

**THE 2010 PMTCT PROGRAMME AS IMPLEMENTED AT COMMUNITY
HEALTHCARE CENTRES IN THE LIMPOPO PROVINCE: A NURSING
PERSPECTIVE**

Adri Williams

Student number: 771189

adri@edupark.ac.za;

Cellular phone number: (+27) 61 357 7402

Telephone number: (+27) 15 290 2800

Supervisor: Ms BA Hanrahan

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DECLARATION

I, Adri Williams, declare that this dissertation is my own work. It is being submitted for the degree of Master of Science in Nursing at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

A handwritten signature in dark ink, appearing to read 'Adri Williams', is written over a horizontal line.

Signature of Candidate

13th day of May 2016

To God, the angels, my Jo,
and my devoted family.

ABSTRACT

When new programmes and protocols are introduced, or when older ones are adapted and modified, it is often the people tasked with the execution of the programmes who bear the brunt of the changes. More often than not, their opinions are not sought. In this study, the researcher interviewed registered nurses in the Prevention of Mother-to-Child Transmission of the Human Immunodeficiency Virus programme to gain an understanding of their perspectives on the changes introduced to the programme, given the many constraints within the medical sector. In this regard, qualitative research was conducted at four community health clinics in the Polokwane district, Limpopo Province. A positive finding was that the programme, as amended, was working well and that the nurses were informed about developments in time. On the other hand, and more challenging, the perceived staff shortages, the lack of infrastructural maintenance and poor patient education were deemed by the participants to be of a problematic nature. These influences could potentially have negative influences on the implementation of the Prevention of Mother-to-Child Transmission of the Human Immunodeficiency Virus programme.

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NOMENCLATURE

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Treatment
ARV	Antiretroviral
AZT	Zidovudine
CD4	Cluster of Differentiation 4
DNA PCR	DNA Polymerase Chain Reaction
DoH	Department of Health
EBF	Exclusive Breastfeeding
EFV	Efavirenz
EMTCT	Elimination of Mother-to-Child Transmission of HIV
EPI	Expanded Programme on Immunisation
FDC	Fixed Dose Combination
FPD	Foundation for Professional Development
HAART	Highly Active Antiretroviral Therapy
Hb	Haemoglobin
HepBSAg	Hepatitis B Surface Antigen
HIV	Human Immunodeficiency Virus
IPT	Isoniazid Preventive Therapy

MCH	Maternal and Child Health
MTCT	Mother-to-Child Transmission of HIV
NIMART	Nurse initiated and managed ART
NVP	Nevirapine
PCR	Polymerase Chain Reaction
PHC	Primary Health Care
PMTCT	Prevention of Mother-to-Child Transmission of HIV
RN	Registered Nurse
SRH	Sexual and Reproductive Health
TB	Tuberculosis
TST	Tuberculin Sensitivity Test
VCT	Voluntary Counselling and Testing
VL	Viral load (HIV)
WHO	World Health Organization

DEFINITIONS OF TERMS AND CONCEPTS

In this study it is important to note that the term “2010 PMTCT programme” refers to the PMTCT programme as it was implemented at the clinics in July 2014 – thus after the changes in 2013 had been effected.

The terminology in the context of this study is defined as:

- ARV or ART (antiretroviral therapy) is the medicinal treatment to decrease a patient’s viral load to an undetectable level and to keep the level undetectable. This ensures that the patient’s CD4 count rises and that the patient’s immunological status improves (Department of Health 2014: 40).
- CD4 cells (cluster of differentiation) are cells in blood that protect the body’s immune system and fight infections. CD4 cells are also known as T-cells and are a type of lymphocyte (Card, Amarillas, Conner, Akers, Solomon & DiClemente 2008: 28).
- PMTCT is the programme implemented by healthcare providers to prevent the transmission of mother-to-child transmission of HIV. This programme prescribes all the interventions taken to prevent the transmission of HIV to the foetus and infant during pregnancy, labour and in the postpartum period (Department of Health 2014: 40).

- Registered nurses are persons registered with the South African Nursing Council (SANC) as professional nurses. These nurses may practise the profession of nursing for payment in the capacity where the pre-requisites of the job prescribe registration. According to Searle, Human and Mogotlane (2009: 50) a registered nurse must have successfully completed qualifying examinations, and provide proof of education (usually a four year degree or an advanced diploma at an accredited higher learning institution) to register with the SANC.
- Viral load (VL) refers to the quantity of HIV viral particles found in every millilitre of blood. The more viral particles in the blood, the quicker the Cluster of Differentiation 4 cells (CD4) are destroyed and the speedier the advancement toward AIDS. Both the CD4 counts and the VL are used to get a comprehensive picture on how the immune system is battling the virus (WHO 2015: online).

CHAPTER 1

INTRODUCTION

This chapter presents an introduction to the study and establishes the background to this investigation, the problem statement, and a listing of the aim and objectives. The importance of the study is highlighted and the delineation and limitations are discussed. This chapter concludes with an outline of the chapters of the dissertation.

1.1 Background information

South Africa has a prevailing Human Immunodeficiency Virus (HIV) epidemic, which has stabilised over the last four years at a national antenatal prevalence rate of about 30% (SANAC 2014: online). The vertical transmission of the HIV infection from an HIV-infected mother to her child during pregnancy, labour, delivery or breastfeeding is known as mother-to-child transmission (MTCT). Without access to anti-retroviral medication (ARVs), about a third of vertically infected young children die during the first 12 months of life, 50% by 2 years, and 60% by 3 years (Tang 2010: 1). To prevent this loss of innocent lives, the World Health Organisation (WHO) developed recommendations for Prevention of Mother-to-Child Transmission of HIV (PMTCT). The PMTCT programme is a singularly effective intervention and has vast potential to enhance infant, paediatric and maternal health. The WHO's goal with the PMTCT Strategic Vision 2010 – 2015 was aimed at the ambitious goal of eliminating new paediatric HIV infections by the end of 2015.

More encouraging, on 30 June 2015, Cuba was named the first country in the world to have eliminated the transmission of HIV from mother to child. Cuba had only two HIV positive infants born in 2013 (Duell 2015: 1).

The risk of MTCT of HIV ranges from 20% to 45% if no precautions are taken, but with the aid of the PMTCT programme's interventions, the risk of MTCT in non-breastfeeding populations can be reduced to less than 2%, and to 5% or less in breastfeeding populations (World Health Organisation 2010: 6). In 2008 there were 430 000 new infections amongst children worldwide – more than 90% of these infections by means of MTCT. In 2011, South Africa had 63 600 new HIV infections amongst children 0 to 14 years of age (Statistics South Africa 2011: 8). The Cape Times also reported that in South Africa there are currently 360 000 children under the age of 15 living with HIV (Mkhwanazi 2014: A7).

The WHO recommendations on PMTCT of HIV were incorporated in South Africa's PMTCT programme in 2008 and revised in 2010, 2013, 2014 and again in 2015. These changes were informed by the WHO recommendations and implemented by the progressive action of the Department of Health (DoH). The latest change in 2014 was to move from the WHO Option B to the Option B + (Department of Health 2014: 7).

To clarify, Option B prescribes that every pregnant HIV infected patient is initiated on ART – regardless of the Cluster of Differentiation 4 (CD4) cell count. If the patient's CD4 cell count is lower or equal to $350/\text{mm}^3$ or the patient is staged at stage 3 or 4, she would qualify for life-long ART. If the patient's CD 4 cell count is above $350/\text{mm}^3$ and at stages 1 or 2, ART is stopped after delivery if the patient is formula feeding, or after breastfeeding is discontinued (Mnyani 2012: online)

By contrast the Option B+ prescribes life-long ART for all HIV positive pregnant patients notwithstanding the CD4 cell count. However, the Option B+ uses the CD4 cell count and viral load (VL) count to monitor response of the patient to the treatment (Mnyani 2012: online).

In an in-depth interview, the honourable health minister, Mr Aaron Motsoaledi, was probed on the state of South Africa's battle against the HIV pandemic (Thom 2013: 3), and in particular, the PMTCT programme. Mr Motsoaledi revealed that the PMTCT programme is functioning well, and he anticipated that the MTCT rates will show a reduction from the current 2.7%.

Whenever a reform or revision has been initiated, as in this case - the revision of the PMTCT Programme - it is important to assess its consequences (Babbie, Mouton, Vorster & Prozesky 2009: 334). In an evaluation of PMTCT services in Uganda in 2003, the experience of the health workers, and the consideration of their viewpoint, were important in generating new designs on how to improve the effectiveness of then PMTCT of HIV programme implemented (Rujumba, Tumwine, Tylleskär, Neema & Heggenhougen 2012: 2). The opinions of healthcare workers thus serve a very important role in the revision and improvement of healthcare programmes.

The purpose of this study is to determine what the registered nurses' perspectives are on the PMTCT programme as implemented at various community health clinics in the Limpopo Province. This was done to discover whether any improvements could be suggested.

1.2 Significance of the study

From a nursing, programme, and facility management point of view, not having access to pertinent information on how a treatment programme is functioning, could pose a problem in terms of planning for optimal care and efficiency. Catalán, Sherr and Hedge (2005: 181) state that when planning and implementing programmes (of any nature), constant investigation is required to prioritise care and treatment services. This planning must be unequivocally and solidly based on science. The main objective of

these investigations is to assist policymakers to allocate funds and facilities so that these facilities and services would be available to the eventual beneficiaries. It is quite evident that public health service in South Africa has some challenges to overcome (as will be discussed in the literature study) and it is unclear whether proper assessment is being executed to aid programme planning and implementation.

The significance of this study thus resides in discovering how well the PMTCT programme is functioning (according to the implementers), and whether any improvements could be made to the PMTCT programme, or improvements on how it is being implemented. This could potentially lead to policy changes that may be beneficial to the patients. Improvements could even be considered at other clinics in the area, the province and, eventually, the whole of South Africa.

1.3 Problem statement

The PMTCT programme is an essential part of the global strategy to combat the HIV pandemic. In South Africa the HIV prevalence amongst women between the ages of 15 and 49 years is estimated at 18, 5% (Statistics South Africa 2014: 7). Ensuring that the PMTCT programme is functioning optimally is crucial to protect infants and their mothers. The implementation of the programme is primarily the task of nurses. Two studies conducted in the Limpopo Province (Malema, Malaka & Mothiba, 2010 and Varga & Brookes 2008) as well as studies in other parts of the country (in KZN in 2010 by Horwood, Haskins, Vermaak, Phakathi, Subbaye & Doherty, and in the Eastern Cape and Gauteng in 2011 by Sprague, Chersich & Black) indicate that findings from those studies are outdated due to the changes that have taken place in the implementation of the programme, and do not reflect the quality of the programme from the perspective of nursing responsibilities. It is therefore important to determine

the relative success of the nurse-led PMTCT programme as it is currently implemented in the Limpopo province in order to make recommendations for further improvement.

1.4 Aim and objectives

Aim

The aim of this study is to determine what the registered nurses' perspectives are on the PMTCT programme as implemented at various community health clinics in the Limpopo Province in order to discover whether any improvements could be suggested.

Objectives

The objectives of the study are:

- To record and analyse the registered nurses' perspectives on the successes of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province.
- To record and analyse the registered nurses' perspectives on the challenges of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province.

1.5 Research questions

The research questions to be considered are:

1.5.1 What are the perspectives of the registered nurses on the successes on the implementation of the PMTCT programme?

1.5.2 What are the perspectives of the registered nurses on the challenges on the implementation of the PMTCT programme?

1.6 Delineation

This research will focus exclusively on the perspectives of the registered nurses about the successes and challenges on the implementation of the PMTCT programme at the clinics where they work. It will also provide a thorough description of what the nurses consider to be solutions for the challenges identified. It is, therefore, acknowledged that this research is limited to the four community health clinics identified for the study. It is, however, also pertinent to have this research executed to provide a description of the current perceptions of the PMTCT programme and possible ways of improving it.

This study concerns itself with the perspectives of the nurses, and the primary idea is to report on these perspectives, and not to comment on their “political” or “ethical” merits.

1.7 Chapter division

The following chapters are presented:

Chapter 1: Introduction

Chapter 2: Literature review

Chapter 3: Methodology

Chapter 4: Findings

Chapter 5: Discussions and conclusions

1.8 Summary

In this introductory chapter, the background of the study and the problem are provided and the aim and objectives of the study are stated.

CHAPTER 2

LITERATURE REVIEW

In this chapter, the literature examines and describes the PMTCT programme in South Africa, as well as the concept “registered nurse” in community healthcare clinics. This is done to familiarise the reader with the full context of the nurses practicing in the primary healthcare field and the programme that they have to implement. Also, the importance of evaluation of healthcare programmes and healthcare workers’ views and perspectives on the PMTCT programmes implemented elsewhere is investigated. The literature cited serves as substantiation for this study.

2.1 The PMTCT programme in South Africa

During the budget speech in July 2014, Health Minister, Dr Aaron Motsoaledi, announced improvements in the delivery of ART in South Africa (Peteke 2015: 20). The improvements included the changing of the eligibility benchmarks for therapy from a CD4 cell count of $<350 /\text{mm}^3$ to a CD4 cell count of $<500 /\text{mm}^3$, as well as migrating from the WHO’s Option B to the Option B+. This announcement necessitated changes in the national consolidated guidelines for the PMTCT programme. These changes were published on 24 December 2014, and were effected in January 2015 (Department of Health 2014: 14). The guidelines were improved to align with the Health Department’s objective to have 90% of all South Africans tested for HIV, and have 90% of those eligible for ARVs on therapy by 2020. The ultimate intention is to have 90% of those on ARVs virally suppressed by 2020.

