weeks (Nevirapine syrup 0.6 millilitres) or for the duration of breastfeeding (WHO, 2012, National Department of Health, 2015). It was recommended that infants being breastfed should receive once-daily Nevirapine from birth for six weeks and infants with replacement feeding should receive once-daily Nevirapine or twice-daily Zidovudine from birth for four to six weeks (AVERT, 2018).

In addition, during pregnancy, HIV counselling and testing was identified as essential to provide an entry point to comprehensive PMTCT treatment, care, and support

(National Consolidated guidelines, 2015). HIV counselling and testing is recommended to assist to identify and reduce the behaviours that may increase HIV transmission, such as labour and breastfeeding (National Consolidated Guidelines, 2015).

## **2.7 Labour and delivery and PMTCT**

HIV-positive women who are not yet on ART must be initiated at the first visit and they must receive post-test counselling with support for disclosure to partners (WCGH HIV Guidelines, 2020). According to the study done by Abteu et al. (2016) a combination of ARVs, elective caesarean section and no breastfeeding is recommended; through this combination it is possible to reduce MTCT of HIV by 2% in developed countries.

As the main goal of PMTC is to screen for HIV positive women in labour to enable continued care with antiretroviral regimens (South African Department of Health, 2013), knowledge about MTCT is essential. A study done in Ethiopia revealed that, majority of the respondents had good knowledge towards MTCT of HIV/AIDS but only some of the respondents knew that HIV/AIDS could be transmitted from infected mother to her child, but their knowledge on specific time of transmission not adequate (Hailu et al., 2018).

All HIV positive pregnant women can go into labour and give normal delivery and continue to take their antiretroviral treatment (Western Cape Government, 2015). However, learning the HIV status of their newly born child is a challenging experience for mothers and it is the role of nurses to inform these mothers about the infant diagnosis and the need for early ART initiation to increase the chances of survival of their infants (Guidelines for PMTCT of HIV, 2019). Neonates of HIV positive mothers

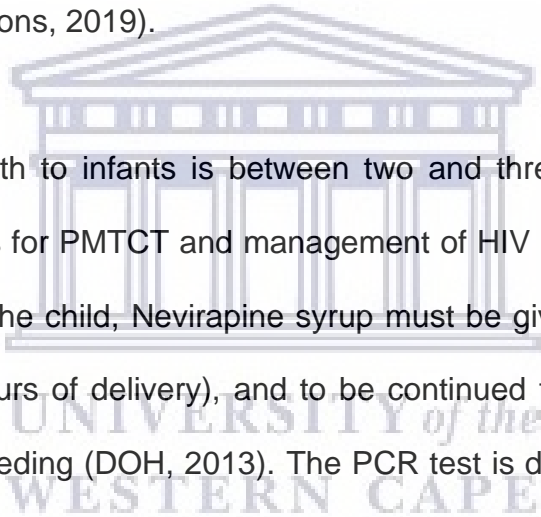
must receive prophylactic treatment immediately (Guidelines for PMTC of HIV, 2019). Nevirapine syrup should be administered daily for six weeks and the mother should exclusively breastfeed, as promoted by UNICEF, to prevent cross transmission of the HIV virus (Guidelines for PMTCT of Communicable Infections, 2019). The infants are also followed up in care with blood test post-delivery, within 48 hours, 10 weeks, 18 weeks, 9 months, and 18 months (The Western Cape Guidelines (as amended), 2016).

## **2.8 Breastfeeding and PMTCT**

An important factor in PMTCT is breastfeeding as the additional risk of HIV transmission through breast-feeding ranging between 5% and 20%(Dlamini, 2015) and 12-43% (Myles, 2016). Seventy-five per cent (75%) of infections among breast-fed infants occur before six months of age (Adewole et al., 2010). Research especially in South Africa showed that a combination of exclusive breastfeeding and ART reduce the risk of transmission of HIV to babies that can happen through breastfeeding (The Western Cape Guidelines as amended, 2016). Exclusive breastfeeding is encouraged for infants born to HIV positive mothers for a period of six months (Western Cape Government Guidelines, as amended, 2016) as exclusive breastfeeding, together with the use of ARV's, can reduce the risk of transmission in infants aged between six weeks to six months to between 4% and 1.3% (AVERT, 2018). To this end, women living with HIV should be fully supported for ART adherence during the breastfeeding period (National Consolidated Guidelines, 2020).

Newly diagnosed breastfeeding mothers with an unknown or previously negative HIV status must receive HIV Testing Services (HTS) on the day that of first presentation to

the healthcare facility to initiate treatment immediately (The Western Cape Consolidated Guidelines for HIV treatment: PMTCT, Children, Adolescent and Adults (WCGH HIV Guidelines), 2020). According to the maternal guidelines breastfeeding can continue for up to 12 months for HIV positive mothers (National Consolidated Guidelines for PMTCT, 2015). These mothers must be counselled about the risks of mixed feeding and be informed that exclusive breastfeeding reduces the risks of HIV transmission and improve the children's chances of survival (National Consolidated Guidelines for PMTCT, (2015). Breast-feeding women living with HIV are advised to use antiretroviral medicines for the entire breastfeeding period (Guidelines for PMTCT of Communicable Infections, 2019).



The highest risk of death to infants is between two and three months old (National Consolidated Guidelines for PMTCT and management of HIV in Children, Adolescents and Adults, 2015). For the child, Nevirapine syrup must be given as soon as possible after birth (within 72 hours of delivery), and to be continued for six weeks, or for the entire period of breastfeeding (DOH, 2013). The PCR test is done at birth to all babies of exposed mothers, again at 10 weeks during the EPI programme (Guidelines for PMTCT of Communicable Infections, 2019). Children on NVP prophylaxis are on a different routine as they will have the PCR at 18 weeks, 9 months, and 18 months of age (Guidelines for PMTCT of Communicable Infections, 2019). Health workers are to ensure that consent is obtained from the mother or the primary care giver and the PCR results should be documented in the infant's records (National Consolidated Guidelines for PMTCT and management of HIV Children, Adolescents and Adults, 2015). If the result of the infants' HIV PCR is available sooner and is positive, the mother or the

primary care giver should receive an early visit (National Consolidated Guidelines for PMTCT and management of HIV in Children, Adolescents and Adults, 2015).

It has been previously identified that there have been misconceptions by women that being on antiretroviral treatment and having an undetectable viral load that blood tests cannot detect it, that they are not at risk of transmitting HIV to their sexual partners (Maternal Guidelines, 2016). This has led to the questions of whether women living with HIV whose viral loads are undetectable can breastfeed without fear of passing HIV to their infants, but the research on breastfeeding women living with HIV that includes viral load data is limited (AVERT, 2018). There have however been some reports that an undetectable viral load provides significant protection from HIV transmission however, there have been cases of HIV transmission among breastfeeding women with undetectable viral loads (AVERT, 2018).

Reports showed that three quarters of mothers drop out of care of HIV treatment before six months of age, and 85% by the twelfth month (Hassan et al., 2012). This is specifically of concern as breastfeeding has multiple benefits over the formula feed including anti-inflammatory effects, improvement of the baby's immune system, the development of the gut microbiome and overall better health outcomes (Western Cape Government HIV Guidelines, 2020).

## **2.9 Patients' knowledge, attitudes, and practices towards PMTCT**

**Knowledge:** The intervention with PMTCT to HIV positive pregnant women has lead 1.4 million HIV infections among children being prevented between 2010 and 2018

(AVERT, 2018). The success of mother-to-child prevention requires that women be empowered with knowledge regarding HIV and the risk of transmission to her baby, as well as services available to reduce the risks of transmission.

HIV positive pregnant women, HIV negative pregnant women, or women who do not know their HIV status during pregnancy, all should have antenatal counselling on feeding infants and should be advised during each visit to breastfeed exclusively for the first six months, and to then introduce appropriate solids feeds at six months of age (National Consolidated Guidelines, 2015). The majority of the respondents had good knowledge towards MTCT of HIV/ AIDS, their knowledge on specific time when the virus is transmitted was not adequate (Hailu et al., 2018). **Attitude:** Attitude of pregnant women regarding HIV showed that majority of the women had a positive attitude towards people infected with HIV as 80 % (176) were willing to take care of the infected family member and the study by done in Southwest Ethiopia showed that more than three-quarter of the respondents, 137 (80.6%) agreed with the option to breastfeed despite HIV status due to lack of education (Hailu et al, 2018) therefore in 2017, roughly half the 180,000 children that were newly infected with HIV were infected during breastfeeding (AVERT, 2018).

**Practical:** There is a challenge in maintaining women living with HIV in care and on effective ART throughout the breastfeeding period, as well as reducing, detecting and managing new infections occurring among women while they are pregnant or breastfeeding as a result; in some countries more infant infections are now occurring during the postnatal period rather than pregnancy or labour. A study done by Luckson et al. (2015) showed that the only 2 % (4) of the respondents knew that MTCT of HIV

can be prevented by avoiding breast feeding. The study by AVERT, (2018) revealed that the *Start Free Stay Free AIDS Free* embraces the goals adopted by UN member states in the 2016 Political Declaration on Ending AIDS and it therefore commits to the dual elimination of mother-to-child transmission of both HIV and congenital syphilis.

## **2.10 Conclusion**

This literature review has highlighted the importance of primary prevention focusing on women of childbearing age. All HIV positive pregnant women should be informed on the availability of PMTCT intervention in all the healthcare consultations even for when they are not pregnant (National Guidelines for PMTCT and Management of Children, Adolescents and Adults, 2015). The study done by Hailu et al. (2018) reveals the majority of the respondents had good knowledge towards MTCT of HIV/ AIDS, but they did not know the specific time of the virus transmission and in Southwest Ethiopia the study showed that more than three-quarter of the respondents, 137 (80.6%) agreed with the option to breastfeed despite HIV status due to lack of education (Hailu et al, 2018). The practice of pregnant antenatal women living with HIV will improve the success of PMTCT as whatever they learn they'll put it into practice but a study done by Lucksom et al. (2015) showed that 48 % (106) women knew that using condoms will protect them from getting the infection against HIV.

## CHAPTER 3: METHODOLOGY

### 3.1 Introduction

Research methodology is the approach used to conduct research in a systematic manner (Struwig & Stead, 2013) and includes the precise steps of the study from conceptualisation to detailed methods of data collection, analysis, and discussion (Creswell, 2014).

In this chapter, the research approach, design, and methods are described which was used to address the research objectives. This chapter provides the details of the setting, study design, population and sampling, data collection, data analysis and ethical considerations. The formulated objectives of the study are:

- To measure the knowledge of antenatal women living with HIV regarding prevention of mother-to-child transmission (PMTCT).
- To measure the attitudes of pregnant antenatal women living with HIV towards the prevention of mother-to-child prevention.
- To describe prevention practices of antenatal women living with HIV regarding prevention of mother-to-child transmission.

### 3.2 Research approach and study design

A quantitative descriptive research approach was used in the study with a descriptive survey as a design. The research design shaped and directed the research study to address the research questions (Baran & Jones, 2016). The quantitative descriptive survey design, which is in a form of a questionnaire, was used to address the objectives of the study which was to assess knowledge, attitudes, and practices of HIV



pregnant antenatal women living with HIV towards PMTCT. The use of an interviewer administering questionnaire was appropriate to obtain facts and opinions about knowledge, attitude towards PMTCT and practices.

### **3.3 Study setting**

According to Grove et al. (2012) the setting is defined as a place for conducting research. The study was carried out at a Midwifery Obstetric Unit in Khayelitsha (referred to as KMOU). KMOU is one of the largest midwifery obstetric units in the in the Western Cape and is the accredited by the Department of Health. KMOU has a referral system to Khayelitsha District Hospital where higher standards of care are rendered including the continuation of mother-to-child transmission. KMOU also has an agreement with Khayelitsha District Hospital that they look after complicated cases as they always have doctors on duty and KMOU is only run by midwives. The clinic sees about 400 pregnant women attending the clinic per month and about 110 of them were registered in the PMTCT register.