Looking at the history of the PMTCT programme in South Africa, it is noticeable that great strides have been made in improving the wellbeing of South African citizens living with HIV. In 2009, President Jacob Zuma announced significant interventions for improvement of access of special groups to ART. These special groups included all those with a CD4 cell count of $<350 /\text{mm}^3$, individuals with tuberculosis (TB) and HIV co-infection, expecting mothers and HIV positive infants. This was done in order to decrease the disease burden in South Africa, improve life expectancy and address maternal and child mortality. In 2013 the fixed-dose combination (FDC) pill was started to enhance maintenance and adherence of individuals on ART. These upgrades prompted more than 2.6 million individuals being started on ART by mid-2014 (Department of Health 2014: 14).

Currently, the HIV testing of mothers at health facilities is close to 100%, and PMTCT services are available at 98% of healthcare facilities in South Africa. The number of women receiving ART has also improved progressively from 83% in 2009 to 87% in 2012, and MTCT declined to 2.7% in 2011. Evidence-based strategies, operational plans, programme monitoring, prescribed policies and guidelines are the interrelated driving force behind these successes (Department of Health 2014: 14).

To enable an understanding of what the PMTCT programme actually entails, this researcher deemed it necessary to delineate the specific changes made to the national guidelines for pregnant and breastfeeding women. Specific changes were authorised for implementation in January 2015 (Department of Health 2014: 14). These guideline changes have significantly influenced the PMTCT programme and are the following:

2.1.1 Guideline changes specific to expectant and lactating women

The changes to the PMTCT programme prescribe that all HIV positive women who are either pregnant, breastfeeding, or who are within one year postnatal, are immediately initiated on lifelong ART – regardless of their CD4 cell counts. Included in this treatment is the implementation of efavirenz (EFV) as part of the first-line drug protocol – also, regardless of the gestation of the pregnancy. The reduction of MTCT is also furthered by the use of ART throughout the duration of the pregnancy and breastfeeding period and then extended to a lifelong treatment protocol (Department of Health 2014: 14).

Further monitoring during the pregnancy also requires the testing of VL counts of women on ART (≥ 3 months on therapy) to direct therapy management. In addition, all HIV negative women must undergo repeat HIV testing every 3 months during the pregnancy, at delivery, and at the 6 week Expanded Programme on Immunisation (EPI) visit. HIV testing must also be repeated every 3 months during breastfeeding. This testing should be done during routine clinic visits (antepartum, postpartum and EPI follow-up visits) (Department of Health 2014: 14).

The guidelines also necessitate that women with contraindications to FDC treatment should be viewed as high-risk pregnancies, and that these patients should be started on zidovudine (AZT) immediately with urgent referral for the initiation of the three single ART drugs (Department of Health 2014: 14).

To protect neonates born under high risk MTCT circumstances, the guidelines now order the execution of polymerase chain reaction (PCR) tests at birth. Also included in this protocol is the extended use (12 weeks) of nevirapine (NVP), or dual post-

exposure prophylaxis with NVP and AZT for infants where maternal viral suppression may have been inadequate (Department of Health 2014: 14).

This is a brief overview of the South African PMTCT programme as it is currently implemented. The full set of guidelines is structured using the continuous care approach or treatment cascade, and is available from the Department of Health (Department of Health 2014: 15).

2.2 Registered nurses in community healthcare clinics

To understand the concept “registered nurse” in the context of this research, it is important to look at what is meant by the terms “registered nurse”, “community healthcare nurse”, and “nurse initiated and managed ART” (NIMART).

The nurses working at community healthcare clinics in South Africa are, firstly, registered nurses, and secondly, they are also required to have a qualification in community healthcare nursing. In addition to the community healthcare nursing qualification, the nurses implementing the PMTCT programme need to have additional training in NIMART to be able to implement the programme successfully.

In South Africa, a professional nurse is an individual registered with the South African Nursing Council (SANC) as a professional nurse – hence the title, registered professional nurse. Such an individual practises the profession for gain in any capacity that specifies registration as a nurse as a pre-employment requisite (Searle, Human & Mogotlane 2009: 50). In addition to general registration of professional nurses, there are various speciality fields that require further registration with SANC (for example, community health nursing, midwifery, nursing education, occupational health nursing, etc.).

South African midwives and registered nurses are educated and trained to function at both entry level and higher, more specialised, levels of practise. In South Africa, community healthcare nurses work outside the formal hospital environment. These individuals focus on health assessment, diagnosis and treatment, as well as primary healthcare (PHC), and can work in collaboration with medical officers on a referral basis (SANC 2012).

In 2010, the Health Department initiated a transition from doctor-based, hospital-centred ART services, to NIMART. This was done to accomplish an expedited expansion of the ART programme. The transition led to the decentralisation of care by, for example, task-shifting, or the delegation of care, to less specialised healthcare personnel. The strategy resulted in earlier, quicker patient uptake with improved patient retention, enhanced patient outcomes, greater access to care (especially for those in rural communities), and reduced travel expenses to patients (Davies, Homfray & Venables 2013: 1).

NIMART is an elaborate intervention aimed at improving healthcare access and equity, ideally without jeopardising the standard of care, in resource-limited settings. The Foundation for Professional Development (FPD) designed a five day NIMART curriculum that includes a review of the fundamental facts of HIV and opportunistic infections in adults and children. This includes the relevant investigations, diagnostic interventions and care of HIV, TB and sexually transmitted infections (STI). PHC nurses trained and assessed by the FPD also have access to study materials, guidelines and support information to assist them in the field when implementing NIMART (Cameron, Gerber, Mbatha, Mutiyabule & Swart 2012: 98).

The nurses interviewed in this study are all registered with SANC; they are also nurses who have specialised in community healthcare nursing, with additional training in NIMART. Their specialised training and the field in which these nurses practise, provide them with a unique perspective, and this is an important factor to consider when examining their perspectives and suggestions for improvement of the implementation of the PMTCT programme in Limpopo, South Africa - as will be indicated later in this research.

2.3 To illustrate the importance of healthcare workers' perspectives on PMTCT programmes implemented elsewhere

In a qualitative study in southern Mozambique on PMTCT and Highly Active Antiretroviral Therapy (HAART) (Agadjanian & Hayford 2009: 102) the on-going integration of the Voluntary Counselling and Testing (VCT), PMTCT and HAART services into the Maternal and Child Health (MCH) units was investigated to assess the effect the institutional environment and the above practices have on provider-client interactions. This study was executed in the Gaza Province of Mozambique in 2008. In the Gaza Province the total fertility rate is 5.4 children per woman. The selected district was typical for the region in socioeconomic characteristics with a significant part of the population residing in rural areas, and a substantial minority residing in the district's administrative centre. The selected district had frequent droughts and poor soil productivity that impaired the area's subsistence agriculture output. This resulted in large-scale labour emigration of mostly men, to South Africa. The labour migration most likely contributed to increased HIV rates which is evident in the figures reported. The adult HIV prevalence rose from 19% in 2001 to 27% in 2007 (Agadjanian & Hayford 2009: 103)

The information utilized for this study was gathered through semi-structured interviews with nurses, volunteer advocates and support councillors at the MCH clinics. In addition to the interviews, observational data were also gathered. During support group meetings, and during the meetings, interaction amongst patients and providers was observed (Agadjanian & Hayford 2009: 104).

In this study it was found that, with the integration of VCT, PMTCT, and HAART services, the burden on the clinic nursing staff was increased greatly. The nurses also stated that the instruction on PMTCT and HAART that they had received was inadequate. A second challenge observed was that separation of PMTCT patients and other antenatal patients within the healthcare facilities made confidentiality nearly impossible (HIV positive patients were channelled into different queues from HIV negative patients), and may have compromised the programme. Another challenge noted was that the message discouraging further fertility may cause significant challenges for healthcare personnel to develop successful family planning options to guide seropositive customers. It was also found that conflicting breastfeeding recommendations were offered. Instructions to seropositive women were in direct contrast to the benefits of exclusive breastfeeding (EBF), which the Ministry of Health, adhering to the WHO guidelines, officially recommended as the most beneficial choice of infant feeding (Agadjanian & Hayford 2009: 106).

More factors such as economic challenges contributed to negatively influencing adherence to the PMTCT recommendations because patients could not always afford infant formula or frequent visits to the clinics (high transportation costs). Another component to diminished adherence to treatment was that patients had to wait for

protracted periods of time to be seen at the clinics. It was also found that the cultural disconnect between healthcare personnel and the patients could negatively influence patients' adherence to treatment. The healthcare personnel may not have dismissed the patients' cultural beliefs and preferences altogether, but the attitude was that these beliefs were relatively unimportant and could be easily changed by instructing patients about the advantages of PMTCT/HAART (Agadjanian & Hayford 2009: 107).

Finally, the study also revealed how the cultural gap between the healthcare workers and the patients was traversed by peer group and community activists' interactions among patients (Agadjanian & Hayford 2009: 101). This is an important finding that could possibly be implemented at other sites in Africa.

In a qualitative study done in Uganda in 2003, the challenges faced while implementing the PMTCT programme were explored (Nuwagaba-Biribonwoha, Mayon-White, Okong & Carpenter 2007: 269). During this study, the experiences of 15 key informants at five Prevention of Mother-to-Child Transmission sites were investigated. Qualitative research by means of interviews was conducted with the nurses. The focus of the study was the sustainability of the Prevention of Mother-to-Child Transmission Programme, the benefits, and challenges that were experienced. It was found that the patients benefited from additional staff, improved obstetric care and laboratory services, and staff with more training and the sharing of technical advice. However, it was found that certain challenges persisted. This included failure from the nurses to obtain consent to do HIV testing and a lack of early infant diagnosis. Nurses complained that patients were reluctant to disclose their HIV status. Women also tended to breast-feed for long periods (increasing the risk of MTCT) and that

poverty was an additional factor that made adherence to the programme of replacement feeding difficult. From a managerial perspective staffing shortages posed challenges for the proper implementation of the PMTCT programme and inadequate venues and resources were also problems the healthcare workers reported (Nuwagaba-Biribonwoha et al 2007: 273).

This study was a beneficial qualitative evaluation of the PMTCT programme from the standpoint of the healthcare workers working with the programme. The evaluation could potentially have contributed to recommendations on revisions to the PMTCT programme implemented in Uganda.

In 2008, a qualitative study was conducted to evaluate health system weaknesses in accessing PMTCT and ART services in South Africa (Sprague, Chersich & Black 2011: 1). Women's experiences of accessing ART and PMTCT programmes were tracked and documented. The study sites selected were in the Eastern Cape and Gauteng provinces (Sprague et al 2011: 1). The rationale behind the choice of study sites was to compare different milieux, such as the peri-urban sites of the Eastern Cape Province, as well as an urban setting in Gauteng Province.

During in-depth interviews, significant weaknesses were identified within the operational systems for delivering PMTCT and ART at all four facilities. A variety of broad themes and themes arose through analysis (Sprague et al 2011: 2):

- **Antenatal Care (ANC)**

Shortages in staff and supplies delayed HIV testing for pregnant patients and HIV testing within ANC. A considerable percentage of expectant or postpartum mothers were not tested for HIV during their initial antenatal clinic visit due to staff shortages and/or shortages in testing equipment. In both Eastern Cape hospitals, nurses were solely responsible for the provision of counselling and other HIV services. There was only one nurse in charge of managing the provision of PMTCT (which included the counselling). If this nurse was out of office, HIV or PMTCT services were simply not available during that time (Sprague et al 2011: 3).

At the Eastern Cape antenatal clinics, there were periodic shortages of NVP and HIV testing equipment (Sprague et al 2011: 3). It was also reported that, at the Johannesburg site, there were system failures such as delayed payments of lay councillors which, in turn, resulted in absenteeism and low staff morale.

Due to inaccessible or delayed CD4 cell count results, many women attending their second, or even third ANC visit, could frequently not initiate ARV therapy. Patient records also showed that due to either a systems collapse, or premature delivery, many HIV-infected women who were eligible for ART, had already given birth to their infants before the initiation of ART or MTCT prophylaxis. Another group of women started with ART shortly prior to delivery – reducing optimal outcomes for prevention of MTCT (Sprague et al 2011: 3).

- **Postnatal Care**

It was found that there was an inadequacy of knowledge amongst healthcare workers on infant feeding choices, and that the lack of knowledge directly impacted on safe

feeding practices. Breastfeeding is the direct cause of up to half of the MTCT of HIV in children, and therefore feeding practices are of utmost importance (Tang 2010: 1). HIV positive women need to be counselled on their particular choice of feeding and the impact it has on the infant.

To clarify, the term “mixed feedings” refers to when breastfed infants are given solid foods and/or formula milk, and are therefore at a greater risk of MTCT. In contrast, when an infant is exclusively breastfed (no supplementation of any nature), the risk of MTCT is greatly reduced (Guttmacher Institute 2007: online).

The research identified that one of the most problematic areas of PMTCT interventions was the recommendation of breastfeeding/formula feeding according to WHO guidelines and general education on infant feeding. It was found that many HIV-positive women battled with feeding choices. This indicated the inadequate level of counselling and education received by women during the antepartum and the postpartum period. Some HIV positive mothers felt that they were “steered” towards the nurse’s own preference when it came to infant feeding, the end-result being the unsuitable feeding choices that were imposed and not commensurate with the mother’s socio-economic status (Sprague et al 2011: 4).

It was also found that the early HIV diagnosis and care of infants remained challenging. The management of services in a vertical manner accounted for additional challenges, as well as the limited locations available for testing. At the Johannesburg site, mothers were required to take their infants to a completely different location from where they usually attended their antepartum and postpartum visits. In the Eastern Cape, women

were required to take their infants to an entirely different hospital. This is a fragmented approach to care and could impact negatively on continuous treatment. At both the Johannesburg and Eastern Cape sites, the healthcare personnel were not sufficiently informed on how to direct and guide patients to the various treatment centres, which confused patients (Sprague et al 2011: 5).

- **General concerns throughout the care continuum: Stigma**

It was reported by healthcare workers and patients that few people chose to disclose that they are HIV positive in fear of stigmatization and loss of employment (Sprague et al 2011: 5). A woman's HIV status has a great effect on her mental wellbeing and this can then negatively impact on her inclination and her capacity to seek healthcare services and support. Trauma, denial or an information overload, may result in a woman delaying her return for follow-up healthcare services and treatment. It was found, though, that with continuous and comprehensive counselling from healthcare providers, as well as psychosocial support, patients could traverse such barriers (Sprague et al 2011: 5).

- **Inadequate data recording, monitoring and evaluation**

The Johannesburg facility documented routine statistics using computers, but in the Eastern Cape, two of the three facilities had no access to computers, and information was documented in writing. The documented information on patient treatment only reflected a part of the actual treatment activity. Substandard monitoring practices eventually subverted improvement possibilities (Sprague et al 2011: 6).

The following recommendations were suggested (Sprague et al 2011: 6):

In the Eastern Cape the researchers suggested that it should be ensured that an adequate number of regular and lay staff members be employed. The province must also focus on its human resource policies, planning, recruitment and retention, as well as professional development.

At the Johannesburg site it was recommended that lay-councillors receive regular, reliable, consistent remuneration – which should include proper conditions of service, debriefing, education and career development. It was also advocated that communication and referral systems needed to be improved between antepartum, postpartum and paediatric departments at all the sites studied.

The expansion of on-site support groups and healthcare worker counselling should be available at all the sites as this would assist patients with the vast difficulties they experience (physical, social and mental). There should also be continuous education available to all healthcare personnel (on HIV and the recommended infant feeding practices) with improvement of monitoring of performance to ensure the enhancement of service delivery.

It was also observed that the integration of key elements of the ART programme within prenatal care could reduce the treatment initiation time of expectant mothers. This improved monitoring could be accomplished by strengthening supervision and by using prenatal and labour-and-delivery ward checklists or registers to monitor and manage the facilities' interventions (Sprague et al 2011: 6).

In 2010, an evaluation study of the PMTCT programme's implementation and integration into routine maternal, child and women's health services was undertaken. This quantitative, cross-sectional descriptive study by Horwood, Haskins, Vermaak, Phakathi, Subbaye and Doherty (2010: 992) was done in two districts of KwaZulu-Natal. These districts were largely peri-urban, or rural, and this study was done to record PMTCT coverage.

The study was done by examining hospital records at 6 hospitals and interviewing charge nurses and counsellors at 27 clinic sites. In total 882 interviews were conducted with HIV positive mothers in two districts. These districts were largely peri-urban or rural. The conclusion reached was that the PMTCT programme implementation has made huge improvements and achieved high coverage of interventions during pregnancy and delivery. However, coverage of critical elements of the programme, particularly interventions for the baby, remained poor. Many clinics had designated health workers for the PMTCT programme, but these services were frequently not provided as part of routine care, and record keeping was poor. This created barriers for mothers' and infants' access to care after delivery and led to fragmentation of services, placing the responsibility for follow-up solely on the mother. It was clear from this study that adjusted policies were required in regard to record keeping and roles and responsibilities of health workers (Horwood et al 2010: 992).

2.4 Summary

In this chapter, the PMTCT programme in South Africa was discussed to provide the reader with a broad overview of the programme as it is currently implemented. It is

evident that, from the time that the study was conducted till 2015, even more improvements were made. Secondly, the concept “registered nurses” in community healthcare clinics in South Africa was clarified, so that the concept was illuminated for the reader. The relationship between registered nurses, community health nursing, and NIMART was also described. Finally, literature was reviewed on the importance of evaluation of healthcare programmes and healthcare workers’ views and perspectives on the PMTCT programmes implemented elsewhere on the African continent.

In the next chapter, the methodology of this research will be discussed.

CHAPTER 3

METHODOLOGY

In this chapter, the methods used during the research study will be illuminated. These methods will illustrate how the study was planned and executed, and how the aim of this study was achieved.

The following will be discussed in this chapter:

- The research design of the study.
- The pre-test study.
- The main study's data collection methods, as well as data management and analysis.
- The methods used to enhance trustworthiness.
- The study's ethical considerations.

The methodology is part of the process of this research and the initial step was to understand the concepts "PMTCT programme" and "registered nurses" (with their added responsibility of NIMART) as discussed in Chapter 2. In addition, research in other parts of Africa was examined to gain further understanding of what has been found by other researchers, and to ascertain if there is a knowledge gap in the current implementation of the programme. From this knowledge, measurement instruments were developed and the rationale for the specific items can be seen in 3.5.1 and 3.5.2. A pre-test study was done at a site in Polokwane, Limpopo Province, to test the measurement instruments, and upon finding that the measurement instruments were appropriate, the main study commenced. From this point, appropriate sites were selected from which to collect data, and the rationale for the selection of these

particular sites can be seen in 3.2. Data were collected during semi-structured interviews while participants were recorded on audio tape, whilst field notes were compiled. The selection of the participants is discussed in 3.3.

3.1 Design of the study

This study followed the format of a descriptive qualitative research design. Its descriptive nature is a wide-ranging condensation of the participants' perspectives of the PMTCT programme. A qualitative study design is appropriate because this study requires an understanding of the social processes and concepts from the perspectives of the study participants (registered nurses). This is informed by the participants' perspectives on the PMTCT programme as implemented at their various clinics (Babbie et al. 2009: 270).

3.2 The research setting

The study sites were purposively selected, and four community health clinics in the Polokwane district, of the Limpopo Province were chosen. These sites were chosen because they were easily accessible and considered safe to drive to – given the state of the roads in rural areas in the Limpopo Province. These four sites each serve the general population in Polokwane, as well as villages in the Polokwane district. Collectively, these sites serve approximately 5000 patients per month (i.e. individual patients visiting these clinics for all the various services provided, not only for PMTCT services). Three of the sites serve five villages each in the Polokwane district. The sites that were visited included 3 remote sites, varying in services that are available to the areas' patients. Three of the four sites also performed low-risk deliveries and routine postpartum care to mothers and infants. Polokwane is a large city in the

Limpopo Province and the selected community health clinics are typical community health clinics in the district, and have all been applying the PMTCT programme for the past years. The reason for the selection is that the findings could be generalised to potentially benefit similar community health clinics in the Limpopo Province, and even other clinics in South Africa.

3.3 Population and sampling

The sample of interest for this study includes all the nurses at the selected community health clinics in the Polokwane district. The sample was purposively selected (Babbie et al. 2009: 166) meaning that each individual participant was chosen based on certain inclusion criteria (discussed below). Purposeful sampling allows this researcher to select particular participants from whom to ultimately collect information-rich data and gain insight and meaning in the implementation of the PMTCT programme. In this case the nurse managers were asked if the researcher could interview the available registered nurses who adhered to the inclusion criteria. Eventually 21 participants were identified (based on the inclusion criteria and availability) and interviewed until data saturation was reached. The sample size (n) = 21, which constituted approximately 40% of all the available registered nursing staff members.

The following inclusion criteria were adhered to:

- Only registered nurses (RN) were approached for this study.
- Only RNs were selected who had at least one year's experience working with the PMTCT programme.
- Only RNs who consented to participate were included in the study.

Data saturation occurs when no new information is being generated during the interviews (Dawson 2009: 120). This researcher decided that data saturation occurred when the same responses were recorded 10 times. The literature on the subject “data saturation” reveals that there is no prescribed number of repetitions of comments to determine the exact point at which data saturation is reached. Fusch & Ness (2015: 1413) argue that this is dependent on the study itself. The decision to cease data collection was arrived at based on the researcher’s perspective during the data collection period and at a point in time where it became evident that no new data were emerging, and that there were sufficient data available to ensure that a rich and thick description of the findings would be possible (Fusch & Ness 2015: 1413).

3.4 The pre-test study

Due to costs and time involved in doing research, a pre-test study was conducted before implementing the final research design. This step in the research process could potentially save time and money because problems with the research design and the interview schedule can be identified before the main study is conducted (Terre Blanche, Durrheim & Painter 2006: 94).

The objectives of a pre-test study are to ensure that language in the guided interview schedule is culturally sensitive, and to confirm the highest degree of clarity in the information sheet, informed consent, and the guided interview schedule. A pre-test also assesses for content validity – in other words, does the instrument measure what is was designed to measure?

The interview guide was tested on a small sample of five participants at a community health clinic in Polokwane. These participants were also selected based on the inclusion criteria mentioned in sampling (cf. page 25). The data were recorded on audio tape and field notes were made by the interviewer during the interviews and a narrative description of the taped interviews was compiled. The interview schedule was administered to ensure that the language in the interview guide is culturally sensitive, and to assess the clarity of instructions and questions, the administration time, layout, coding of the interview guide and data input (Terre Blanche et al. 2006: 490).

The data from the pre-test is managed, as in the main study, and kept at the University of the Witwatersrand in terms of the applicable policy. The results of the pre-test testing of the documents (the information sheet, consent form and interview schedule) confirmed that the final version of each document was ready for the main study.

3.5 Data collection

The data for this study were collected in July 2014. Two types of data collection instruments were utilised: a semi-structured interview guide, and a demographic data questionnaire. Both instruments are in Appendix 1. Briefly, the semi-structured interview guide was designed by posing open-ended questions to elicit responses relating to the participants' perspectives (this is explained in detail under # 3.5.2). Both the guide and demographic data were used to collect data during a semi-structured interview. The researcher collected the data during interviews using a semi-structured interview guide. A fieldworker was recruited to assist the researcher in gaining access

to the various clinics and assist where translation for clarification of questions was needed.

Appointments were made with the nursing service managers, during which a letter of introduction (Appendix 2), the ethical clearance certificate from the University of the Witwatersrand (Appendix 3), the authorisation letter from the Limpopo Provincial Government Department of Health (Appendix 4), and the authorisation letter from the Department of Health and Social Development - Capricorn District (Appendix 5) were submitted. Upon the verbal approval from the nursing service managers, the interviews were scheduled with the qualifying potential participants. A letter with information about the study was presented to each participant (this letter can be seen in Appendix 6), and each participant completed a consent form to participate (Appendix 7), as well as a consent form to be audio taped (Appendix 8). The interviews were conducted in private rooms to ensure anonymity and minimise distractions. The data were recorded on audio tape, and field notes were made by the interviewer during the interviews; interviews lasted approximately one hour each. No identifying characteristics were recorded during data collection. The time frame for the interviews stretched over a one month period in 2014 until data saturation occurred.

3.5.1 Demographic data questionnaire

All the participants completed the demographic data instrument. These demographic variables are characteristics of the participants and describe the sample.

The items included:

- Gender: this item was included to distinguish between the genders and to ascertain what the male-female ratio of the registered nurses was at the sites visited. Nursing in South African and the Limpopo Province is a predominately female occupation. According to the SANC statistics (2015: online), the number of female registered

nurses in Limpopo for the year 2014 was 9679, and the number of male registered nurses for the same year was 1308. This indicates that the majority of nurses (88.09%) are female. The frequency distribution of the male vs. female ratios in this study will determine if this study is in line with the national statistics.

- Age: this item was included to indicate the general age of the nursing population. The answer to this question would also indicate whether the nursing population at community clinics is aging. SANC (2015: online) reported that the age distribution of nurses in South Africa for 2014 were:

- 19% were between 30 and 39 years of age
- 28% were between 40 and 49 years of age
- 31% were between 50 and 59 years of age
- 15% were between 60 and 69 years of age

It is clear that 74% of registered nurses in South Africa are older than 40 years. The frequency distribution of the ages of nurses in this study will determine if this study is in line with national statistics.

- Marital Status: this item was included to determine the marital status of nurses who work at the community health clinics in Limpopo. In a study done by Greyling and Stanz (2010: online) it showed that marital status played no significant role in nurses' decision to remain in the profession. The frequency distribution of the marital status of nurses in this study will determine if this study is coherent with the Greyling and Stanz study.
- Home Language: this item was added to characterise the nurses' culture. The sites studied are serving predominantly African communities around Polokwane, and this would determine if the nurses were of similar cultures and whether they could identify with their patients. Xaba and Mofokeng (2005: 79) argued that persons

form their identities through the use of what could be termed a "cultural tool", in other words, whether the specific language is used during interaction in a particular milieu.

- Number of years' experience in PMTCT at the community health clinic: this item was included to adhere to the inclusion criteria of the study, and also to ensure that the data collected are from experienced nurses. Information and suggestions would be more valuable coming from experienced nurses.
- Number of women attending PMTCT at the community health clinic: Results to this question could reveal whether nurses are overloaded, which in turn affects the implementation of the PMTCT programme. According to Ngobeni (2015: 17), NIMART nurses are consulting with increasing numbers of patients at community health clinics without any extra support. The recommended nurse: patient ratio in the primary healthcare is 1:40 per day. This overburdening leads to substandard patient management and poor implementation of the ART programme.

3.5.2 Semi-structured interview

The semi-structured interview technique was chosen because this method still allows considerable flexibility in scope and depth (De Vos, Strydom, Fouché & Delport 2009: 292). According to Terre Blanche et al (2006: 297), an interview is a more unaffected way of networking with participants than having them complete questionnaires. It is, therefore, a good fit for this research study. A copy of the semi-structured interview guide is included as Appendix 1 in this dissertation.