### **3.4 Study population and sampling**

The study population is a set of entities in which all the measurements of interest to the 26 practitioners or researcher are presented (Denscombe, 2014). The study population for this study was all the pregnant antenatal women that are living with HIV that are attending the antenatal clinic at KMOU and was registered in the PMTCT register also willing to participate in the study. The clinic sees about 400 antenatal patients a month of which 110 of were PMTCT members. The affected patients were registered with PMTCT program and entered in the PMTCT register.

**3.4.1 The inclusion criteria:** All pregnant women living with HIV from the age of 15-45, attending the antenatal health care clinic and were enrolled in the PMTCT program in each month (N=100). The teenagers will not be added in the study as they are a vulnerable a group as they are underage. The required age in South Africa to sign consent is 18 years of age or consent must be obtained from the guardian which might be a problem if they are not ready to disclose to the parents,

**3.4.2 The exclusion criteria:** All the HIV negative pregnant antenatal women attending the clinic and HIV positive pregnant women who did not want to be part of the research study as well as pregnant women who declined to be tested for the HIV.

### **3.4.3 Sampling**

Sampling is an integral part of the research process and should not be considered in isolation (Brink et al., 2014). Sampling is the process of selecting a subset of the population to represent the entire population. The study used all-inclusive sampling of women on the PMTCT register were included in the study (n=100).

## **3.5 Research instrument**

Research instrument is the tool that is used to collect the data and it can be a new tool or one that has been tested. The research instrument or questionnaires were adapted from different literatures. A questionnaire refers to a self-report form designed to elicit information that can be obtained from subjects through written responses (Grove et al., 2012). The use of a questionnaire for the survey was an appropriate tool to obtain facts and opinions about knowledge, attitudes, and practices towards PMTCT. The questionnaire was originally in English, and was translated to isiXhosa, by a trained translator, to enable the researcher to administer to the respondents in their language

of choice. The scales in the questionnaire for knowledge, attitude and practices will determine the results of the participants.

### **3.6 Questionnaire sections**

The questionnaire has four sections. Section 1: Demographics; Section 2: Knowledge about HIV prevention and PMTCT programme; Section 3: Attitudes towards PMTCT programme and Section 4: Current PMTCT practices.

Section 1 - Demographics: The researcher asked the respondents to indicate their age, gender, marital status, highest qualification, occupation, parity, and information about HIV using closed-ended questions.

Section 2 - Knowledge regarding HIV transmission: In this section the researcher provides statements testing the knowledge of HIV positive pregnant women towards PMTCT and mother-to-child transmission in terms of whether these statements were correct. Respondent's answers were then classified as correct, incorrect, or lacking information.

Section 3 - Attitudes: The researcher measured the attitudes of antenatal women living with HIV towards the prevention of mother-to-child transmission using Disagree, Indifferent or Agree to indicate the level of agreement with various attitudinal statements.

Section 4 - Practices in PMTCT: The researcher measured agreement with identified PMTCT practices of pregnant antenatal women living with HIV.

The questionnaire covers nine (9) general knowledge questions on how a person can get HIV, seven (7) questions on how a child can get HIV and 16 questions on what preventive actions can be taken. An don't know answer or the field left empty (missing

data) was reclassified as lack of knowledge, correct (Yes) answers were classified as knowledgeable and incorrect answers of No as misconceptions

### 3.7 Validity and Reliability

**3.7.1 Validity:** Validity is when an instrument measures what it is supposed to measure (Brink et al., 2012). There are many types of validities but for this study the content and face validity were addressed.

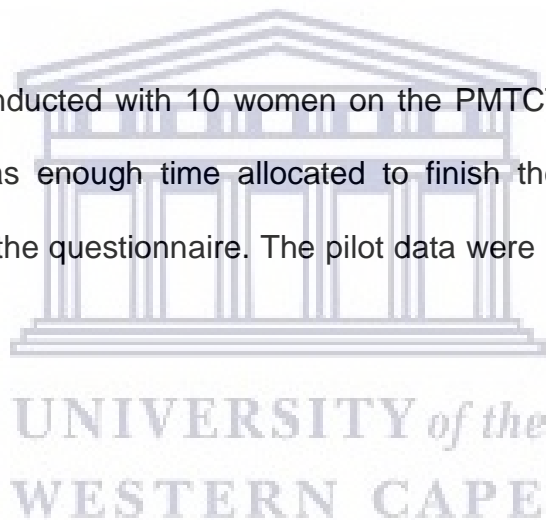
Face validity refers to when an instrument appears to measure what is supposed to measure (at face value) (Brink et al. 2014) and content validity is an assessment of how well the instrument represents all the components of the variables to be measured (Brink et al., 2014). The face validity was measured by the questionnaire being derived from existing literature. Content validity is an assessment of how well the instrument represents all the components of the variables to be measured (Brink et al., 2014). This is done by identifying the content covered by the questionnaire and determining if the content addresses the objectives adequately, as can be seen in Table 1.

**Table 1: Content validity and internal consistence of questionnaire**

Objectives	Questionnaire Questions	Chronbach's Alpha
To measure the knowledge of pregnant antenatal women living with HIV regarding prevention of mother-to-child transmission (PMTCT).	Questions 10 - 41	.87
To measure the attitudes of pregnant antenatal women living with HIV towards the prevention of mother-to-child prevention.	Questions 42 - 47	.71
To measure the practices of pregnant antenatal women living with HIV towards the prevention of mother-to-child prevention	Questions 48 - 52	.60

**3.7.2 Reliability:** Reliability is concerned with the consistency, stability, and repeatability of data collection (Brink et al., 2012). According to (Grove et al., 2013) the reliability of a questionnaire means the dependability with which the participants comprehend, deduce and answer all the questions in the tool. To ensure reliability of data collection, the researcher trained one of the midwives who worked in the unit to collect the data in a standard manner to ensure the reliability of the data collection. A Cronbach's alpha coefficient was calculated to test the internal consistency in the attitude scale for the questionnaires (Brink et al., 2014), and the scales were found to have adequate internal consistency .7-.95.

A pre-test was also conducted with 10 women on the PMTCT register. Respondents indicated that there was enough time allocated to finish the questionnaire and no changes were made to the questionnaire. The pilot data were included in the final data collection.

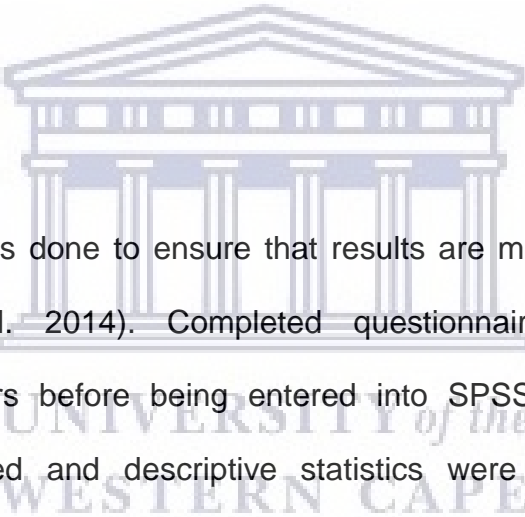


### **3.8 Data collection**

Data collection is linked with reliability of the study (Brink et al., 2012). Data were collected from 22 October 2018 to 26 October 2018. Permission to do the study at the KMOU was granted by the head of KMOU as well as the unit manager of the unit. Privacy was maintained by allocating a separate consultation room where the interviews took place; this was done to maintain privacy and confidentiality. Neither names nor personal identifications were attached, and the questionnaire was coded and placed in safe locked place. All the information is kept strict confidential, and the participants can decide the extent in which the information is shared.

Voluntary participation was easy for the respondents. The researcher and one of the midwives working with patients administered the questionnaire to the respondents. The data collectors approached the women to be part of the study and administered the questionnaire to them while they were waiting to be seen in the antenatal clinic. The respondents were given a consent form to complete before getting the questionnaire. Data was collected while the respondents were waiting to be seen at the antenatal clinic. The researcher was present to answer any questions of the participants while completing the questionnaire. The respondents took 10 to 15 minutes to complete the questionnaire.

### **3.9 Data analysis**



Data quality assurance is done to ensure that results are meaningful and are a true reflection (Brink et al., 2014). Completed questionnaires were checked for completeness and errors before being entered into SPSS (v23). The data were recorded where required and descriptive statistics were used to describe and summarise the data. Averages, proportions, and frequencies were used to describe the study sample variables. To measure knowledge, a respondent was classified as knowledgeable based on answering correct (YES) (% correct), lack of knowledge if answering DON'T KNOW to the knowledge questions on PMTCT (%lacking knowledge) and as misperception when answering NO to the knowledge questions on PMTCT on the questionnaire (% incorrect). Composite attitude scores were computed for PMTCT-related attitudes by calculating an average score based on the Likert scale for positive and negative attitudes and were compared using 95% confidence intervals.

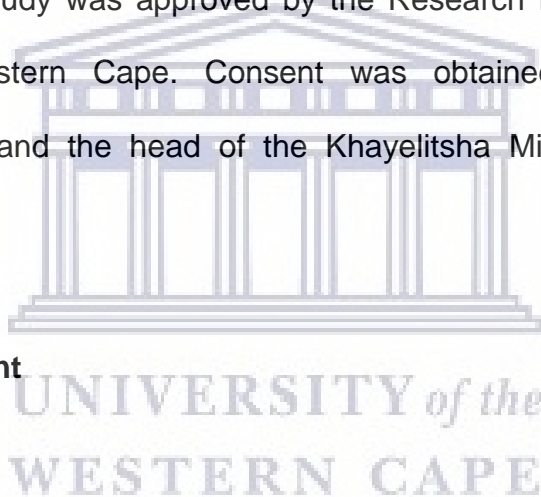
Attitudes were also reported as % agree, %disagree and %indifferent. Practices were reported by frequency of practice (% practice) agree or disagree.

### **3.10 Ethical considerations**

The researcher must be ethical and thorough when conducting research and when dealing with the outcome of the research and there are various ways to protect the rights of the participants (Brink et al., 2014). Respect is the key ethical consideration when dealing with research participants to ensure the integrity of a study (Grove et al., 2012). The proposed study was approved by the Research Ethics Committee of the University of the Western Cape. Consent was obtained, from the Provincial Department of Health and the head of the Khayelitsha Midwife Obstetric Unit, to conduct the study.

#### **3.10.1 Informed consent**

Free and informed consent is an agreement by perspective participants to participate voluntarily in a study after they have understood the key information about the study in language free of jargon (Mulaudzi et al., 2019). The researcher provided the respondents concise information regarding the study using an information sheet (Appendix E). The researcher discussed the research project with participants before they consented to it signing the relevant consent form (Appendix F). The potential risks and methods involved in the study were discussed and a confirmation of anonymity during the study was explained. There respondents received the information sheet and the informed consent form thereafter and those agreeing to take part in the study



signed the consent form. The respondents had the right to refuse to participate or to withdraw from the research study at any time (Mulaudzi et al., 2019). The researcher's contact details were provided on the questionnaire and were made available to the respondents in case there was a misunderstanding or uncertainty regarding the questionnaire.

### **3.10.2 Fundamental ethical principles**

Guidelines in the Nuremberg Code of 1947 were drawn up to protect respondents' rights from being exploited during the research process (Brink et al., 2014). There are three fundamental ethical principles that guides the researcher during the research process, and which protect the rights of the participants i.e. privacy, anonymity, and confidentiality (Brink et al., 2014).

**Right to privacy:** The research respondents had the right to decide up to what extent they would participate in the study (Grove et al., 2012). Privacy was explained, by the researcher, to the respondents indicating that privacy would be maintained throughout the research period by keeping the data coded and thus anonymous. The participants had the right to determine the degree to which their information was shared or withheld (Denzin &Giardina, 2016).