To address the objectives of the study, nurses were asked what their views are on the successes and the challenges of the PMTCT programme as it was implemented at

their community health clinics. The questions were formulated to be more specific to probe different aspects of the PMTCT programme.

The following questions were used in the interview guide to achieve the objectives:

- From your position as a registered nurse, what is your perspective of the PMTCT programme that was implemented at your clinic? Probe questions: What was the most effective aspect of the PMTCT programme implemented? What was less effective or proved to be challenging in the PMTCT programme?
- What made the implementation of the PMTCT programme at this clinic successful? Probe question: What challenges presented themselves in implementing policy changes at the clinic?
- How do you feel members of this community have responded to the PMTCT programme? Probe question: Have the changes in the PMTCT programme encouraged women to book earlier at the antenatal clinic?
- How do you think challenges in the PMTCT programme could be addressed in the future? Probe question: How would you do things differently to improve the efficacy of the programme?
- How has the Department of Health kept this community health clinic up to date on changes in the PMTCT programme? Probe question: What documents do you have from the Department of Health regarding changes in the PMTCT programme?
- How are the changes in the PMTCT programme communicated to the nurses at the community health centres?

The interviews concentrated on the RNs' views on their role, and the successes and challenges of the PMTCT programme as it was implemented at their community health clinics. They also focussed on the nurses' perspectives on whether they think that, as a result of the changes to the PMTCT programme, women are receiving PMTCT care earlier in their pregnancies. A third focus during the interviews was whether the nurses had any suggestions for changes in the programme, should they identify any challenges in the implementation of the PMTCT programme. The fourth focus was whether they believe that they are made aware of changes to the PMTCT programme expeditiously.

3.6 Data management

The collected data, the recorded interviews (saved on a USB flash drive), and the signed consent forms are all kept – and will be kept for 2 years after publication – at the Department of Nursing Education at University of the Witwatersrand.

3.7 Data analysis

The data collected were the demographic data of each participant, the field notes that the interviewer compiled, as well as the audio taped interviews. The interviews were transcribed verbatim and examined for themes and sub-themes as they emerged (De Vos et al. 2009: 311). An interim analysis was also done on the data collected during the pre-test study. In qualitative studies, there is no definite point where data collection ceases and data analysis starts (Terre Blanche et al. 2006: 321), and at the end of the data collection process, analysis should already be well under way (Terre Blanche et al. 2006: 321). The point of qualitative data analysis is to construct order, and derive meaning from a substantial amount of data in order to reach some general conclusion.

The data from the interviews were analysed using thematic analysis which was applied following the guidelines in Braun and Clarke (2006: 35) on thematic analysis. In thematic analysis data is examined to identify patterns or themes, and to organise and describe the data set in rich detail. Since the data were collected during interviews, open-ended questions were used, followed by more targeted open-ended probe questions. The following strategy (Braun & Clarke 2006: 35) was used to analyse the data for themes:

- The first step involved the transcribing of all the recorded data (verbatim), which was followed by reading and re-reading of the full, transcribed narrative. All text that initially seemed to represent the perspectives of the nurses on the successes and challenges in the implementation of the PMTCT programme at their healthcare centre were highlighted and noted.

- The second step started when all the data were read and the researcher had familiarised herself with it thoroughly. At this stage the researcher had also compiled an initial list of ideas about the data, and what was found interesting or pertinent about the data. This then effected the generation of initial codes which assisted the researcher to organise the data in meaningful groups. The coding of the data involved the entire data set. The coding was manually done, which entailed the systematic examining of the data by giving full and equal attention to each data item (Braun & Clarke 2006: 19).

- The third step involved assigning codes into broader themes. This was done by collating the various codes by combining them to construct overarching initial themes.

- The fourth step began when the sets of initial themes were reviewed and the data within the themes cohered rationally. This “thematic map” was then related to the entire data set. This was done to ensure that the themes are an accurate representation of the data.
- The fifth step involved the defining and naming of the themes and sub-themes.

In addition to the thematic analysis of the study, the researcher observed that a number of the participants tended to repeat and accentuate their perspectives. This was particularly interesting, which prompted the development of a system to demonstrate the number of times each participant mentioned a specific perspective. These were counted and tabulated – which would quantify the qualitative responses of the participants in a meaningful way (Trochim 2006: online). This formed an illustrative depiction of the participants’ views.

3.8 Trustworthiness

To enhance the trustworthiness of this study, attention was paid to credibility, transferability, dependability and confirmability, to persuade the reader that the findings of this study are worth taking into account (Babbie et al. 2009: 276). This was done by means of the following:

Credibility was accomplished by using the following methods during data collection (Babbie et al. 2009: 277):

- Prolonged engagement: the researcher remained in the field until data saturation occurred. Data saturation occurred after a month in the field, and after approximately 20 hours of recorded data were obtained.

- Triangulation: a wide variety of questions were asked during the interviews - with probe questions - to elicit diverse responses from the participants. The questions were not limited to only what the participants thought of as successes and/or challenges of the programme, but whether they think patients report earlier for clinic visits (a sign of an effective programme); what the community response is? Did the nurses receive training? What information is available at the clinics as references to the nurses? This approach was to ensure that adequate information was collected.
- Referential adequacy: this was achieved by using tape recordings to record the interviews. In addition to the voice recordings, the transcribed interviews are each filed under the participant and site numbers, with the field notes the researcher took during the interviews, thus providing an authentic record.
- Member checks: these were done by checking with the participants at the end of the interview if the data and their interpretation were correct (Babbie et al. 2009: 277). The probe questions on the interview guide ensured that the participant was able to clarify what he/she actually meant to say. This aided the researcher to understand what was really intended, and that her interpretation of the responses was indeed accurate.

Transferability, was accomplished by the thick description of data: the researcher gathered the data and thoroughly described the data in context and then relayed them with detailed accuracy (Babbie et al. 2009: 277).

Dependability and confirmability were accomplished by auditing the study's findings for dependability and confirmability by an external, independent, qualified auditor

(Babbie et al. 2009: 278), in this case a subject specialist from the Department of Health and Social Development from the Limpopo Province.

3.9 Ethical considerations

- It should be stated that this researcher has no connection to the community health clinics in question and, therefore, there is no risk of coercion or intimidation of the participants.
- This study involved human subjects and, therefore, a clearance certificate was obtained from the University of the Witwatersrand Human Research Ethics Committee (Medical).
- Permission from the Limpopo Department of Health and Social Development, as well as the CEO of the Polokwane/Mankweng Hospital Complex, was obtained before commencing with the study.
- Verbal consent was requested from the various Nursing Service Managers at all the community health clinics before approaching potential participants.
- The researcher obtained informed consent from all the participants. The potential participants were informed that they would not be receiving any form of remuneration for participating in this study. No participant was coerced into participating (Brink, Van der Walt & Van Rensburg 2009: 32), and they were made aware that they could withdraw from the study at any given time (De Vos et al. 2009: 59). Participation was entirely voluntary (Brink et al. 2009: 32). In the case of this study, the consent was obtained in a written format that was available in English.
- The participants were made aware that their opinions would be anonymised by removing their names as well as any information that may result in identifying them

(De Vos et al. 2009: 59), thus ensuring confidentiality. All data collected would remain private and confidential (Brink et al. 2009: 34) and will be kept at the University of the Witwatersrand for 2 years if publication from this research ensues.

3.10 Summary

The following was discussed in this chapter: the design of the study, the sites selected, population and sampling methods, as well as how data were collected, the methods to enhance trustworthiness, and finally, the ethical considerations. The results will be stated in Chapter 4.

CHAPTER 4

Findings

In this chapter, the findings of the research study are described. The characteristics of the participants are reviewed, then the results are examined in terms of each objective of the study. Finally, this chapter will be concluded with a short summary. The demographic statistics of the study were verified by an independent external statistician, and the analysis of these statistics was done by the utilising IBM SPSS Statistics Version 23.

4.1 Characteristics of the participants and demographic data

Twenty-one participants were interviewed and all were registered nurses with either a four year diploma in nursing, or a Bachelor's degree in nursing. These participants also had the additional qualification: Community Health Nursing. This is a postgraduate diploma at National Qualifications Framework (NQF) level 8 which allows them to practice at community health clinics. All the participants were selected using the sampling method and selection criteria described in Chapter 3. The participants completed the demographic data instrument; these demographic variables are characteristics of the participants and describe the sample. The composition of the participants' demographic data can be seen in the table below.

Table 4.1 The demographic data of participants (n=21) in a qualitative study of the PMTCT programme in the Polokwane District

Data	Frequency	Percent
<u>Gender</u>		
Female	18	86%
Male	3	14%
Totals	21	100%
<u>Age range</u>		
20 – 29	3	14.2%
30 – 29	1	5%
40 – 49	5	23.8%
50 – 59	8	38%
60 – 69	4	19%
Totals	21	100%
<u>Marital status</u>		
Single	5	24%
Divorced	3	14%
Separated	-	-
Widowed	1	5%
Domestic partner	1	5%
Married	11	52%
Totals	21	100%
<u>Home language</u>		
Northern Sotho	13	62%
Sepedi	5	24%

Data	Frequency	Percent
Venda	2	9%
Afrikaans	1	5%
Totals	21	100%
<u>Number of years' experience</u>		
<u>with PMTCT programme</u>		
1 – 4	4	19%
5 – 9	7	33%
10 – 15	6	29%
15 +	4	19%
Totals	21	100%
<u>Number of women attending</u>		
<u>PMTCT at sites per day</u>		
0 – 99	18	86%
100 - 199	3	14%
Totals	21	100%

Table 4.2 The age/gender cross tabulation (n=21) of participants in the study.

			Gender		Total
			Male	Female	
Age	18-40	Count	2	2	4
		% within Age	50.0%	50.0%	100.0%
		% within Gender	66.7%	11.1%	19.0%
	41-60	Count	1	15	16
		% within Age	6.3%	93.8%	100.0%
		% within Gender	33.3%	83.3%	76.2%
	61-70	Count	0	1	1
		% within Age	0.0%	100.0%	100.0%
		% within Gender	0.0%	5.6%	4.8%
Total		Count	3	18	21
		% within Age	14.3%	85.7%	100.0%
		% within Gender	100.0%	100.0%	100.0%

4.2 Findings relating to the objectives of the study:

In Chapter 1 the objectives are stated as follows:

- To record and analyse the registered nurses' perspectives on the successes of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province.
- To record and analyse the registered nurses' perspectives on the challenges of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province.

Twenty-one participants were asked the following questions with clarifying probes questions:

- From your position as a registered nurse, what is your perspective of the PMTCT programme that was implemented at your clinic? Probe questions: What was the

most effective aspect of the PMTCT programme implemented? What was less effective or proved to be challenging in the PMTCT programme?

- What made the implementation of the PMTCT programme at this clinic successful? Probe question: What challenges presented themselves in implementing policy changes at the clinic?
- How do you feel members of this community have responded to the PMTCT programme? Probe question: Have the changes in the PMTCT programme encouraged women to book earlier at the antenatal clinic?
- How do you think challenges in the PMTCT programme could be addressed in the future? Probe question: How would you do things differently to improve the efficacy of the programme?
- How has the Department of Health kept this community health clinic up to date on changes in the PMTCT programme? Probe question: What documents do you have from the Department of Health regarding changes in the PMTCT programme?
- How are the changes in the PMTCT programme communicated to the nurses at the community health centres?

The responses of the participants were analysed using thematic analysis and three categories, with several themes and sub-themes were identified. In the figure below, the categories and themes are illustrated:

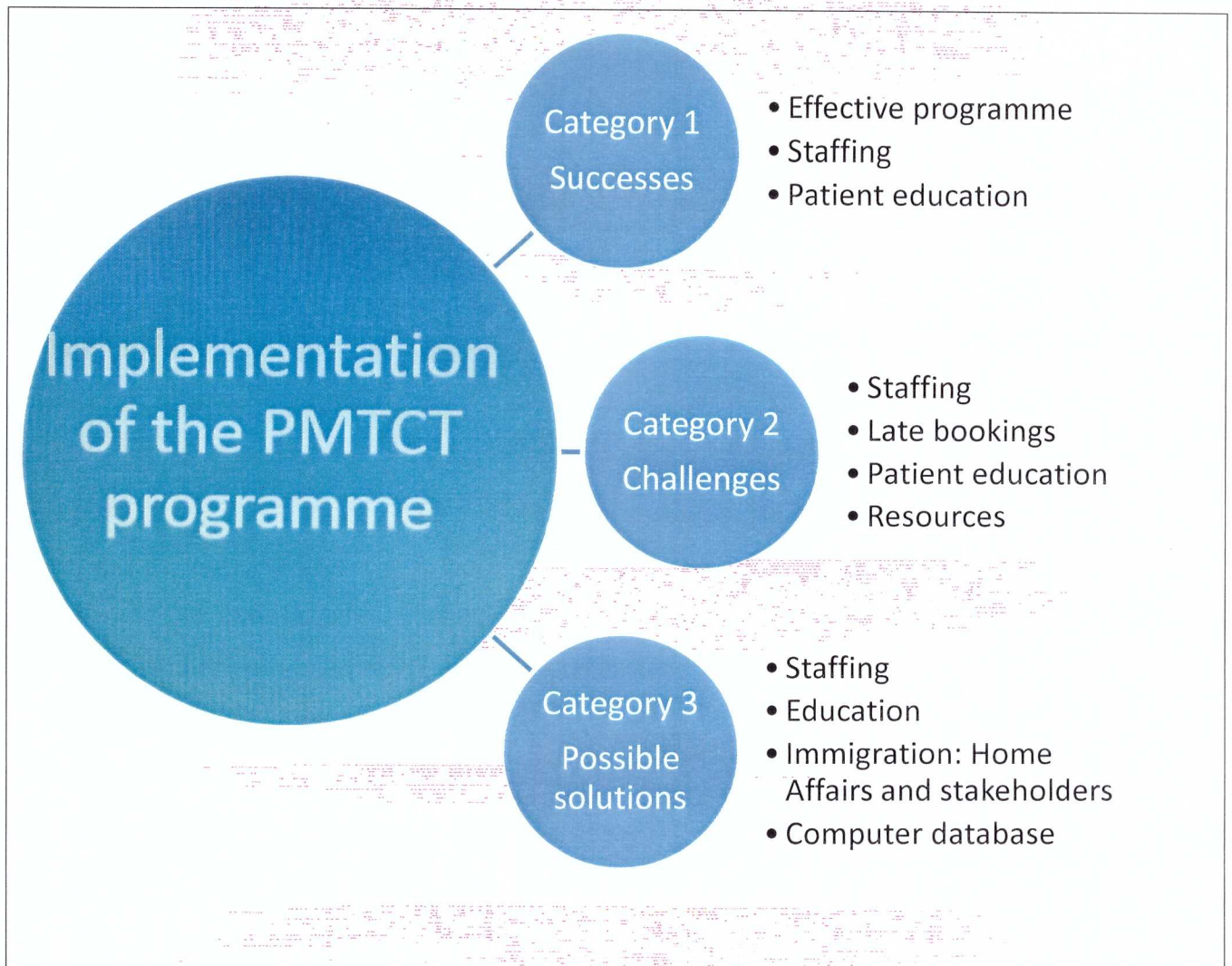


Figure 4.1 Categories and themes identified following qualitative interviews of nurses working in the PMTCT programme in the Polokwane District in 2014

The overarching categories that were identified are the participants' perspectives of successes (category 1) and challenges (category 2) of the PMTCT programme. A third category was identified. It encompassed the participants' perspectives on possible solutions (category 3) to address challenges within the PMTCT programme. Categories 1 and 2 relate directly to the study's objectives, namely to record and analyse the registered nurses' perspectives on the successes and challenges of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province. The third category can be linked to the study's aim which is: to

determine what the registered nurses' perspectives are on the PMTCT programme as implemented at various community health clinics in the Limpopo Province in order to discover whether any improvements could be suggested.

During the visits to the sites interesting observations were made, and these were noted in the field notes. The field notes and transcripts formed the record to help extrapolate the themes. In the figure below, category 1, its themes, and its sub-themes are illustrated:

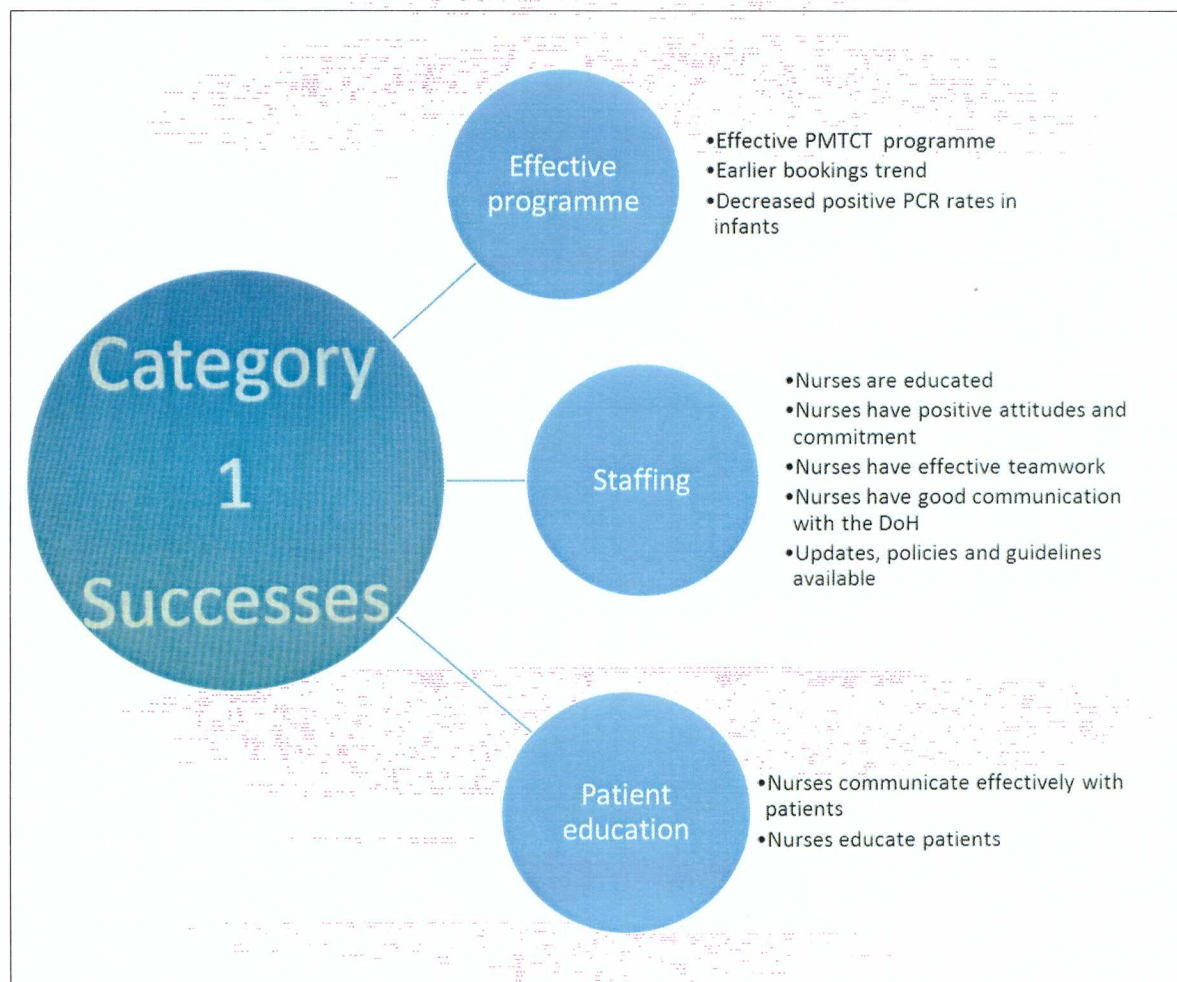


Figure 4.2 Category 1 Successes, themes and sub-themes identified following qualitative interviews of nurses working in the PMTCT programme in the Polokwane District in 2014

4.3 Findings relating to category 1

The first category 1 “Successes” was identified, and this theme pertinently contains all the elements that the participants thought were positive about the programme and its implementation. It was particularly interesting to see how enthusiastic most of the participants were and adamant on how important and effective the programme is. There were 3 distinctly different themes that unfolded.

The first theme: “Effective programme”, described what the participants thought of the programme itself and what the results were when this programme was implemented. This theme emerged after the majority of the participants commented on how effective the programme is functioning. Three sub-themes became evident under this theme, namely, “Effective PMTCT programme”, “Earlier bookings trend”, and “Decreased positive PCR rates in infants”.

The following are examples of comments made by the participants in terms of the efficacy of the PMTCT programme. The comments from all the participants are quoted directly, with grammatical errors included.¹ Participant 2 at site 2 commented: *“I say the PMTCT programme is important and is effective as our people are treated promptly after being diagnosed and our people are women, PMTCT is for women”*. At site 4 participant 3 commented: *“One thing I can say is that since it has started, there is a great change and it is very, very important because we are able to identify those who need it in the early stages”*.

¹ The comments from all the participants are quoted directly, with grammatical errors included.

Under the theme “Effective programme”, the second sub-theme identified is the “Earlier bookings trend”. The term “early bookings” refers to the stage when a patient first seeks care during her pregnancy. The timing is crucial for any pregnant woman, but specifically more so if the woman is HIV positive. The PMTCT programme’s objective is to have patients book as early as possible – even immediately after the first missed menstrual cycle or when the patient suspects that she might be pregnant. HIV positive women are then initiated on ARV treatment, regardless of their gestation or CD4 cell counts; this has proved to reduce the MTCT drastically (Department of Health 2014: 14).

The following are examples of comments made in terms of the earlier bookings trend. At site 1, participant 1 commented: *“I think the issue of early bookings made it successful because when they book earlier, they can get their treatment in time.”* At site 3 participant 2 commented: *“Okay, now our clients, since we give this information, they attend clinics earlier where you may find that before 12 weeks they just come and start”*.

The third sub-theme under “Effective programme” developed after a majority of the participants commented that in their opinion there is a decrease in the number of infants who are diagnosed with HIV. Examples of comments of the third sub-theme “Decreased positive PCR rates in infants” were made by participant 1 at site 2: *“The effective of it is that it has reduced most mortality. Mortality in infants and mothers due to the implementation of the drugs.”* At site 4, participant 1 remarked: *“I would say that it improved a lot of situations at the clinic. Most of our babies are negative now. You*

will find that maybe once in six months you will find a positive baby, whereas the mother was not on the PMTCT programme.”

The second theme under category 1, “Staffing”, refers to what the participants thought of their own contribution, as well as how their education had added to the successes of the PMTCT programme. This theme surfaced with a number of sub-categories which included the following: “Nurses are educated”, “Nurses have positive attitudes and commitment”, “Nurses have effective teamwork”, “Nurses have good communication with the DoH”, and “Updates, policies and guidelines available”.

The sub-theme “Nurses are educated” reflects that the participants felt that their NIMART training and regular updates and workshop had a positive contribution on implementing the PMTCT programme. It appeared after a significant number of participants commented on it. At site 3, participant 1 mentioned: *“All the councillors, all the sisters, were trained and work shopped”*. At site 4, participant 1 commented: *“At that time that we started it, we, most of us, went to a workshop. We went to the workshop and we had a lot of information. We came back with the files with all the information. Things were very well explained and we were all excited about this new thing, and all working together. I think that all contributed to making a success.”*

Sub-themes “Nurses have positive attitudes and commitment” and “Nurses have effective teamwork” emerged after a notable number of participants commented on it. The participants felt that their teamwork and optimism were instrumental in implementing the PMTCT programme. At site 2, participant 6 remarked: *“Why it is successful? Nothing like taking crediting, maybe should I think because we really try*

our best to relate screen or test every pregnant woman." Upon which the interviewer asked: "So you are all committed?" Participant 6 answered: *"That is one thing for sure, every pregnant woman is been tested twice."* The sub-theme "Nurses have effective teamwork" was extracted after a significant number of the participants' commented on it. At site 3 the interviewer asked: "What made this programme, the PMTCT programme successful at this clinic?" Upon which the participant answered: *"I think it is...teamwork is the first thing. Working together, seeking information where necessary."*

The sub-theme "Nurses have good communication with the DoH" under the theme "Staffing" emanated from the comments of a few participants. This sub-theme indicates that the open communication with the DoH is important when implementing the PMTCT programme. At site 2, participant 4 mentioned: *"We continue learning, continue requesting, or even phone the district if we or somewhere if you don't understand..."*

The sub-theme "Updates, policies and guidelines available" was identified when an overwhelming majority of participants commented on it. The continued education and provision of guidelines, policies and reference materials are essential when implementing the PMTCT programme. This ensures that all nurses are up to date on the current treatment policies of patients in the community healthcare milieu. Examples of comments are from participant 2 at site 1: *"The Department of Health has kept this facility updated by sending in and updating information by arranging courses for nurses to go and get updates from where we were up to where we are now, as far as PMTCT is concerned. Guidelines are provided and are available to keep the facility*

up to date with the PMTCT programme... Yes, otherwise if there any changes the person who has attended the updating usually does come and give us the report and give us whatever handout that he has got to refer to.” At site 3 participant 1 commented: *“We are having the FDC policy, that one of switching the clients from the old regimes and then we are having the PMTCT policy also. So there are many policies for referral and we are now and then having workshops.”*

The third theme “Patient education” under “Successes” reported on the participants’ standpoint that patient education is a contributing factor to the PMTCT programme’s success. The next theme: “Patient education” arose with the following of sub-themes: “Nurses communicate effectively with patients” and “Nurses educate patients”. Examples of comments on sub-theme “Nurses communicate effectively with patients” at site 3 are: *“So, because of good communication with them, our implementation becomes successful, they are free to can ask or to communicate with us.”* The sub-theme “Nurses educate patients” unfolded after a number of participants commented on it. At site 2, participant 3 commented: *“Every client we give education to them about this”*. At site 4, participant 4 recounted: *“You see, so we make health education on a daily basis re PMTCT.”*

The themes and sub-themes as described above all relate to the various ways the participants perceived the PMTCT programme (and the implementation of it) as successful. By quoting verbatim, the palpable effects of the PMTCT programme are clearly illustrated from the point of view of the implementers. They make a convincing case for its continued application.