**Respect for people/ autonomy:** Respect for people and autonomy means that the respondents have a right to self-determination (Brink et al., 2014). They are free to do and decide whatever they want to, as long their actions do not infringe on the autonomous actions of others (Mulaudzi et al., 2019). This included the right to decide whether to continue with the research study without being threatened or fearing any recourse. Respondents were informed that they had the right to withdraw from the



study, if they felt uncomfortable at any given time. The questions were designed to maintain the autonomy and, according to the ethics committee's the questionnaire was translated for multilingual participants.

**Beneficence and non-beneficence:** The principle of beneficence imposes a duty on researchers to minimize harm and to maximize the benefits for participants themselves or a situation that is more common for other individuals or society (Polit et al., (2010). Non-beneficence means not hurting or injuring somebody or harming as little as possible to bring about a beneficial outcome, while beneficence is doing or bringing about good (Mulaudzi et al., 2019). The risks associated in participating in the study were minimised, support and counselling was available before, during and after the research. The risk involved is exposure of the participant's details to wrong people, stigma that will be caused by lack of confidentiality. Mismanagement of the study results. Emotional trauma if the study is not explained thoroughly.

**Confidentiality:** Confidentiality means keeping secret or respecting the privileged information, therefore patients give information to the nurses with a sincere trust (Mulaudzi et al., 2019). The data collected must always be confidential and the information received must not be shared with others without their knowledge and approval (Grove et al., 2012). The researcher should avoid disclosing any information that could harm the respondents 'image and dignity (Creswell, 2014). Confidentiality deals with the way the data was handled and the way the researcher managed the personal information shared by the respondents (Brink et al., 2012). This was done in four ways to maintain confidentiality, the data was kept anonymously during the data collection phase through the identified data capturing forms, access to the collected data was limited as the data was coded and locked away and lastly the data collected

was kept in secured locked area. Neither names nor identifications were published, on the questionnaire.

**Principle of justice:** This refers to respondents being treated the same (Mulaudzi et al., 2019). According to Brink et al., (2014) the principle of justice refers to the participants' fair selection and treatment which was done in the study through the selection of all the participants and respondents were only selected for reasons related to the research study.

### 3.1 Conclusion

The chapter described the research approach, design, and methods in detail. In addition, the data collection, data analysis and ethical considerations were also described.

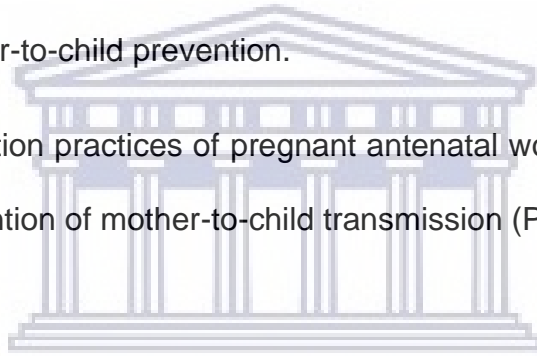


## CHAPTER 4: FINDINGS

### 4.1 Introduction

In this chapter the researcher describes the findings of the study according to the formulated objectives of the study are:

- To measure the knowledge of pregnant antenatal women living with HIV regarding prevention of mother-to-child transmission (PMTCT).
- To measure the attitudes of pregnant antenatal women living with HIV towards the prevention of mother-to-child prevention.
- To describe prevention practices of pregnant antenatal women living with HIV with regard to the prevention of mother-to-child transmission (PMTCT).



The results are based on a sample of 110 patients (the respondents) who participated in a researcher-administered survey. The data are presented as follows:

- Sample realisation i.e., the response rate and the demographic data of the respondents.
- Knowledge of PMTC, a description of respondents' knowledge of PMTC
- Attitudes towards PMTC, a description of respondents' attitudes towards PMTC.
- PMTC practices, a description of respondents' practices in PMTC

## 4.2 Sample Description

### 4.2.1 Sample realisation and demographics

In the study, all 110 participants agreed to complete the questionnaire. The average age of the respondents were 29.2 years (sd 6.2), ranging from 18 to 48 years, with more than half of the respondents (59, 53.6%) between 21-30 years old 59 (53.6%) (Table 2). Most of the respondents were single (82, 74.5%) and had a secondary level education (78, 70.9%) (Table 2).

**Table 2: The demographic profile of the respondents**

Variable		Frequency (%)
Age	≤18-20 yrs.	10 (9.1%)
	21-30 yrs.	59 (53.6%)
	31-35 yrs.	21 (19.1%)
	≥ 36 yrs.	20 (18.2%)
Marital status	Married	24 (30%)
	Single	82 (74.5%)
	Cohabiting	3 (2.7%)
Education level	None	2 (1.9%)
	Primary	4 (3.6%)
	Secondary	78 (70.9%)
	Tertiary	23 (20.9%)
Employment	Unemployed	47 (42.7%)
	Students	10 (9.1%)
	Employed	45 (40.9%)
Pregnancy	First pregnancy	33 (30%)
	Second pregnancy	46 (41.8%)
	Third or more	29 (26.4%)

In terms of employment 45 (40.9%) of the respondents reported some form of employment, and 47 (42.7%) of respondents were unemployed.

Nearly half of the respondents reported that they were in their second pregnancy (46, 41.8%) (Table 2), 1.9% never had any form of education and the 20.9% of the respondents had a tertiary education.

#### 4.2.2 Source of knowledge on HIV/AIDS

When asked about the sources of information, the respondents replied that they were getting their information from different sources, though mostly from health workers (63, 58.2%), followed by radio and television (21, 9.1%) and their partners (9, 8.2%) (Table 3).

**Table 3: Information sources for respondents**

	Source of information for HIV/AIDS	Source of information to keep up to date
Health workers	64 (58.2%)	56 (50.9%)
Radio/television	21 (19.1%)	10 (9.1%)
Partner	9 (8.2%)	26 (23.6%)
Other (e.g. uncles)	7 (6.4%)	6 (5.5%)
Newspaper	1 (0.9%)	1 (0.9%)

As a person living with HIV, the findings on general information showed similar trends with respondents indicating that more than half of them got their information from health workers (64, 58.2%), but with this information, their partners as a source of information were the second most common source (8.2%) (Table 3).

### **4.3 Knowledge of HIV/AIDS and PMTCT**

This first research objective of this study was to measure the knowledge of antenatal women, living with HIV positive pregnant women, regarding the prevention of mother-to-child transmission (PMTCT).

There were nine (9) general knowledge questions on how a person can get HIV, seven (7) questions on how a child can get HIV and 16 questions on what preventive actions can be taken. An don't know answer or the field left empty (missing data) was reclassified as lack of knowledge, correct answers were classified as knowledgeable and incorrect answers as misconceptions.

#### **4.3.1 Knowledge of personal situations at risk of contracting HIV/AIDS**

The highest number of respondents who were knowledgeable (99, 90%), were knowledgeable on the transmission risk of HIV from Unprotected sex with an infected person, followed by knowing there is No transmission risk in sleeping in the same room as an infected person (Table 4).

Similarly, respondents had good knowledge (92, 83.6%) that one can be infected with HIV if Transfused with HIV infected blood but that it was not possible to be infected by HIV through casual contact such as hugging or handshakes (92, 83.6%), sharing of towels (91, 82.7%), and swimming pools and public toilets (88, 80%) (Table 4).

**Table 4: Knowledge of personal transmission**

<b>Knowledge of HIV positive pregnant women towards transmission</b>	<b>Yes/ Knowledgeable</b>	<b>No/ Misperceptions</b>	<b>Don't know/ Lack of Knowledge</b>
Unprotected sex with an infected person (Yes)	99 (90%)	6 (5,5%)	5(4,5%)
Sleeping in the same room with infected individual (No)	95 (86,4%)	7 (6,4%)	8(7,3%)
Blood transfusion with infected blood (Yes)	92 (83,6%)	7 (6,4%)	11(10%)
Casual contact such as hugging, handshakes (No)	92 (83,6%)	13 (11,8%)	5(4,5%)
Sharing of towel, spoons, etc (No)	91 (82,7%)	15 (13,6%)	4(3,6%)
Swimming pool and public toilet (No)	88 (80%)	12 (10,9%)	10(9,1%)
Sharing of sharp objects (Yes)	61 (55,5%)	29 (26,4%)	20(18,2%)
Infect from mother-to-child (Yes)	61 (55,5%)	43 (39,1%)	6(5,5%)
Insect bites like mosquitoes (No)	44 (40%)	35 (31,8%)	31(28,2%)

Most misperceptions were around transmission from infected mother-to-child with 43(39.1%) respondents indicating No/misperception, though this question may have been confusing (on reflection), and secondly, transmission from insect bites such as mosquitoes with 35 (31.8%) misperceptions and 31, (28.2%) respondents indicating that they do not know. (Table 4).

#### **4.4 Knowledge of child at risk of contracting HIV/AIDS**

Generally, the respondents had lower levels of knowledge of how a child can contract HIV. Among the total respondents, 82(74.5%) indicated that they believed that HIV can be transmitted from an infected mother to her child, but this was the only response with more than 50% of the respondents knowledgeable (Table 5).

**Table 5: Knowledge of child transmission**

<b>Knowledge of HIV positive pregnant women towards child transmission</b>	<b>Yes/ Knowledgeable</b>	<b>No/ Misperceptions</b>	<b>Don't know/ Lack of Knowledge</b>
A mother can infect her child with HIV (Yes)	82 (74,5%)	17 (15,5%)	11(10%)
Through labour/delivery (Yes)	50 (45,5%)	27 (24,5%)	33(30%)
Insect bites like mosquitoes (No)	49 (44,5%)	33 (30%)	28(25,5%)
Through mosquito bite (No)	46 (41,8%)	27 (24,5%)	37(33,6%)
Through breast feeding (Yes)	37 (33,6%)	54 (49,1%)	19(17,3%)
Through invasive tests (Yes)	31 (28,2%)	44 (40%)	35(31,8%)
MTCT of HIV takes place in utero/pregnancy (No)	23 (34,5%)	38 (34,5%)	49(44,5%)

Respondents' knowledge of the rest of the items were poor (all items <50% correct) with high levels of No/misperception about the transmission through invasive tests (44, 40%). In terms of transmission through breastfeeding, the level of knowledge was low with 37 (33.6%) of the respondents indicating the correct transmission risk and 52 (49.1%) had misperceptions (Table 5). Nearly half of the respondents (49, 44.5%) demonstrated a lack of knowledge on whether MTC transmission takes place in utero (Table 5).

#### **4.5 Knowledge of MTCT prevention**

The questionnaire included questions on whether MTCT could be prevented with 15 questions on knowledge on prevention of MTCT. Only 33 respondents (30%) indicated that MTCT can be prevented and 65 (59.1%) of the respondents left this question empty (Table 6). This may have been because this question might have been perceived as a heading in the questionnaire by some respondents.