4.4 Findings relating to category 2

To achieve the second objective of the study, namely to record and analyse the registered nurses' perspectives on the challenges of the PMTCT programme as it is implemented, the second category "Challenges" was determined. This theme included all the components that the participants experienced as negative about the PMTCT programme or its implementation. Four distinct themes were identified, namely, "Staffing", "Late bookings", "Patient education", and "Resources". In the figure below, category 2, its themes, and its sub-themes are illustrated:

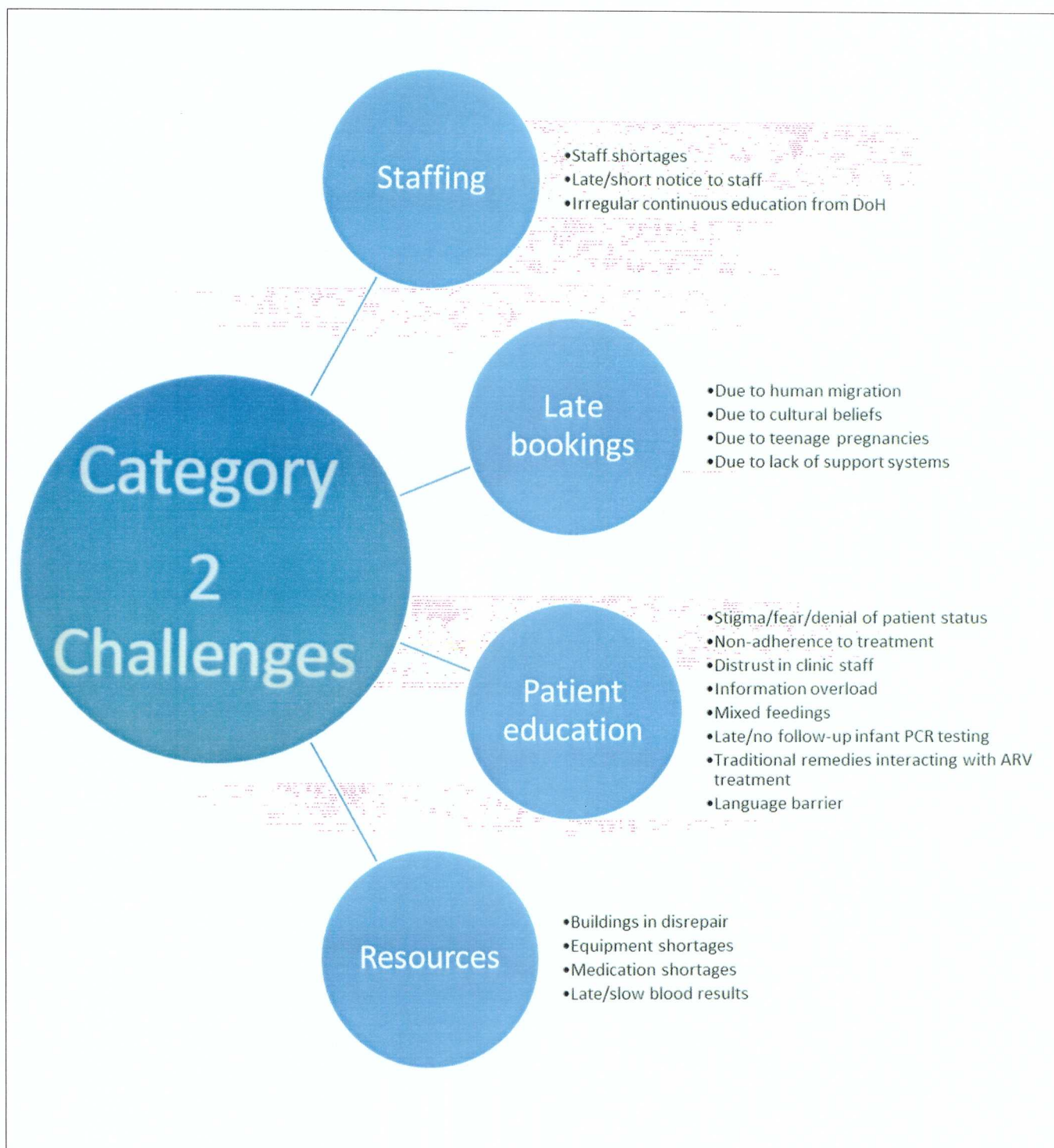


Figure 4.3 Category 2 Challenges, themes and sub-themes identified following qualitative interviews of nurses working in the PMTCT programme in the Polokwane District in 2014

The first theme “Staffing”, refers to the participants’ view on the human resources concerns. It was striking that there were major concerns - such as, staff shortages, short notice to staff members of planned training and irregular continuous education from the DoH - when it came to this theme.

It became evident that the sub-theme “Staff shortages” had three causes that were identified for the perceived staff shortages. The first causative factor identified is that a number of participants commented that implementing the PMTCT programme is time consuming. As seen in the literature review, community health nurses were incorporated in the expansion of HIV treatment in South Africa by the provision of NIMART. The number of women receiving ART has extended from 83% in 2009 to 87% in 2012, and MTCT declined to 2.7% in 2011 (Department of Health 2014: 14). At site 2 participant 2 declared: *“And then the challenge that I got, we need more staff. The challenge I didn’t explain it well – the first booking is the time, you take time for the first booking, you take more than an hour especially if you can find she is positive.”*

The second causative factor for the perceived staff shortages is encapsulated by one participant who commented that nurses are away on training and that their positions are not temporarily filled by replacement staff members: *“But the thing now the government have taken them to school. They have taken five professionals.”* The interviewer probed for clarification: “Taking nurses for training?” The participant then replied: *“Yes, for training, and it is going to be like about 2 years.”* And *“Yes, not replaced including others are still taking transfer, they are still going to their home.”*

The third causative factor for the perceived staff shortage was identified when a significant number of participants commented that there are simply too few nurses. Participant 7 at site 2 declared: *"Yes, we do have a drastic shortage of nurses."* At site 4 participant 4 stated: *"No that one is a problem because we are generally in the time that we are short staffed. Go to maternity right now, you will find one sister working alone."* The participant also added: *"We are so short staffed."* At the same site participant 5 commented: *"That is a challenge; the main big challenge is the staff."* This participant then responded upon a clarification question from the interviewer: *"Yes, staff shortage."* And *"Yes because you will have to run around now, of which is not nice then you are so tired."*

The second sub-theme under "Staffing" is "Late/short notice to staff members of scheduled continuous education." Several participants felt that the DoH did not give adequate notice of planned training (for instance a telephone call the day before, or the day of the training), and this disrupted the staffing at the clinics and their personal lives. At site 2 participant 6 reflected: *"Actually, we have been told you are going tomorrow, you just go like urgently pack your bags and just go... It is rare together rare for someone to get that advance."* At the same site participant 7 also said: *"Sometimes you hear they say tomorrow there is a workshop they need how many people – will you please go with them. You did not prepare yourself."*

The last sub-theme that emerged under "Staffing" was "Irregular continuous education from DoH". This sub-theme emerged after it was mentioned by various participants. At site 2 participant 6 said: *"There is workshops and others, just workshops sometimes they comes once in a long time."* At site 4, participant 1 commented: *"I am working*

with the children and the women. I don't have and I haven't been updates, physically, like a workshop."

The second theme under the category "Challenges" is termed "Late booking", and concerned the participants' concerns that patients still arrive late in pregnancy for the initiation of antenatal care. The successes referred to the earlier bookings trend, but the participants still felt that there is a significant part of the population that do not report early in pregnancy for care. Several sub-themes surfaced that could be interpreted as reasons why patients do not report for care early in their pregnancies. These included: human migration, cultural beliefs, teenage pregnancies, and a lack of support systems for the patients.

The first sub-theme, "Due to human migration" had a notable number of participants commenting on this challenge. The term "Human migration" refers to the movement of patients from one clinic to other clinics. Examples of comments are from site 2, participant 2: "Another challenge is the women who know, the known positive women, they fall pregnant and some they don't turn up for our antenatal or they move from place to another". At site 4, participant 2: *"Yah, and the other challenge here, Polokwane is next to the Limpopo River which is our boundary." "Between Zimbabwe and South Africa. A lot of them come to South Africa for health care services and because they are carrying asylums and passports, they stay a very short period here."* "You know, you can even see a woman only on delivery day, and then she goes off again, the child never having been taken to the clinics."

The second sub-theme “Due to cultural beliefs” was identified after a number of participants commented on it. The participants felt that patients were misinformed and that some of their cultural beliefs were detrimental to the PMTCT programme. Participant 8 from the second site commented: *“They just follow this the rules of the old ladies’ cultural.”* The same participant then continued after probing questions from the interviewer: *“Even if they are in labour, they do not want to be seen by the people outside, just want to come in during the night when it is dark...”* At site 4, participant 2 remarked: *“We still have problems with late bookings, most of our women, they book after 20 weeks, after 5 months”*. Upon which the interviewer asked: “Ja, after five months? Is that just cultural, would you say, that people are still hiding their pregnancy?” The participant replied: *“Ja, hiding their pregnancy.”*

The third sub-theme “Due to teenage pregnancies” represents a number participants’ opinion that teenagers become pregnant and elect to not disclose to their parent/guardians or teachers that they are pregnant. This then leads to late, or in some cases, no prenatal care. Examples of comments are from participant 3 at site 1: *“When I, if I take a look to the people, those who are falling pregnant these days, it is youngsters who are in the secondary, so I think...”* The participant also added: *“Because you’ll find it is a teenager, she is in Grade 11 or Grade 10, she don’t have parents.”* As well as: *“No adults, you see you will find the relatives are working far in Gauteng, there.”* At site 2, participant 7 commented: *“Teenagers still at school hiding the pregnancy”* and *“Some deliver at school.”*

The last sub-theme in “Late bookings” was identified as: “Due to lack of support systems”. This sub-theme was developed because a set of participants felt that the

support structures around patients (for instance husbands/father of the baby, family members and social circumstances) did not allow the patients to seek care early in pregnancy. At site 1 participant 3 expressed the following: *"But you will find most of them, they are coming 26 weeks, 22 weeks, 21 weeks, you can find out of ten you only find one who is only less than 13 weeks"*. The participant also added: *"You will find that, no, I want to go and tell my partner that I am positive and I am pregnant, and most of the pregnancies, they are not planned."* At site 2, participant 7 reflected: *"Telling me lies that she was refusing allowing to come to the clinic and sister died. She gave me that reason."*

The third theme that was identified under "Challenges" is "Patient education" and involved a number of education-related concerns that are perceived as problematic when implementing the PMTCT programme. The educational concerns included patients are still scared of being stigmatised by their communities, or patients do not adhere to the treatment plans that were prescribed to them, or there is distrust in the clinic staff because they fear that nurses do not keep their status confidential.

The sub-theme "Stigma/fear/denial of patient status" under the theme "Patient education" arose after a notable number of participants commented on it. At site 1 participant 3 said the following, paraphrasing a patient: *"I am not HIV positive, that's, people are witching here."* This participant also continued further: *"They said, no, those, we don't want people from our clinics to know because most of them, they are from our villages"*. At site 2 participant 7 commented: *"The young one their mothers have a problem; denying the status."*

The second sub-theme under “Patient education” is “Non-adherence to treatment”. This sub-theme emerged after some participants remarked that some patients do not adhere to the treatment prescribed to them. At site 3 participant 1 mentioned: *“Okay, the challenge with the treatment is, there are challenges with the client because they default. Clients are shopping around, you find that you give a treatment today, and then we give the return date, she does not come back. She comes maybe after three months, so we start again. That is our challenge, they are shopping around.”* At site 4 participant 3 said: *“And they also default on treatment.”*

The third sub-theme under “Patient education” was identified as “Distrust in clinic staff”. This was mentioned by one participant who felt that patients do not trust that nurses will keep their HIV status confidential and do not have their best interest at heart. At site 1 participant 2 said: *“Those are the challenges because when you try to show the client the reasons behind and the importance of booking so that we can look at the abnormalities on time, then the client sometimes feel as if maybe you are not on her side, shall I put it that way.”*

Another patient education issue reported was information overload when the patients are diagnosed and treatment is prescribed. The participants felt that the information was too much for the patient to absorb in the short period that the patient is seen by the nurses. This in itself could lead to many potential problems with adherence to treatment plans. At site 1 participant 2 remarked: *“Challenges that we are encountering are like I have mentioned before – where you find that now a client realised that she is pregnant, she booked, she tested, she is reactive and she feels now she wants to go and discuss with the spouse or the husband.”* At site 4 participant

5 explained: *“Ja, they do not have a chance to cry here, the counsellor is just busy doing her job, after that , here the results, read for me, two lines. No, it is fine, you are positive and then she tells, no the sister will be giving you treatment, you must get treatment before you go home. They tell them about medicine, I mean the herbal medicine and other medicine, do not use this and this and all those things and then they are telling them about protection, their diet and all those things. They not give chance to....to process so when they come in there that is when they start processing the whole information when we are giving them medication.”* To which the interviewer responded: *“Do you think it is a lot of information to be processed in one visit?”* The participant answered: *“There is a lot of information, but we take the information bit by bit, because we cannot tell the woman everything and she will not be listening.”*

The fifth sub-theme under “Patient education” was identified as “Mixed feedings” and, as stated before, the term refers to when breastfed infants are given solid foods and/or formula milk, and are therefore at a greater risk of MTCT. Breastfed infants should be exclusively breastfed, to reduce their risk of MTCT (Guttmacher Institute 2007: online). This sub-theme is also part of a problem that involves patient education, and emerged when some participants commented on it. At site 2 participant 8 commented: *“The challenge is mixed feedings, because some as they said they are ill they are going to infect their child so they do not breastfeed that child.”* At site 3, participant 3 mentioned: *“Yeah, they still breastfeed, at home the gran used to say ‘why don’t you breastfeed?’ So they breastfeed and give their children medication. The only thing it is compliance.”* After probing, the participant responded: *“Yeah, lacking with some... with some of the clients.”* And after more probing the participant answered: *“Yeah, mixed feedings”*.