**Table 6: Knowledge of HIV and MTCT prevention**

<b>Knowledge of prevention of HIV transmission</b>	<b>Yes/ Knowledgeable</b>	<b>No/ Misperceptions</b>	<b>Don't know/ Lack of Knowledge</b>
Abstinence from unprotected sex (Yes)	84(76,4%)	7(6,4%)	19(17,3%)
Avoidance of close contact with infected person hugging (No)	73(66,4%)	18(16,4%)	19(17,3%)
Health education (Yes)	73(66,4%)	19(17,3%)	18(16,4%)
Casual contact such as hugging handshakes (No)	73(66,4%)	20(18,2%)	17(15,5%)
Avoidance of smoking (Yes)	68(61,8%)	17(15,5%)	25(22,7%)
Faithfulness to partner (Yes)	67(60,9%)	23(20,9%)	20(18,2%)
Avoidance of drug use (Yes)	65(59,1%)	20(18,2%)	25(22,7%)
Use of herbs (No)	63(57,3%)	17(15,5%)	30(27,3%)
Use of ARVs (Yes)	56(50,9%)	29(26,4%)	25(22,7%)
Early cessation of breastfeeding (Yes)	49(44,5%)	30(27,3%)	31(28,2%)
Transfusion with screened blood (Yes)	47(42,7%)	25(22,7%)	38(34,5%)
Avoidance of invasive tests (Yes)	42(38,2%)	31(28,2%)	37(33,6%)
Caesarean Section (Yes)	40(36,4%)	25(22,7%)	45(40,9%)
Termination of pregnancy (No)	33(30%)	49(44,5%)	28(25,5%)
Vaccination and immunisation (No)	26(23,6%)	27(24,5%)	57(51,8%)

More than three-quarters of the respondents were knowledgeable that abstinence from unprotected sex can prevent HIV (84, 76.4%). This was followed by being knowledgeable about prevention success through avoiding close contact (No) (73, 66.4%), casual contact (No) (73, 66.4%) and health education (Yes) (73, 66.4%) (Table 6). More than 50% of respondents (56, 50.9%) indicated that ARTs can prevent HIV, showing that half of the rest had misperceptions (29, 26.4%) and the other half did not know (25, 22.7%).

Less than half of the respondents were knowledgeable of MTCT prevention through cessation of breastfeeding (49, 44.5%). Similarly, 45 (40.9%) respondents were don't know about the prevention of HIV transmission by Caesarean Section and 40 (36.4%) were knowledgeable (Table 6). The highest number of incorrect responses were for the ineffectiveness of termination of pregnancy (49, 44,5%), smoking avoidance (68, 61,8%) and the effectiveness of vaccinations and immunisation (25, 22,7%) (Table 6).

Scale of knowledge the respondents >than 50% therefore 84% were knowledgeable towards HIV and MTCT prevention on abstinence from unprotected sex.

**Knowledgeable towards HIV and MTCT:** The study participants who score half or more than half ( $\geq 8$  out of 15) of the knowledge questions are considered as knowledgeable and on 50% of the questions the respondents were knowledgeable.

**Not knowledgeable:** Study participants who score less than or equal to half ( $\leq 7$  out of 15) of the HIV and MTCT knowledge questions were considered as not to have lack of knowledgeable or misperception.

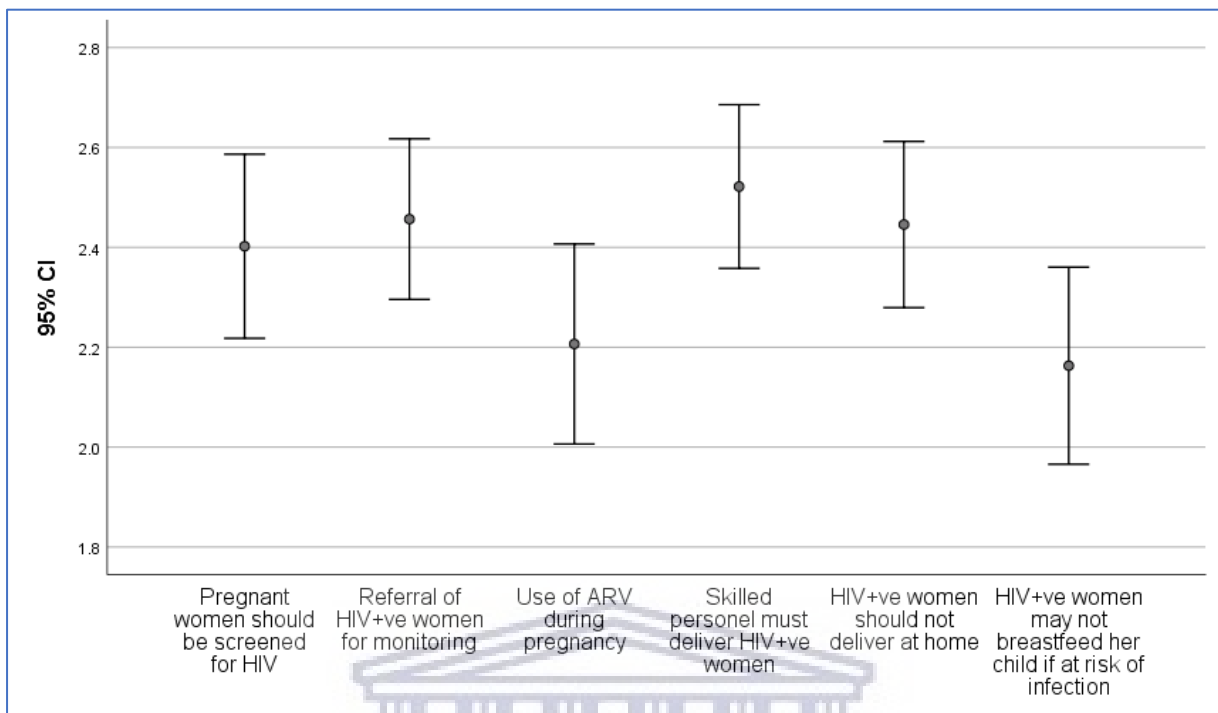
#### 4.6 Attitudes towards PMTCT

Overall, the respondents had positive attitudes towards PMTCT with more than 50% of respondents agreeing with the attitude statements (Table 7). The scale to measure attitude =50% of the respondents will show positive attitude towards PTMCT. Positive attitude was shown by from 72 (65.5%) the participants who responded that skilled personnel must deliver HIV positive women (Table 7). HIV positive women may not breastfeed their child if at risk of infection had the lowest rating with less than 50% agreeing (54, 49.1%) (Table 7).

**Table 7: Attitudes towards PMTCT**

Attitudes towards PMTC	Mean (M) (sd)[95%CI]	Agree
Pregnant women should be screened for HIV	2,44(0,87) [95CI 2,28-2,61]	75 (68.2%)
Skilled personnel must deliver HIV positive women	2,49(0,79) [95CI 2,33-2,64]	72(65.5%)
HIV positive women should not deliver at home	2,42(0,83) [95CI 2,26-2,58]	70(63.6%)
Referral of HIV positive women for monitoring	2,45(0,79) [95CI 2,29-2,6]	64 (58.2%)
Use of ARV during pregnancy	2,19(0,97) [95CI 2-2,38]	60(54.4%)
HIV positive women may not breastfeed her child if at risk of infection	2,09(0,95) [95CI 1,91-2,27]	54 (49.1%)

The highest rated attitude statement was skilled personnel must deliver HIV positive women (72, 65.5%, 2.49 sd 0.79), followed by referral of HIV positive women for monitoring (64, 58.2%; 2,45sd 0,79) and pregnant women should be screened for HIV (75, 68.2%; 2,44 sd 0,87) (Table 7). Use of ARVs during pregnancy (60, 54.4%, 2,19sd 0,97) and HIV positive women may not breastfeed their children if at risk of infection (54, 49.1%; 2,09 sd 0,95) were rated lowest (Table 7). There were no significant differences between the attitude ratings (Figure 1). **Positive attitude:** The study participants who score half or more than half ( $\geq 4$  out of 7) of the attitude questions and are considered as positive attitude therefore 68.2% of the respondents agreed that antenatal pregnant women should be screened for HIV. women should be screened for HIV. **Negative attitude:** The study participants who score less than or equal to half ( $\leq 3$  out of 7) of the attitude questions are considered as negative attitude. Only 0.9% HIV positive women had negative attitude towards breastfeed.



**Figure 1: Attitudes towards PMTC**

#### 4.7 PMTCT prevention practices

Prevention practices are actions reported by respondents about making use of available PMTCT services such as testing for HIV, exclusive breastfeeding, use of ART prophylaxis, obtaining pre and post-test counselling, and participation in community conversation while exchanging ideas with pregnant women who are taking ART prophylaxis. All the respondents (110, 100%) were HIV positive and were registered in the PMTCT register. Ninety per cent of the respondents indicated that they always took their prophylaxis and visited the clinic regularly (98, 89.1%) (Table 8). The response of the participants was either agreeing or disagree.

**Table 8: PMTCT practices**

<b>Practices</b>	<b>n(%)</b>
I always take my HIV prophylaxis	99(90%)
Do you visit the clinic regularly	98(89,1%)
My culture promotes breastfeeding	97(88,2%)
I always use a condom during sex	92(83,6%)
I always give my child his/her HIV prophylaxis	87(79,1%)

Culture plays a big role in society and it can have a negative impact on the success of PMTCT. Among the 99 respondents, 97 (88.2%) indicated that their culture promotes breastfeeding. Cultural norms surrounding infant feeding includes mothers' efforts to implement practices that would decrease the risk of childhood infection such as the use of condoms during intercourse (92, 83.6%) and always giving their children HIV prophylactic treatment (87, 79.1%%) (Table 8). **Good practice:** The study participants who score half or more than ( $\geq 3$  out of 11) of the practice questions are considered as good practice therefore on all the questions the participants showed good practice. **Poor practice:** study participants who score less than or equal to half ( $\leq 3$  out of 5 of the practice questions are considered as poor attitude.

## **4.8 Conclusion**

The results showed that the respondents have a positive knowledge attitude and practices about HIV infection and MTCT. Positive attitudes were noted from the respondents and good practices were reported.

## CHAPTER 5: DISCUSSION OF FINDINGS

### 5.1 Introduction

This chapter discusses the findings of the study and draws conclusions based on the findings. The main goal of the study was to investigate the knowledge, attitude, and practices of HIV positive pregnant women towards the prevention of mother-to-child transmission at the Khayelitsha Midwifery Obstetric Unit in the Western Cape. The findings from the study will be discussed using the stated objectives, the demographic data and the relevant literature found in other studies. The aims were to:

- Measure the knowledge of pregnant antenatal women living with HIV regarding prevention of mother-to-child transmission (PMTCT),
- Measure the attitudes of pregnant antenatal women living with HIV towards the prevention of mother to child prevention, and
- Describe prevention practices of pregnant antenatal women living with HIV regarding prevention of mother-to-child transmission.

### 5.2 Demographic data

In this study, there were a total of 110 respondents ranging between the ages of 18 and 48 years of age. The youngest participant was a pregnant teenager of 18 years who was HIV positive. Most of the participants were between the ages 21 and 30 years (59, 53.6%). Most of the respondents had received a high school education 70.9%, implying that their level of knowledge towards PMTCT should be high. In a similar study done by Tigabu et al., (2018) only about 30% of the women in their study had

received more than secondary education. The respondents were a mixed group but only about 30% were pregnant for the first time. The overall literacy rate of the women was high, perhaps because of the Millennium Declaration's goal of eradicating poverty through education, which saw the introduction of free primary school education for all (MDG Country Report, 2010).

Marital status: Most of attendees were single which is 87 (74.5) of the total number but a study done by (Tesfaye et al, 2014) had a different result the majority, 207 (89.2%), of the respondents were married at the time of the survey. With concern to the level of educational 1.9% of the respondents never went to school, 3.6% had primary education, 70.9% of the respondents had a secondary education and only 20.9% of the respondents has a tertiary education. A similar study in West Ethiopia showed that 26 (11%) of the respondents had no formal education, 45 (19.1%) had primary education, while 76 (32.2%) and 89 (37.7%) had secondary and above secondary educational status, respectively.

Reproductively 33 (30%) of the respondents were pregnant for the first time, the largest portion is 46 (41.8%) were pregnant for the second time and lastly 29 (26.4%) of the respondents was pregnant for the third time or more therefore there were variety of ages in the study population. According to Mamudu (2014) summarize that out of the 120 women who participated showed 107 (89.17%) had ever been pregnant, 29 (24.17%) were pregnant at the time of the study, 22 (18.33%) have had more than 5 pregnancies. Out of the 110 participant 47 (42.7%) respondents are not employed, 10 (9.1) are students and 45 (40.9%) had some form of employed. Unemployed is a major problem in south Africa and it can have a negative impact in the attendance of the antenatal clinic due to financial constraints.

### **5.3 Knowledge of HIV/AIDS and PMTCT**

The findings of the respondents showed positive knowledge on HIV/AIDS and PMTCT. Pregnant women reported relying mostly on healthcare workers for knowledge about PMTCT. Therefore, HIV counselling is vital as it provides an entry point to HIV prevention, treatment, care, and support and helps to identify and reduce the behaviours that increase the risk of HIV transmission (National Consolidated Guidelines, 2015).

Over half of the respondents indicated that their source of information both for HIV/AIDS and keeping up to date were from health workers. There were some differences, as to other sources for the latest information on HIV/AIDS with radio being the second most common source followed by spouses and partners. Mamudu (2014) also showed that most women acquire knowledge of MTCT from health workers and mass media with 73% of them indicating both were key sources of information.

UNIVERSITY of the  
WESTERN CAPE

### **5.4 Knowledge of personal at-risk situations for contracting HIV/AIDS**

Nearly all the respondents (90%) were knowledgeable as to the consequences of having unprotected sex with an already infected person and 86% of respondents were aware that a person could not contract HIV by hugging and kissing, sleeping in the same room and shaking hands because these actions do not involve mixing of body fluids. A similar study done by Hailu et al. (2018) also showed that nearly all the respondents knew that HIV can be transmitted from infected person to an uninfected person.



In terms of knowledge regarding transmission through blood transfusion if the blood was infected with HIV, 84% of the respondents were knowledgeable. This was also like a study in Swaziland by Dlamini (2015) whose findings revealed that nearly 80% of the respondent's showed high-levels of knowledge on PMTCT, compared to 22.2% who showed low-levels of knowledge on PMTCT of HIV. Similarly, the study by Tigabu et al., (2018) showed 92.8% of the pregnant mothers attending ANC follow-up knew about mother-to-child transmission of HIV.

If adequate precaution is not taken to prevent blood and body fluid contamination, the risk of HIV transmission increases tremendously (Galane, 2012). Just over half of the respondents were knowledgeable about sharing sharp objects being a high risk of getting the HIV virus as sharp objects can be contaminated by body fluids. This item did show some misperceptions (26%) and lack of knowledge (18%). A similar study done by Hailu et al. (2018) showed contrasting results with nearly all the respondents in this study (97.6%) knowing that HIV can be transmitted through the sharing of sharp materials.

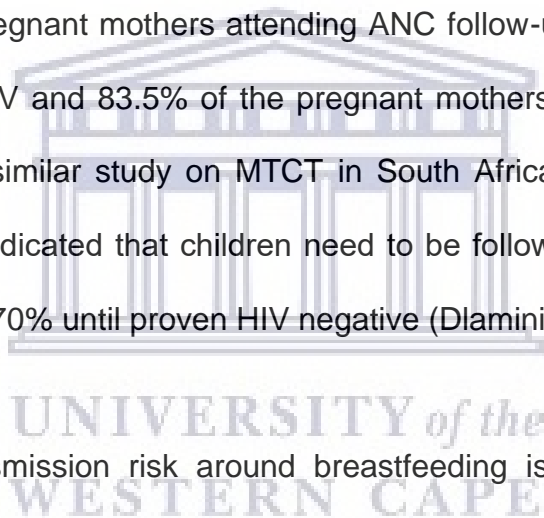
## **5.6 Knowledge of child at-risk situations for contracting HIV/AIDS**

About 85% [63–100%] of pregnant women living with HIV had access to antiretroviral medicines to prevent transmission of HIV to their child in 2019 (UNAIDS, 2020). This is still a concern today. Therefore, according to the National Guidelines for PMTCT of HIV and the management of HIV in Children, Adolescents and Adults (2015), HIV/AIDS can be transmitted in several ways during pregnancy, labour, delivery, and breastfeeding; and the lifelong use of ART drug was recommended for PMTCT (National Guidelines

for PMTCT of HIV and the management of HIV in Children, Adolescents and Adults, 2015).

Knowledge of the various ways to prevent mother-to-child transmission can occur was reasonably good with three-quarters of the respondents being aware that a mother can infect her child with HIV. This finding was confirmed by several similar studies. In 2014, a study done by Mamudi, (2014) showed that just over half (51.7%) of respondents had sufficient knowledge on how MTCT of HIV can be prevented. A study by Olugbenga et al., (2013) in South Western Nigeria and a study done by Tigabu et al. (2018) showed that over 90% of the pregnant mothers attending ANC follow-up knew about mother-to-child transmission of HIV and 83.5% of the pregnant mothers knew that MTCT of HIV was preventable. In a similar study on MTCT in South Africa, nearly a quarter of the respondent's (21.4%) indicated that children need to be follow-up for six months, 8.9% indicated one year and 70% until proven HIV negative (Dlamini, 2015).

Knowledge about transmission risk around breastfeeding is an important aspect of PMTCT. In this study, overall knowledge about different risks situations for children were poor, with less than 50% of respondents being knowledgeable about transmission in utero, during delivery and through breastfeeding. In a comparative study by Dlamini, (2015) in Swaziland, respondents were moderately aware of children being infected through breastfeeding and that HIV could be transmitted in utero, during delivery and through breastfeeding, with 61.1%, 90% and 87.8% respectively reported as knowledgeable.



## 5.7 Knowledge of MTCT prevention

The Millennium Development Goal 4 (reduction of child mortality), 5 (improve maternal health) and 6 (combat HIV/AIDS, malaria, and others) (MDG Country Report, 2010), are all focused on the reduction of HIV transmission from mother to child.

In this study, just over three-quarters of the respondents were knowledgeable about prevention measures such as being faithful and abstinence from unprotected sex (76%), health education (67%), and nearly 60% were knowledgeable that herbs cannot be associated with PMTCT. However, just over 50% of the respondents were knowledgeable about the use of ART drugs to reduce transmission. This was like a study done by Tigabu et al. (2018), which also showed that only 49.1% of the respondents knew that ART drugs could reduce the risk of transmission. This study showed moderate knowledge around specific prevention issues.

Knowledge around infant feeding and prevention were poor. There are two options when it comes to feeding a baby: exclusive breastfeeding and artificial feeding (AVERT, 2018). Mixed feeding is thought to greatly increase the chances of vertical transmission of HIV, thus exposing most children to danger of acquiring the HIV (AVERT, 2018). Only 45% of the respondents were aware that early cessation of breastfeeding may reduce the chances of mother-to-child transmission. Other studies reported higher results (Kutushabe, 2006 & Dlamini, 2015) with the findings from the study done by Dlamini, (2015) showed that more than 65% of the respondents with different educational backgrounds knew that HIV could be transmitted through breastfeeding and they also knew which breastfeeding conditions could put their children at risk of acquiring HIV. A study by Hailu et al. (2018) also showed that most of

their respondents (79%) were aware of the risk of acquiring HIV infection during breastfeeding if they had cracked and bleeding nipples or mastitis (68%). This was not asked in this study.

Nearly 40% of the respondents were knowledgeable about avoiding the use of sharp objects. This was like the study by Hailu et al. (2018) which found that 97.6% of the respondents were knowledgeable that HIV can be transmitted through sharing of sharp objects (Hailu et al. 2018). However, only just over a third of respondents were knowledgeable about the use of caesarean sections with nearly half (41%) having no knowledge on this issue. Similarly, only 30% were knowledgeable that termination of pregnancy cannot prevent PMTCT.

The moderate knowledge, misperceptions and lack of knowledge might put the children at risk of MTCT as supported by a study done by Adeniyi (20) which showed that women, who were admitted to hospital, had a lack of knowledge of how infants get HIV infection.

## **5.8 Attitudes towards PMTCT**

According to Dlamini, (2015) and Hampanda, (2013), attitudes can influence PMTCT utilisation and may reflect pregnant women's acceptance of HIV testing. Overall, the respondents had positive attitudes towards PMTCT with more than 50% of respondents agreeing with the attitude statements. The highest level of agreement was that pregnant women must be screened (75, 68.2%) followed by 72 (65.5%) respondents agreeing that skilled personnel must deliver HIV positive women. The

lowest level of agreement was for HIV positive women do not breastfeed her child if at risk of infection with less than 50% agreeing. These results are not as positive as a study by Abajobir & Zeleke, (2013) which showed that among pregnant mothers attending antenatal clinics, 97.4% had a positive attitude towards PMTCT HIV, and only 2.6% had a negative attitude.

The National Guidelines for PMTCT of HIV (2015), encouraged screening such that pregnant woman could be tested, counselled, and immediately start treatment if necessary (National Guidelines for PMTCT of HIV and the management of HIV in Children, Adolescents and Adults, 2015). Attitudes to early infant diagnosis also may have a bearing on the knowledge of the process of early infant diagnosis (Rollins et. al., 2009). A South African study also confirmed the advantages and disadvantages of early diagnosis of HIV status of the infant (Adeniyi, 2013), although caregivers in another study felt their children would be discriminated against at school because of their status (Hassan et al., 2012).

In this study, nearly 70% of the respondents showed positive attitudes towards the prevention of mother-to-child through HIV screening. All pregnant women should be given all forms of HIV counselling and testing and voluntarily adhere to the five C'S: consent, confidentiality, counselling, correct test results and connection to care (National Guidelines for PMTCT of HIV and the management of HIV in Children, Adolescents and Adults, 2015).

One of the requirements for PMTCT success is having pregnant woman give birth in an environment where she has access to skilled birth attendance or delivered by a trained health worker in a well-equipped facility with capacity to provide PMTCT (Mamudu,

2014). The study also confirmed positive attitudes towards being treated by health professionals that have the necessary knowledge, and to be transferred to health institution where they can be monitored by experienced healthcare worker. Disagreement to this statement may relate to the fear of being stigmatised and the results of the study done by Tigabu et al, (2018) showed that though most of the participants had favourable attitudes towards PMTCT of HIV/AIDS; there was also a fear of stigmatisation. As HIV transmission has a high chance of occurring during labour and delivery, it should be emphasised in messages as this might improve willingness to give birth in a health facility instead of at home or with unskilled birth attendants (Mamudu, 2014).

With the use of antiretroviral drugs during pregnancy the, 70 (63.6%) of the respondents showed positive attitudes towards mother-to-child transmission although this was less than in a study done by Abteu et al., (2016) which showed that only (17.4%) knew about the possible prevention methods (Abteu et al., 2016).



## **5.9 PMTCT practices**

According to the results, 84% of the respondents reported always using condoms when having intercourse. This is like the study done by Hailu et al., (2017) which showed that 79.4% responded that unprotected sexual intercourse with an infected person puts one at risk of acquiring HIV.

According to the National Guidelines for PMTCT (2015), all pregnant or breastfeeding women must be started on lifelong ARV's from their first antenatal visit irrespective of

gestational age. In terms of compliance with HIV prophylactic medication in this study, 90% of the respondents in this study indicated that they complied with their own medication and 80% showed good practise by giving their children the medication which helps with MTCT. Only 2 % (4) knew that MTCT of HIV can be prevented by avoiding breast feeding (Lucksom et al., 2015).

In terms of visiting the ANC clinics, again 90% of the respondents reported that they attend the clinic when they have an appointment. This is important as the study by Tigabu et al., (2018) showed that the odds of knowledge on Prevention of MTCT was about 7 times higher among women who had had ANC follow-up than women who had not attended the ANC in their last pregnancy.

One of the most common reported practices that is promoted by the respondents' culture was breastfeeding with 88.2% reporting the practice. In PMTCT, this can be a problem where the respondents do not want to breastfeed because of their HIV status and they fear to tell their family about their status (Dlamini, 2015; Avert, 2018). In a similar study, the participants expressed fears about their babies' HIV test because they feared that their children might be HIV positive (Adeniyi, 2013). Other reasons expressed by some participants was embarrassment of having an HIV positive infant, fear of what people might say, fear of HIV, fear that the child will depend on pills, fear of the child falling sick, fear that the child might die and fear of how she would manage to live with an HIV positive child (Adeniyi, 2013).