A sixth sub-theme that was identified was “Late/no follow-up infant PCR testing”. HIV exposed infants should be tested at different stages after birth, starting at 6 weeks until 18 months of age (Department of Health 2014: 29). It was mentioned as a challenge because of the discrepancy in the number of HIV exposed infants born vs. the number of infants tested at these required stages. This reflects on patient understanding that may be inadequate. At site 2 participant 1 said: *“Presently the challenge, we most have a challenge, post deliveries because after 6 weeks we do, at the 6 weeks we do PMTCT, we do PCR to the, to the babies of the affected mothers. So the challenge that we are facing now is when they are moved from maternity to child wellness - child wellness where they get immunised – we tend to lose them because they are no more coming to our maternity ward. So the 18 month HIV test is too low compared to 6 weeks, meaning that we are losing them.”*

The seventh sub-theme “Traditional remedies interacting with ARV treatment” refers to the challenge a participant had with patients combining traditional healing methods and ARV treatment, with subsequent poor outcomes. This indicates a lack of patient knowledge. At site 3 participant 2 stated: *“The challenges, okay, we give the information to our clients but because of their beliefs they are using traditional medications or visiting traditional healers for some medication where you may find that there is some less effect of our medications to our client. Even if there are sometimes, let me give an example, those clients, they are on medication, they are on drugs, HIV drugs, but when you check others you may find that the CD4 cell count is decreasing. So it means they are contraindicating to our medications, they are on ARVs, because of their beliefs saying they will be witched, they go to their traditional healers, they use this razor to do that.”* Then the participant continued: *“Ja, to keep them strong, only to*

find that those razors are also infected. At the end of the day they are also, they are on treatment but they are not improving, so those are the challenges.”

The final sub-theme, “Language barrier” under “Patient education” was discovered after a set of participants remarked on it. The term “language barrier” in this context means that the participants feel that they cannot communicate effectively with their patients to ensure patient education is adequate. Participants at site 2 commented: *“The challenges that we are having now my dear, we have got people from outside, others they do not even understand English, they just talk Tsonga, I mean Shona, they do not understand what you are saying and you cannot call somebody to come and interpret what she is saying. We are afraid of divulging information of the client, so it is one of our challenges.”* Participant 4 declined audio taping, but the interviewer’s field notes reflect the following: *“The Zimbabwe patients are ‘fresh from Zim’ and cannot communicate well with the nurses – communication is a challenge.”*

The fourth theme that was identified under “Challenges” is “Resources”. This theme, within the context, refers to the lack of certain resources that participants encountered at the various sites to implement the PMTCT programme. The first sub-theme identified under “Resources” is “Buildings in disrepair”. Several participants verbalised that the facilities were in disrepair and that this impeded their ability to provide optimal care to the patients. At site 2 participant 6 asserted: *“The environment is not too good.”* Upon being asked clarifying probe questions, the participant replied: *“Yes, the only thing is environmental, the building and equipment.”* At the same site participant 7 also commented: *“Even the walls are broken.”* And then the participant added: *“Another thing that worries me is in the Wellness; there is no ventilation in Wellness,”*

The third sub-theme under “Resources” is “Equipment shortages”. This sub-theme refers to the challenges participants experience due to a lack of working equipment to implement the PMTCT programme. At site 2 participant 5 said: *“The BP (blood pressure) machines that are not of good quality break easy...I am using one monitor for the whole facility that kept us for until I seen 30 patients per day that so with one.”* Participant 6 at the same site also mentioned: *“Even our equipment they are like too old, like weight machines is very old, he does not give a correct calculation.”*

The fourth sub-theme under “Resources” is: “Medication shortages”. This is a challenge to participants because the necessary medication to implement NIMART is not always available to patients. This sub-theme was singled out after a set of participants commented on it. At site 2 participant 1 commented: *“Previously from January, from January up to April it was a challenge, because we are not having INH.”* Upon which the interviewer asked: “100mg or 300?” The participant answered: *“It was not there, even the 100. They, they were just, just compromised by giving us the 100mg. So we, patients were sharing that 100mg. It was really difficult for us.”* At the same site participant 2 commented: *“Sometimes with the FDC we don’t have problem, maybe with the, this treatment for children.”* Upon which the interviewer asked a clarifying question: “Nevirapine and what does it do?” To which the participant responded: *“Sometimes you will find it is not available. You supposed to go ask in another institution.”*

The fifth sub-theme under “Resources” is: “Late/slow blood results”. This sub-theme refers to the period a patient has to wait to receive blood results, e.g. PCR results of infants. It may transpire that a patient is scheduled for a particular day for follow-up

care. Yet, when the patient duly arrives at the facility, with the reasonable expectation that the results would be available, that patient is disappointed to be informed that the results are not available and, therefore, the recommended treatment may consequently not be embarked upon. The resultant frustration and wasted time become a challenge to both nurse and patient. This sub-theme emanated after a participant commented: *“PCR results sometimes they don’t come, and we find they come after a month”*.

The themes and sub-themes as described above all relate to the various ways the participants perceived the PMTCT programme (and the implementation of it) as challenging. Even though the PMTCT programme is an effective programme, it seems as if there are several obstacles hampering its implementation.

4.5 Findings relating to category 3

The final category “Possible solutions” was identified, and this theme contains all the components that the participants thought could possibly improve or solve challenges around the PMTCT programme and its implementation. The third category can be related to the study’s aim which is: to determine what the registered nurses’ perspectives are on the PMTCT programme as implemented at various community health clinics in the Limpopo Province in order to discover whether any improvements could be suggested. Four distinct themes were identified, namely, “Staffing”, “Education”, “Immigration: Home Affairs and stakeholders” and Computer database”. In the figure below, category 3, its themes, and its sub-themes are illustrated:

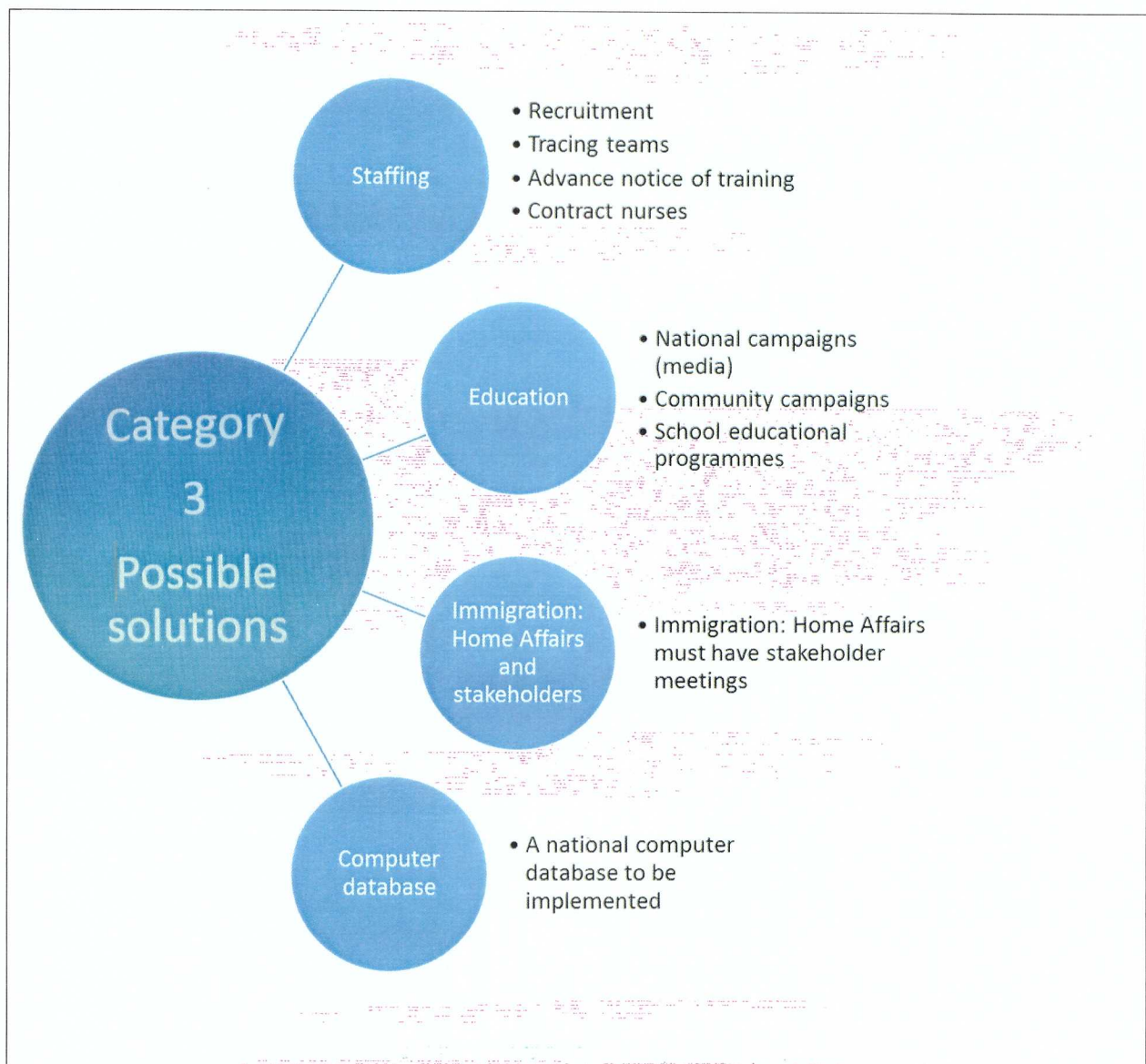


Figure 4.4 Category 3 Possible solutions, themes and sub-themes identified following qualitative interviews of nurses working in the PMTCT programme in the Polokwane District in 2014

The first theme under category 3 is termed “Staffing” and involves all the possible solutions that the participants believed would solve the human resource challenges. During the interviews participants had diverse ideas on how to improve the efficacy of the PMTCT programme. The first sub-theme under “Staffing” is “Recruitment” and this emerged after several participants suggested it. “Recruitment” refers to the shortage

of staff at the clinics, and that the participants felt that more staff members should be recruited to help address this challenge. At site 2, participant 7 asserted: *"I think the government must do something, because when I see here, people talk they get pension, they retire and responded placement, people died, no replacement, so I do not know what to do, I think government must do something there."* The interviewer then probed: "Even though nurses they go away, they die, they retire, not getting new blood. What can be done about that?" The participant responded: *"We must talk a lot so that the government must hear us. We need help."* At the same site participant 8 suggested: *"For the nurses shortage, if they can hire people like the standard 10 people, and send them to workshops, if they can teach them about PMTCT and VCT, that and then hire them for just PMTCT, VCT."*

The second sub-theme identified under "Staffing" is "Tracing teams". A number of participants advanced this as a possible solution to the "Non-adherence to treatment", "Late bookings" and "Staffing" challenges experienced. "Tracing teams" are healthcare worker teams that increase patient contact by home visits in the local community and literally trace patients who did not show up for follow-up visits or by spotting pregnant women in the community, and referring them to the clinics. These healthcare workers act as educators, translators, cultural mediators and facilitators of the PMTCT programme. Examples of suggestions are from site 2 participant 2: *"We nurses and the other maybe the, if we got that tracing team. To tell them that they should come to the clinic early,"* and participant 7: *"I think we can have a team who can do the whole visit and do the testing at home."*

The next sub-theme under "Staffing" is "Advanced notice of training from the DoH." A participant at site 3, participant 7, answered after being probed that advance notice of

planned training by the DoH would assist the unit to plan the staffing of the clinic better and give the nurses more time to plan their lives around the training.

The fourth sub-theme under “Staffing” is “Contract nurses” which a participant suggested to resolve the staff shortage by employing registered nurses with a limited period contract to assist the clinics when nurses are away for extended periods of time (e.g. away on training or maternity leave). This was suggested by participant 6 at site 2: *“We are also involved in contract nurses, just ask for other nurses if they can come just assist here – that can help”*.

The second theme under category 3 is “Education”. This theme arose with three sub-themes: “National campaigns (media)”, “Community campaigns” and “School educational programmes”. The first sub-theme: “National campaign programmes: media” was identified after a significant number of participants suggested it. “National Campaigns (media)” in this context refers to sustained educational programmes on television, radio, and billboards, to inform a large audience of the importance of the PMTCT programme. At site 2, participant 2 commented: *“I think even if the media like in the radio and TV if they can have this thing, a slot, continuously speak about this programme PMTCT to encourage women to come early, to be tested. I think the media can assist us, the TV and radios including all these patients.”* At site 4 participant 3 remarked: *“Exactly as I’ve said, through awareness campaigns and we could also maybe join the community radios...”*

The next sub-theme under “Education” is “Community campaigns”, and this sub-theme emerged after various participants proposed it for possible solutions to the “Patient education” challenges experienced. To improve the knowledge and understanding of HIV, and the importance of early initiation of PMTCT, the participants suggested sustained educational campaigns at the community level. At site 3, participant 2 said: *“What I can do is just to give information about the importance of prevention of mother to child, to arrange and give information to the community about the importance of early bookings...”* Participant 4 at the same site reflected: *“The late bookings the imbizos.² I think the imbizos, those awareness campaigns if you can just continue with them.”*

The final sub-theme under “Education” is “School educational programmes”, and it emerged after several participants commented on it. The “School educational programmes” in question is the ongoing sexual educating of teenagers at school that involves sexually transmitted infection (STIs), contraception and the PMTCT programme. At site 1, participant 2 stated: *“I think if it was possible we should lay more emphasis about the PMTCT programme at school where most of our teenagers are so that it should not be something that we only talk about once the client is in hospital or in the health facility. So that we start to emphasise the importance thereof out at schools.”* At site 2, the participant was asked: “What do you think we can do about the teenagers?” The participant replied: *“This health education to the schools”*.

The third theme under the category 3 “Possible solutions” is “Immigration: Home Affairs and stakeholders” with the sub-theme “Immigration: Home Affairs must have

² The term “imbizo” means “community meeting”.

stakeholder meetings". One participant suggested this as a possible solution to the late bookings due to human migration. At site 4 participant 3 submitted: *"You know, there's recently been a forum called Stakeholders Forum. The meetings are held every month with Home Affairs. It consists of at least every stakeholder in the community, we look out for types of things then go on to sit and discuss them then come up with solutions."* This strategy could, importantly, give the healthcare community a real sense of empowerment as they would advance their views at a relevant forum.