## 5.10 Conclusion

The participants were knowledgeable towards PMTCT, with some positive attitudes towards MTCT but good practices in PMTCT. The study indicates that there is still a need for in-depth education around MTCT.





## CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

### 6.1 Introduction

The findings of the study to assess the knowledge, attitudes, and practices of HIV positive pregnant women towards the prevention of mother-to-child transmission (PMTCT) in Khayelitsha Midwifery Obstetric Unit (KMOU) were discussed in chapter five. This final chapter highlights the key findings, the recommendations, and limitations of the study.

### 6.2 Key findings

The key findings and conclusions from the study will be discussed using the outlined objectives.

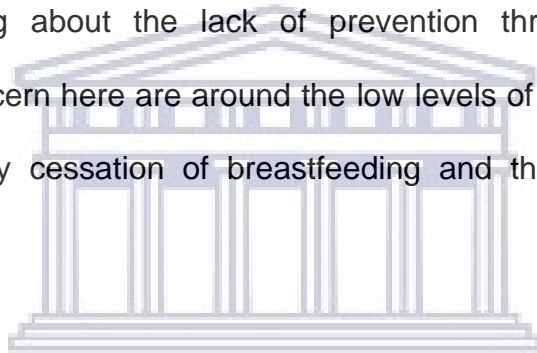
#### 6.2.1 Moderate and mixed levels of knowledge of pregnant antenatal women living with HIV regarding prevention of mother-to-child transmission.

The first objective of the study revealed that overall, the HIV positive pregnant women had moderate levels of the knowledge of towards PMTCT, including risks situations for themselves, risk situations for MTCT and prevention of MTCT. Around 1.4 million HIV infections among children were prevented between 2010 and 2018 due to PMTCT programmes (AVERT 2018) and more education is needed to prevent unborn babies and breastfeeding babies from the vertical transmission.

*Personal risk of HIV transmission:* The knowledge levels varied with specific issues, with 90% of the respondents knowledgeable on the consequences of unprotected sex with an infected person to only 40% knowing that insect bites cannot transmit HIV.

*Risk of child HIV transmission:* Generally, the levels of knowledge about the risks of child HIV transmission were lower than for personal situations. The knowledge levels varied with specific issues, with 75% of the respondents knowledgeable on the possibility that a mother can infect her child with HIV to only 35% knowing that HIV MTCT can occur in utero during pregnancy. Misperceptions were high regarding transmission through breastfeeding with nearly 50% having incorrect information on this issue.

*PMTCT:* The knowledge levels varied with specific issues on the prevention of HIV and PMTCT, with 76% of the respondents knowledgeable on abstinence as a prevention strategy to 24% knowing about the lack of prevention through immunisation and vaccination. Issues of concern here are around the low levels of knowledge about risks in labour, the need for early cessation of breastfeeding and the benefits of caesarean sections.



### **6.2.2 Mixed attitudes towards PMTCT.**

UNIVERSITY of the  
WESTERN CAPE

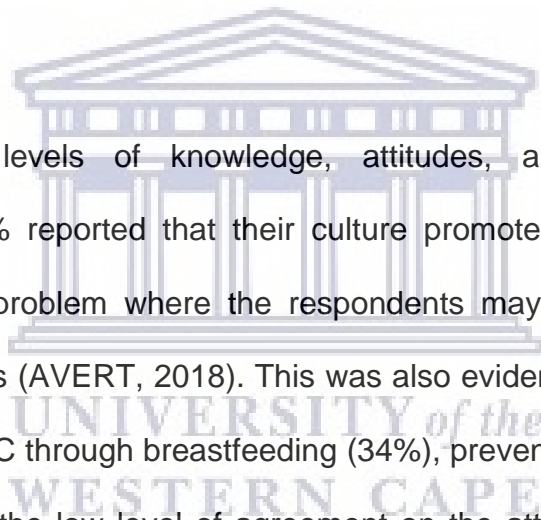
Attitudes among respondents varied with moderately positive attitudes towards screening and hospital delivery of pregnancy and lower attitude towards referral of HIV positive women for monitoring and use of ARVs through pregnancy. The lowest rated attitude was around breastfeeding with less than 50% of the respondents agreeing that the mother may not breastfeed if her child is at risk.

### **6.2.3 Good PMTCT practices.**

Overall, though the respondents reported moderate and mixed knowledge and attitudes towards PMTCT, the respondents reported high level of compliance with PMTCT practices with >80% of participants reporting positive practices of taking HIV prophylaxis, visiting their clinic regularly and using condoms. Only the provision of HIV prophylaxis to their children dropped below 80% (79.1%) of respondents reporting.

### **6.2.4 Mixed findings on the success of the PMTCT messages around breastfeeding.**

There were conflicting levels of knowledge, attitudes, and practices regarding breastfeeding. Nearly 90% reported that their culture promotes breastfeeding, and as identified, this can be a problem where the respondents may not want to breastfeed because of their HIV status (AVERT, 2018). This was also evident in the low reported per cent of knowledgeable MTC through breastfeeding (34%), prevention through cessation of breastfeeding (45%), and the low level of agreement on the attitude statement that HIV positive women may not breastfeed if the child is at risk of infection (49%). Breastfeeding mothers must be reminded at all times of the importance of giving the prophylactic medication to their children, and the frequency thereof for the duration of breastfeeding.



### **6.2.5 Health workers are still primarily the main source of information for HIV/AIDS and other health information.**

A key finding was that health workers, especially nurses, were the main source of HIV information and other health information at all clinic visits and follow-up sessions. In-service training and re-training of staff, awareness creation and community mobilization should be increased and maintained for the success of PMTCT programmes, especially the fight against stigma and discrimination. Special care should be given to those mothers who have difficulties in keeping their appointments as they might have a problem in collecting their monthly medication due to financial constraints.

### **6.3 Limitations of the study**

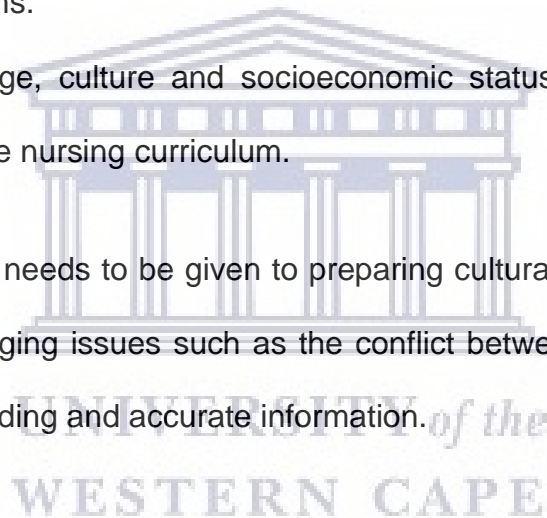
With more time and resource, the researcher could have used different clinics for the study to strengthen the results of the respondents with regards to knowledge, attitude and practices of HIV positive pregnant women towards PMTCT. The researcher noted that some questions were not answered, regardless of the availability of the researcher to answer questions that were not clear. This may be due to ambiguity in these questions. This could cause some bias on the results as well it might not give a true reflection of the actual problem. The time frame might also not give a clear picture of the actual problem.

Since the study is institutional based, generalisation to the national population is limited therefore a further study must include more than one institution.

## 6.4 Recommendations

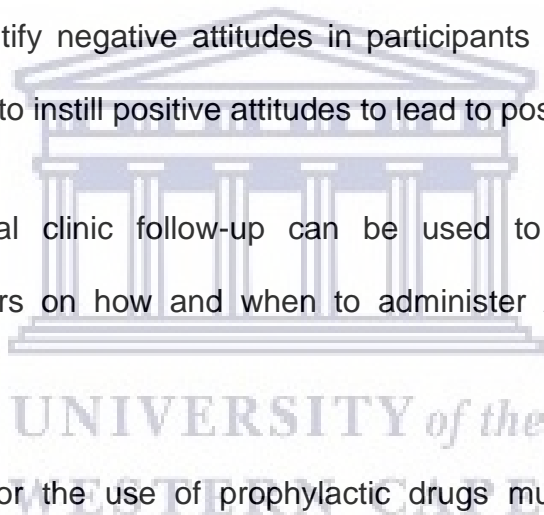
### 6.4.1 Education recommendations

- With regards to the findings of the study, it is recommended that the preparation of midwives should include the importance of the nurse in the role as the main provider of information on PMTCT to improve the knowledge, attitude and practices of HIV positive pregnant women towards the prevention of mother-to-child transmissions.
- The impact of age, culture and socioeconomic status on PMTCT should be integrated into the nursing curriculum.
- Special attention needs to be given to preparing culturally sensitive midwives to deal with challenging issues such as the conflict between cultural expectations around breastfeeding and accurate information.
- A nursing course or module on HIV/AIDS with PMTCT should be offered as a short course by nursing colleges and universities to improve the standard of nursing practice. The study participants who score half or more than half ( $\geq 4$  out of 7) of the attitude questions and are considered as positive attitude therefore 68.2% of the respondents agreed that antenatal pregnant women should be screened for HIV. Women should be screened for



#### 6.4.2 Practice recommendations

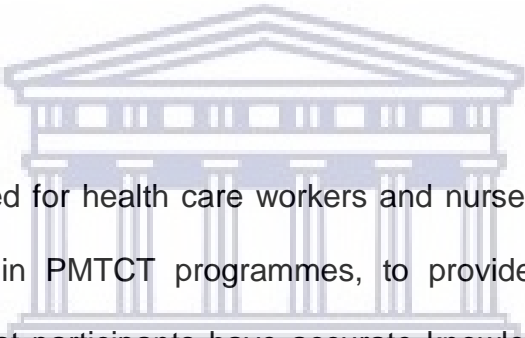
- The PMTCT programme is an ongoing process and changes all the time therefore continuous learning will be of great help to the health community.
- The study indicates that there is still a need for in-depth in-service education around MTCT, addressing the problems will help to change the misconception towards breastfeeding. Among the 99 respondents, 97 (88.2%) indicated that their culture promotes breastfeeding which is good practice.
- Staff should identify negative attitudes in participants in PMTCT programs and should endeavor to instill positive attitudes to lead to positive PMTCT practices.
- Regular antenatal clinic follow-up can be used to improve knowledge by educating mothers on how and when to administer ARV prophylaxis to their children.
- The timeframe for the use of prophylactic drugs must always be explained. Breastfeeding mothers must be given sufficient ARV's, in according with the frequency of the drug, to prevent the loss to follow-up for ARV's. The study participants who score half or more than ( $\geq 3$  out of 11) of the practice questions are considered as good practice therefore on all the questions the participants showed good practice.



### 6.4.3 Research recommendations

- In South Africa, further research is required to determine the knowledge, attitude, and practices of pregnant women towards the PMTCT and adherence to lifelong ARV treatment.
- An in-depth qualitative study must be done to explore the reasons behind the mixed knowledge and attitudes, in relation to the positive practices.

## 6.5 Conclusion



There is an ongoing need for health care workers and nurses, as the main source of information for women in PMTCT programmes, to provide accurate and relevant information to ensure that participants have accurate knowledge on PMTCT, positive attitudes towards PMTCT resulting in good PMTCT practices. Among the total respondents, 82 (74.5%) indicated that they believed that HIV can be transmitted from an infected mother to her child, but this was than 50% of the respondents which good knowledge. The study participants who score half or more than ( $\geq 3$  out of 11) of the practice questions are considered as good practice therefore on all the questions the participants showed good practice.

## REFERENCES

- Abajobir, A. A., & Zeleke, A. B. (2013). Knowledge, attitude, practice and factors associated with prevention of mother-to-child transmission of HIV/AIDS among pregnant mothers attending antenatal clinic in Hawassa referral hospital, South Ethiopia. *J AIDS Clin Res*, 4(6), 2-7.
- Abteu, S., Awoke, W., & Asrat, A. (2016). Knowledge of pregnant women on mother-to-child transmission of HIV, its prevention, and associated factors in Assosa town, Northwest Ethiopia. *HIV/AIDS (Auckland, NZ)*, 8, 101.
- Adeniyi, V.O. (2013: 21). *Maternal Knowledge and Attitude to early infant HIV diagnosis*. Doctoral dissertation, Stellenbosch: Stellenbosch University. Retrieved from: [www.semanticscholar.org/paper](http://www.semanticscholar.org/paper): Volume: 7
- AVERT, 2018. *Prevention of mother-to-child transmission (PMTCT) of HIV*. [Online]. Retrieved from: [www.avert.org/hiv](http://www.avert.org/hiv) (Accessed May/2019).
- AVERT, 2019. *Prevention of mother-to-child transmission (PMTCT) of HIV*. [Online]
- Baran, M. L., & Jones, J. E. (2016). *Mixed Methods research for improved scientific Study*. USA: IGI Global Publisher of Timely Knowledge. USA.
- Brink, H., Van der Walt, C., & Van Rensburg, G. (2012). *Fundamentals of research methodology for healthcare professionals*. Cape Town: Juta & Company Ltd.
- Brink, H., van der Walt, C. and van Rensburg G. (2014). *Fundamentals of Research Methodology for Healthcare Professionals*. Cape Town.: Juta & Company Ltd.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.)*. Los Angeles: Sage Publications.
- Denscombe, M. (2014). *The good research guide: for small-scale social research projects*. McGraw-Hill Education (UK).
- Denzin, N. K., & Giardina, M. D. (2016). Introduction: Ethical futures in qualitative research. In *Ethical futures in qualitative research*. Routledge. Florida, USA.
- Department of Health (2014). *National Consolidated Guidelines for the Prevention of Mother to Child Transmission of HIV and the management of HIV in children, adolescent and adults*. Retrieved from: [www.doh.gov.za](http://www.doh.gov.za).
- Dlamini, P. L. (2015). *Knowledge, attitudes and practices associated with PMTCT among breastfeeding mothers living with HIV in a King Sobhuza II public health unit, Swaziland* (Doctoral dissertation).
- Grove, S. K., Burns, N., & Gray, J. P. (2012). *The Practice of Nursing Research: Appraisal, Synthesis, and Generation of Evidence (7th ed.)*. Elsevier, United States.
- Hailu, D., Nigussie, W., Gudeta, T. A., Abdu, M., Molla, Y., & Assefaw, G. (2018). Assessment of Knowledge and Attitude towards Prevention of Mother-To Child Transmission of HIV/AIDS among Antenatal Care Client in Mizan-Aman Town Public Health Facilities, Benchi-Maji Zone, South Nation Nationalities and People Region, Southwest Ethiopia, 2017. *Clinics Mother Child Health*, 15(280), 2.
- Hampanda, K., (2013). Vertical transmission of HIV in Sub-Saharan Africa: applying theoretical frameworks to understand social barriers to PMTCT. *ISRN Infectious Diseases*. 13 (1-4). Article ID 420361, Retrieved from: <http://dx.doi.org/10.5402/2013/420361>
- Hassan, A. S., Sakwa, E. M., Nabwera, H. M., Taegtmeier, M. M., Kimutai, R. M., Sanders, E. J., ... & Berkley, J. A. (2012). Dynamics and constraints of early infant



- diagnosis of HIV infection in rural Kenya. *AIDS and Behavior*, 16(1), 5-12.
- Joshi, U., Patel, S., Shah, K., Oza, U., & Modi, H. (2011). Studying PPTCT services, interventions, coverage and utilization in India. *Journal of global infectious diseases*, 3(4), 371.
- Lucksom, P. G., Upadhyaya, R., Kharka, L., Dubey, S., Choudhary, N., & Yadav, R. (2016). KAP Study on HIV/AIDS among antenatal women attending central referral hospital of North East India. *The Journal of Obstetrics and Gynecology of India*, 66(1), 55-59.
- Mamudu, R. A. (2014). *Knowledge, attitude and practices of prevention of mother to child transmission of HIV (PMTCT) among women of child bearing age, in Karu Village, Abuja, Nigeria* (Doctoral dissertation, Stellenbosch: Stellenbosch University).
- National Department of Health, Republic of South Africa. (2015). *Guidelines for maternity care in South Africa. A manual for clinics, community health centres and district hospitals. Fourth Edition*. Retrieved from: [https://midwivessociety.co.za/wp-content/uploads/2020/07/Maternal-Care-Guidelines-2015\\_FINAL-15.6.15.pdf](https://midwivessociety.co.za/wp-content/uploads/2020/07/Maternal-Care-Guidelines-2015_FINAL-15.6.15.pdf)
- National Department of Health, (2015). *PMTCT Guidelines for the prevention of mother to child transmission of HIV (PMTCT) and the management in children, Adolescent and Adults. South Africa*. Retrieved from: <https://sahivsoc.org/Files/ART%20Guidelines%2015052015.pdf>
- Sellers, P.M.( 2018). *Midwifery*. 3rd edition. Volume 1 & 2. Juta & Co Ltd: Kenwyn.
- National Department of Health.(2015). *National Consolidated Guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults*. Pretoria:
- South African National Department of Health. (2019). *Guideline for the Prevention of Mother to Child Transmission of Communicable Infections (HIV, Hepatitis, Listeriosis, Malaria, Syphilis and TB)*.
- South African National Department of Health. (2020). *National Consolidated Guidelines for the management of HIV in Adults, Adolescents, Children and Infants and Prevention of Mother-to-Child Transmission*.
- Olugbenga-Bello, A. I., Adebimpe, W. O., Osundina, F. F., & Abdulsalam, S. T. (2013). Perception on prevention of mother-to-child-transmission (PMTCT) of HIV among women of reproductive age group in Osogbo, Southwestern Nigeria. *International journal of women's health*, 5, 399.
- Struwig, F. W., & Stead, G. B. (2013). *Research: Planning, designing, and reporting* (2nd Ed.). Cape Town: Pearson.
- Tesfaye, G., Tufa, B., Likisa, J., Alebachew, M., & Temesgen, G. (2014). Knowledge, Attitude and Practice towards PMTCT of HIV among Women Attending Ambo Hospital ANC Clinic, West Ethiopia. *J AIDS Clin Res* 6: 407. doi: 10.4172/2155-6113.100040 (1) 1000407 *J AIDS Clin Res* ISSN: 2155-6113
- The Western Cape Consolidated Guidelines for HIV Treatment. (2019). *Prevention of Mother-to-Child Transmission of HIV (PMTCT), Children, Adolescents and Adults*. Retrieved from: [https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/the\\_western\\_cape\\_consolidated\\_guidelines\\_for\\_hiv\\_treatment\\_29032016.pdf](https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/the_western_cape_consolidated_guidelines_for_hiv_treatment_29032016.pdf)
- The Western Cape Consolidated Guidelines for HIV Treatment. (2020) *Prevention of Mother-to-Child Transmission of HIV (PMTCT), Children, Adolescents and Adults*. Retrieved from: [https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/the\\_western](https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/the_western)

[cape consolidated guidelines for hiv treatment 29032016.pdf](#)

- Tshabalala, M. F. (2012). *Utilization of antenatal care (ANC) and prevention of mother-to-child transmission of HIV (PMTCT) services in east Ekurhuleni sub-district, Gauteng Province, South Africa* (Doctoral dissertation).
- UNAIDS, (2011). World AIDS Day Report. Accessed July 2019.
- UNAIDS, (2012). UNAIDS Report on the Global AIDS Epidemic. Geneva: UNAIDS.
- UNAIDS. (2013). Report on the global AIDS epidemic.
- UNAIDS, (2019). Women and HIV spotlight on adolescent girls and young women. Accessed [unaids.org](http://unaids.org). (accessed July 2021)
- UNAIDS, (2020). The global impact of HIV/AIDS. (Accessed March 2021)
- Tigabu, W., & Dessie, G. (2018). Knowledge, Attitude and Practice towards Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS among Pregnant Mothers at Nigist Eleni Mohammed Memorial General Hospital (NEMMGH), Hosanna, Southern Ethiopia. *Journal of HIV/AIDS & Infectious Diseases*, 4(101), 1-11.
- WHO (2010). *Towards Universal Access: Scaling up priority HIV/AIDS Interventions in the Health sector. (2010)*. (Online). Retrieved from: <http://www.int/hiv/pub/2010progressreport/report/en/index.html>
- WHO/UNAIDS/UNICEF. (2011). *Global HIV/AIDS Response: Epidemic update and health sector progress towards universal access*. (Online) Retrieved from: <http://www.who.int/hiv/pub/progress>. (Accessed in May 2020).
- Woldesenbet, S. A., Kufa, T., Lombard, C., Manda, S., Ayalew, K., Cheyip, M., & Pure, A. (2019). The 2017 national antenatal sentinel HIV survey, South Africa. *National Department of Health*.
- World Health Organization, (2011). *Towards the elimination of mother to child transmission of HIV* Retrieved from: [www.who.int](http://www.who.int).
- World Health Organization, (2015). *Prevention of mother to child (PMTCT) of HIV*. Retrieved from: Retrieved from: [www.who.int](http://www.who.int)
- World Health Organization, (2019). *Towards the elimination of mother to child transmission of HIV*. Retrieved from: [www.who.int](http://www.who.int)

UNIVERSITY of the  
WESTERN CAPE

## APPENDICES



UNIVERSITY *of the*  
WESTERN CAPE

## APPENDIX A: UWC Ethics approval



### OFFICE OF THE DIRECTOR: RESEARCH RESEARCH AND INNOVATION DIVISION

Private Bag X17, Bellville 7535  
South Africa  
T: +27 21 959 2988/2948  
F: +27 21 959 3170  
E: [research-ethics@uwc.ac.za](mailto:research-ethics@uwc.ac.za)  
[www.uwc.ac.za](http://www.uwc.ac.za)

02 November 2017

Ms B Nkwandla  
School of Nursing  
Faculty of Community and Health Sciences

**Ethics Reference Number: BM17/7/5**

**Project Title:** Knowledge, attitude and practices of HIB pregnant women towards the prevention of mother-to-child transmission in one of the clinics in the Western Cape.

**Approval Period:** 02 November 2017 – 02 November 2018

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

**Please remember to submit a progress report in good time for annual renewal.**

The Committee must be informed of any serious adverse event and/or termination of the study.

A handwritten signature in black ink, appearing to read 'Patricia Josias'.

*Ms Patricia Josias  
Research Ethics Committee Officer  
University of the Western Cape*

**PROVISIONAL REC NUMBER -130416-050**

**APPENDIX B: Permission from KMOH**

**David Binza**

**<David.Binza@westerncape.gov.za>**

to **Health**, me

Dear Ms Nkwandla

Thank you for your presentation this morning

It pleases me to inform you that your study has been approved in our facility

Health research (cc'd) will be issuing you with approval letter and once this has been received you all welcome to come and start your study

Regards

David



UNIVERSITY *of the*  
WESTERN CAPE

## APPENDIX C: DOH Approval



**Health Impact Assessment  
Sub-Directorate: Health Research**

Health.Research@westerncape.gov.za  
Tel: +27 21 453 0856, Fax: 127 21 463 9395  
9th Floor, Nelson Mandela House, 8 Eloff Street, Cape Town, 8001  
[www.westerncape.gov.za](http://www.westerncape.gov.za)

REFERENCE: WC\_201805\_019  
ENQUIRIES: Dr Sabela Petros

**University of Western Cape**

**Robert Sobukwe Road**

**Bellville**

**Cape Town**

**7305**

For attention: Ms Buyiswa Nkwandla

**Re: Attitude knowledge and practices of HIV positive pregnant women towards the prevention of mother-to-child transmission in one of the clinic in the Western Cape.**

Thank you for submitting your proposal to undertake the above mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact the following person to assist you with any further enquiries in accessing the following site:

**Khayelitsha (Site B) CHC**

**Mr David Binza**

**021 360 5207**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. By being granted access to provincial health facilities, you are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of your project. This can be submitted to the provincial Research Co-ordinator ([Health.Research@westerncape.gov.za](mailto:Health.Research@westerncape.gov.za)).
3. In the event where the research project goes beyond the estimated completion date which was submitted, researchers are expected to complete and submit a progress report

## APPENDIX D: Permission request

Telephone: 021- 799 6911  
Extension: 6229  
Cellphone: 073 519 8150  
e-mail: [nkwandlabuyiswa@gmail.com](mailto:nkwandlabuyiswa@gmail.com)  
Enquiries: Capt B.Nkwandla

2 Military Hospital  
Private Bag X4  
Wynberg  
7824  
March 2018

The Chairperson

**RE: REQUEST FOR APPROVAL TO CONDUCT RESEARCH STUDY AT KHAYELITSHA SITE B MOU IN CAPE TOWN: 86003076MC CAPT B NKWANDLA**

**PROJECT TITLE: KNOWLEDGE, ATTITUDE AND PRACTICES OF HIV POSITIVE PREGNANT WOMEN TOWARDS PREVENTION OF MOTHER TO CHILD TRANSMISSION (PMTCT)**

1. 86003076MC, Capt. B. Nkwandla. I am currently studying towards my Master's degree in Advanced Midwifery and Neonatology @ the UWC student number 3569409
2. I hereby request to do data collection at Site B Khayelitsha I have obtained the clearance from the Ethics committee at UWC
3. The aim of the study is to investigate the knowledge, attitude and practices of HIV positive pregnant women towards the prevention of mother to child transmission in one of the clinics in the Western Cape
4. Attached please find the following documents:
  - a. Letter of approval from the Ethics Committee of the University of western Cape (Ethics Reference Number BMI17/7/5)
  - b. Research proposal
  - c. Research study questionnaire
  - d. Research Information leaflet
  - e. Research consent form to the participants
  - f. Declaration of Helsinki

Health Warriors Serving the Brave  
RESTRICTED

I sincerely appreciate your assistance with regard to my research study.

**PRINCIPAL RESEARCHER: CAPT NKWANDLA**

## APPENDIX E: Information sheet



# UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa  
cell no 0735394947  
E-mail: [nkwandlabuyiswa@gmail.com](mailto:nkwandlabuyiswa@gmail.com)

## INFORMATION SHEET

**Title of Research Project: Knowledge, attitude and practices of HIV pregnant women towards prevention of mother to child transmission (PMTCT) in one of the clinic in the Western Cape**

### **What is this study about?**

This is a research project being conducted by Buyiswa Nkwandla at the University of the Western Cape. We are inviting you to participate in this research project because you are attending a PMTC clinic. The research is being conducted at PHC clinic in the Western Cape, all HIV positive pregnant women available are the population for the study therefore you meet the criteria to participate in this study. The purpose of this research project is to investigate in one clinic in the Western Cape the knowledge attitude and practices of pregnant women living with HIV with regard to prevention of mother to child transmission.

### **What will I be asked to do if I agree to participate?**

You will be asked to fill in a questionnaire that will include questions relating to your biographical information, knowledge, attitude and practices about PMTCT during pregnancy and breastfeeding. The study will be conducted at Khayelitsha Community Health centre. Questions will be handed to you and collected once you are done; maximum 20 minutes to complete the questionnaire. You are also welcome to take the questionnaire home to complete if this suits you better.

### **Would my participation in this study be kept confidential?**

The researchers undertake to protect your identity and the nature of your contribution. To ensure your anonymity, information you provide will be kept confidential; and your



anonymity will be maintained. The study database and related participant documentation will be coded so as to maintain participant confidentiality and anonymity. Access to information will be permitted only to study staff. Furthermore, files will be kept in a secure office within a locked filing cabinet. If we write a report or article about this research project, your identity will be protected. In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning lack of knowledge, attitude and practices regarding PMTCT. In this event, we will inform you that we have to break confidentiality to fulfil our legal responsibility to report and correct the problem.

### **What are the risks of this research?**

There may be some risks participating in this research project that is emotional feelings. All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any psychological problems and discomfort or otherwise during the process of your participation in this study. An appropriate referral will be made to a suitable professional for further assistance or intervention if necessary

### **What are the benefits of this research?**

The benefits is to both mother and child with the use of antiretroviral therapy early preventing mother to child transmission during pregnancy, promoting breastfeeding with the use of prophylactic treatment during pregnancy and the breastfeeding period (WHO,2010). Outcomes indicates that education is key to success and improvement of the mother own health and prevention of mother to child transmission.

### **Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

### **What if I have questions?**

This research is being conducted by Buyiswa Nkwandla at the University of the Western Cape. If you have any questions about the research study itself, please contact Buyiswa Nkwandla or 0735198150 email: [nkwandlabuyiswa@gmail.com](mailto:nkwandlabuyiswa@gmail.com) Should there be questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

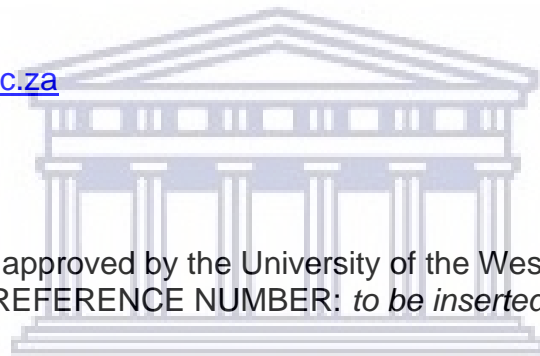
Prof J Chipps  
Head of Department  
School of Nursing  
University of the Western Cape  
Private Bag X17  
Bellville 7535

[jchipps@uwc.ac.za](mailto:jchipps@uwc.ac.za)

Prof Anthea Rohda  
Dean of the Faculty of Community and Health Sciences  
University of the Western Cape  
Private Bag X17  
Bellville 7535

[chs-deansoffice@uwc.ac.za](mailto:chs-deansoffice@uwc.ac.za)

This research has been approved by the University of the Western Cape's Senate Research Committee. (REFERENCE NUMBER: *to be inserted on receipt thereof from SR*)



UNIVERSITY *of the*  
WESTERN CAPE

**APPENDIX F: Consent**

**UNIVERSITY OF THE WESTERN CAPE**

Private Bag X 17, Bellville 7535, South Africa  
cell no 0735394947  
E-mail: [nkwandlabuyiswa@gmail.com](mailto:nkwandlabuyiswa@gmail.com)

**CONSENT FORM**

**Title of Research Project: Knowledge, attitude and practices of HIV pregnant women towards prevention of mother to child transmission (PMTCT) in one of the clinic in the Western Cape**

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participant's name.....

Participant's signature.....

Date.....

## APPENDIX G: Questionnaire

### PMTc QUESTIONNAIRE

#### Section 1: Demographics

Age: \_\_\_\_\_

Marital status

Single	Married	Cohabiting
--------	---------	------------

Level of Education

None	Primary	Secondary	Tertiary
------	---------	-----------	----------

Occupation

Unemployed	Student	Employed
------------	---------	----------

Pregnancy

First pregnancy	Second pregnancy	Third or ,more pregnancy
-----------------	------------------	--------------------------

Have you ever heard of HIV/AIDS?

Yes	NO
-----	----

#### Information source for respondents

What was the source of information on HIV/AIDS

Health workers	Radio/TV	Partner	Other	Newspaper
----------------	----------	---------	-------	-----------

Have you ever heard of a programme that prevents a child from getting HIV from the HIV positive mother during pregnancy, labour/delivery as well as breast feeding?

Yes	NO
-----	----

As a person living with HIV how do you keep your information or knowledge up to date

Health workers	Radio/TV	Partner	Other	Newspaper
----------------	----------	---------	-------	-----------

#### Section 2: Knowledge of personal transmission

<b>Knowledge of HIV positive pregnant women towards child transmission</b>	<b>Yes/ Knowledgeable</b>	<b>No/ Misperceptions</b>	<b>Unsure/ Lack of Knowledge</b>
Unprotected sex with an infected person			
Sleeping in the same room with an infected individual			
Blood transfusion with an infected blood			
Casual contacts such as hugging, handshakes			
swimming pool and public toilets			
Sharing of sharp objects			
Infected from mother to child			
Insect bites like mosquitoes			

<b>Knowledge of child transmission</b>			
<b>Knowledge of an HIV positive pregnant women towards MTCT</b>			
A mother can infect her child with HIV			
Through labor/delivery			
Insect bites like mosquitoes			
Through mosquito bite			
Through invasive tests			
MTCT of HIV takes place in utero/pregnancy			

### **Knowledge of HIV and MTCT prevention**

<b>Knowledge of prevention of HIV transmission</b>	<b>Yes/ Knowledgeable</b>	<b>No/ Misperceptions</b>	<b>Unsure/ Lack of Knowledge</b>
Abstinence from unprotected sex			
Avoidance of close contact with an infected person			
Health education			
Casual contacts such as hugging, handshakes			
Avoidance of smoking			
Faithfulness to partner			
Avoidance of drug use			
No use of Herbs			
Use of ARV's			
Early cessation of breastfeeding			
Transfusion with screened blood			
Avoidance of invasive tests			
Caesarian Section			
Termination of pregnancy			
Vaccination and immunization			

### SECTION: 3 ATTITUDES TOWARDS PMTCT

Tick the right answer

<b>Attitude towards PMTCT</b>	<b>Disagree</b>	<b>Indifferent</b>	<b>Agree</b>
Pregnant women should be screened for HIV			
HIV infected pregnant women must deliver with skilled personnel			
HIV +ve women should not deliver at home			
Referral of HIV +ve pregnant women to institutions for monitoring			
Use of antiretroviral drugs during pregnancy			
HIV infected woman may not breastfeed her child if there is risk of infection			

### SECTION: 4 PMTCTPRACTICES



Tick the correct answer

<b>Practices</b>	<b>Agree</b>	<b>Disagree</b>
I always take my HIV prophylaxis		
Do you visit the clinic regularly		
My culture promotes breastfeeding		
I always use a condom during sex.		
I always give my child his/her HIV prophylaxis		

END OF QUESTIONNAIRE

UNIVERSITY of the  
WESTERN CAPE

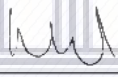
## APPENDIX H: Turnitin

PMTCT Masters Thesis BY BUYISWA NKWANDLA		turnitin 	<b>24%</b> SIMILAR
3	Masters Thesis start: 23-Feb-2018 due: 31-Dec-2019	PMTCT Masters Thesis	11-Dec-2020 24% 



UNIVERSITY *of the*  
WESTERN CAPE

## APPENDIX I: Certificate for Editing

ENGLISH LANGUAGE GRAMMAR EDIT	
<p><b>This is to certify that the attached titled</b></p> <p>KNOWLEDGE, ATTITUDE AND PRACTICES OF HIV POSITIVE PREGNANT WOMEN TOWARDS THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTc) IN KHAYELITSHA MATERNITY OBSTETRIC UNIT IN THE WESTERN CAPE</p> <p><b>prepared and submitted by</b></p> <p>BUYISWA NKWANDLA Student Number: 3569409</p> <p><b>has gone through an English language grammar edit carried out by Duncan Harford.</b></p> <p>02/12/2020 _____ <b>DATE</b></p> <p> _____ <b>SIGNATURE</b></p> <p>UNIVERSITY of the WESTERN CAPE</p>	