The final theme under "Possible solutions" is: "National computer database". This was suggested to facilitate infant and patient follow-up care and resolve late bookings due to human migration. This was recommended by one participant at site 3: *"If they can introduce that thing to all facilities so that they can see if a patient move from one place to another place, they can find that person. Let's say I'm visited Buffelshoek clinic, when I enter, give them my ID and everything, my name should, should reflect on this printed I'm from, I'm from a certain facility. That thing it will reduce people from moving around because if I move from one place to another one, sometimes that patient when entering the new facility, she doesn't tell them these details. They start to test again."* It is clear that this participant – who should be considered representative of others – is frustrated at the lack of patient information control which leads to a waste of resources.

4.6 Quantified results of qualitative responses relating to categories, themes and sub-themes.

As stated before, the researcher observed that a number of the participants tended to repeat and accentuate their perspectives. A system was designed to demonstrate the number of times each participant mentioned a specific perspective. This formed a descriptive presentation of the participants' views.

It is important to take note that, when the themes are read, it is understood by the reader that the comments from the participants were analysed in two specific ways. First, the **number of participants** who commented on a specific theme was noted. Then the specific frequency was noted. In other words, **how many times did a particular participant mention a particular theme?**

These tallies were indicated by using colours: If a participant commented only once, the tally is printed in black. If a participant commented twice, the tally is coloured red. If a participant commented three times on a theme, the colour of the tally is green, and if a participant commented four times on a theme, the tally is blue. If a participant commented five times on a theme, the tally is coloured purple.

For example: |||| || means 5 participants commented once on a theme, and 2 participants commented twice. The total number of participants who commented was 7 (i.e. frequency).

Or: | || || | means 1 participant commented once, 2 participants commented twice, 2 participants commented three times, and one participant commented 5 times. The total number of participants who commented was 6 (i.e. frequency).

In the following tables the categories, themes and sub-themes are illustrated:

Table 4.3 - Category 1, the participants' perspectives of successes of the PMTCT programme in the Polokwane District (n=21) *

Theme	Sub-themes	Tally	Frequency	%
Effective programme	- Effective PMTCT programme	HHH HHH II	16	76
	- Earlier bookings trend	HHH I	8	38
	- Decreased positive PCR rates in infants	HHH	15	71
Staffing	- Nurses are educated	HHH	5	24
	- Nurses have positive attitudes and commitment	HHH I	6	29
	- Nurses have effective teamwork	HHH I	7	33
	- Nurses have good communication with the DoH		2	10
	- Updates, policies and guidelines available	HHH HHH HHH I	19	90
Patient education	- Nurses communicate effectively with patients		2	10
	- Nurses educate patients		3	14

* **Specific frequency:** 1 comment, 2 comments, 3 comments, 4 comments, 5 comments (how many times a particular nurse mention this particular theme?)

Referring to Table 4.3, it clearly illustrates that 76% of the participants agreed that the PMTCT programme is working effectively (in fact four participants mentioned it twice), and 38% of them thought that there is now an earlier bookings trend amongst patients.

Seventy-one per cent of the participants also indicated that there is a decreased rate in positive PCR rates in infants (two participants commented three times). It is thus clear that a majority of the participants are, in fact, of the opinion that the PMTCT programme is so effective, that they mentioned it more than once.

The theme “Staffing” depicts how the nurses viewed their roles in various ways and, most prominently, 33% of the participants thought that their effective teamwork contributed to the success of the PMTCT programme. Twenty-nine per cent of the participants commented that their positive attitudes and commitment promoted the success of the PMTCT programme. Twenty-four per cent of the participants also believed that their education was a contributing factor in the successes of the PMTCT programme. Other factors were also mentioned: nurses felt that they educated patients (14%), and that their effective communication with the patients (10%) and the DoH (10%) was key in the success of the PMTCT programme. Reassuringly, 90% of the participants verbalised that they have updates on the PMTCT programme available to them, as well as the PMTCT policies and guidelines (some participants mentioned this up to four times). It is indeed very encouraging that most of the implementing nurses do have access to training and the most recent updates and guidelines of the PMTCT programme. The DoH can be commended on this effort.

Table 4.4 Category 2, the participants' perspectives of challenges experienced when implementing the PMTCT programme in 2014 (n=21) *

Themes	Sub-themes	Tally	Frequency	%
Staffing	- Staff shortages due to:			
	* PMTCT programme is time consuming		5	24
	* Nurses are away on training		1	5
	* Too few nurses		7	33
	- Late/short notice to staff members of scheduled continuous education		3	14
	- Irregular continuous education from DoH		3	14
Late bookings	- Due to human migration		10	48
	- Due to cultural beliefs		7	33
	- Due to teenage pregnancies		6	29
	- Due to lack of support systems		5	24
Patient education	- Stigma/fear/denial of patient status		6	29
	- Non-adherence to treatment		3	14
	- Distrust in clinic staff		1	5
	- Information overload		2	10
	- Mixed feedings		2	10
	- Late/no follow-up infant PCR testing		1	5
	- Traditional remedies interacting with ARV treatment		1	5
	- Language barrier		2	10
Resources	- Buildings in disrepair		3	14
	- Equipment shortages		4	19
	- Medication shortages		2	10

Themes	Sub-themes	Tally	Frequency	%
	- Late/slow blood results		1	5

* **Specific frequency:** 1 comment, 2 comments, 3 comments, 4 comments, 5 comments (how many times a particular nurse mention this particular theme?)

Table 4.4 reveals the challenges the participants experienced while implementing the PMTCT programme. Under the first theme “Staffing”, the main challenge that was experienced by the participants was staff shortages; 62% of the participants commented on this, and four of the participants stressed it with repetitive comments (3-4 times). In addition, 14% of the participants verbalised that they were not given advanced notice of planned continuous education (such as updates and workshops). For instance, they would get a phone call asking them to attend a workshop only one day in advance of the scheduled training. A number of these clinics are in remote areas in the Polokwane district; arranging travel, accommodation, and family care, is more challenging to these participants. Finally, 14% of the participants felt that they did not receive regular continuous education from the DoH.

Returning to Table 4.3, it is evident that 38% of the participants felt that women exhibited a tendency to seek PMTCT care earlier in their pregnancies. But, in addition to these findings, as is illustrated in Table 4.4, there were still participants who felt that there are prevailing problems when it came to the timing of patients’ booking for PMTCT care. In Table 4.4 it is indicated that 48% of the participants felt that human migration contributed to a late booking tendency (more than half of the participants mentioned this more than once), and 33% of the participants believed that patients’ cultural convictions prevented them from seeking care early in pregnancy. The participants (29%) also thought that teenagers were less likely to seek PMTCT care early in pregnancy. The last contributing factor to late bookings was identified by the

participants (24%) as the lack of support systems, and that patients who do not have a supportive family or community around them tend to book later for PMTCT care.

The theme “Patient education” indicated that there were challenges that were experienced and could be linked to the patients’ misconception or misunderstanding of HIV, HIV treatment, and the general intention of the PMTCT programme. Of the participants, 29% were of the opinion that patients still experienced fear of being stigmatised by their communities, and denied their patient status (five of the participants verbalised this more than once, and one participant commented on it 5 times). Fourteen per cent of the participants commented that patients did not adhere to the treatment that was prescribed, and that patients experienced information overload (10%) when diagnosed. Participants also experienced language as a barrier (10%) when dealing with immigrant patients, and 10% of the participants felt that patients did not breastfeed exclusively, and mixed the feedings; that put infants at risk for MTCT. Other patient education issues discussed by the participants were: patients did not follow-up, or were late in following up on PCR testing of their infants at 18 months (5%), and that traditional remedies are still being used in conjunction with ARV treatment (5%).

The rest of the challenges could be classified as facility management problems: 19% of the participants felt that there were general equipment shortages, and 14% believed that their facilities were in disrepair and that there was a lack of support services (14%). Other challenges experienced were: medication shortages (10%), and overdue blood results (5%).

Table 4.5 Category 3, the participants' perspectives on possible solutions to address challenges in the PMTCT programme in 2014 (n=21)*

Themes	Sub-themes	Tally	Frequency	%
Staffing	- Recruitment		5	24
	- Tracing teams		4	19
	- Advance notice of training		1	5
	- Contract nurses		1	5
Education	- National campaigns (media)		8	38
	- Community campaigns		6	29
	- School educational programmes		6	29
Immigration: Home Affairs and stakeholders	- Immigration: Home affairs must have stakeholder meetings		1	5
Computer database	- A national computer database to be implemented		1	5

* **Specific frequency:** 1 comment, 2 comments, 3 comments, 4 comments, 5 comments (how many times a particular nurse mention this particular theme?)

Table 4.5 illustrates, to address the staff shortage, 24% of the participants reasoned that the facilities' management and the DoH have to recruit more staff members. Nineteen per cent of the participants were of the opinion that the employment of tracing teams could help locate patients who do not follow up with PMTCT care or actually find pregnant women who are not seeking PMTCT care. Several other ideas emanated from the participants, such as that nurses should be given advanced notice of upcoming training. Five per cent of the participants felt that the staff shortage could

possibly be addressed by employing limited contract nurses in the clinics where permanent nurses have been sent for extended periods of training.

To address the education deficiency, Table 4.5 reveals that the participants (38%) thought that national campaigns using the media (radio, TV and billboards) could address late bookings and the lack of patient knowledge. Twenty-nine per cent of the participants felt that involving the communities (for example during imbizos – or community meetings) in educational campaigns could address the lack of knowledge on HIV and HIV treatment, and improve the general understanding of the objectives of the PMTCT programme.

It was also suggested that the Department of Home Affairs could convene stakeholder meetings to address late booking due to human migration, and in particular immigration. Lastly, 5% of participants thought that a national computer database could streamline appointments, and facilitate patient follow-up regardless of to where they might relocate.

4.7 Summary

In this chapter, the results of the research were examined and described in terms of the objectives and the aim of the study. The characteristics of the participants were reviewed and descriptions of the participants' comments – as they related to the study's objectives - were made by quoting directly. A tallied description was also presented in table format to emphatically demonstrate how strongly certain participants felt about the various successes, challenges and recommendations on how to address challenges within the PMTCT programme. In Chapter 5 the results will be discussed, conclusions will be reached and recommendations will be made.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

The aim of this study was to determine what the registered nurses' perspectives are on the PMTCT programme as implemented at various community health clinics in the Limpopo Province in order to discover whether any improvements could be suggested. This aim was attained by achieving the two objectives stated in Chapter 1, namely: to record and analyse the registered nurses' perspectives of the (a) successes and (b) challenges of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province.

In this chapter the pertinent demographic data of the participants will be discussed. Results for the main study will also be summarised and discussed. Conclusions will be drawn and suggestions will be made for future research. Finally, recommendations, based on the findings, will be made.

5.1 Summary of findings

5.1.1 To record and analyse the registered nurses' perspectives on the successes of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province.

In Chapter 4, a majority of the participants agreed that the PMTCT programme is working effectively, and that a number of them thought that there is now an earlier bookings trend amongst patients. It was also pertinent that a major part of the participants also indicated that there is a decreased rate in positive PCR rates in infants.

A significant number of the participants viewed the education of the staff members as a contributing factor to the successes of the PMTCT, as did their effective teamwork and positive attitudes and commitment. To complement these results, a substantial number of participants verbalised that they have updates on the PMTCT programme available to them, as well as the PMTCT policies and guidelines. Other factors were also mentioned: nurses felt that they educated patients, and that their effective communication with the patients and the DoH was key in the success of the PMTCT programme.

5.1.2 To record and analyse the registered nurses' perspectives on the challenges of the PMTCT programme as it is implemented at the community health clinics in the Limpopo Province.

The four main themes under challenges were: "Staffing", "Late bookings", "Patient education" and "Resources". Under "Staffing" the main challenge that was experienced was staff shortages due to various reasons such as: a general nursing shortage; nurses that are away on training and not replaced; and, a time consuming programme resulting in a longer appointment time when assessing patients. Other challenges were that participants were not given advance notice of planned continuous education. For instance, they would get a telephone call asking them to attend a workshop only one day in advance of the scheduled training. A number of these clinics are in remote areas in the Polokwane district; arranging travel, accommodation, and family care, is more challenging to these participants. Finally,

some of the participants felt that they did not receive regular continuous education from the DoH.

The second theme under challenges was “Late bookings”. There were participants who felt that there are prevailing problems when it came to the timing of patients’ booking for PMTCT care. Some of the participants felt that human migration contributed to a late booking tendency, and others believed that patients’ cultural convictions prevented them from seeking care early in pregnancy. The participants also thought that teenagers were less likely to seek PMTCT care early in pregnancy. The last contributing factor to late bookings was identified by the participants as a lack of support systems, and that patients who do not have a supportive family or community around them tend to book later for PMTCT care.

The third theme “Patient education” indicated that there were challenges that were experienced and could be linked to the patients’ misconception or misunderstanding of HIV, HIV treatment, and the general intention of the PMTCT programme. Some of the participants were of the opinion that patients still experienced a fear of being stigmatised by their communities, and denied their patient status. Several participants commented that patients did not adhere to the treatment that was prescribed, and that patients experienced information overload when diagnosed. Participants also experienced language as a barrier when interacting with immigrant patients, and some of the participants felt that patients did not breastfeed exclusively, and mixed the feedings – factors that put infants at risk for MTCT. Other patient education issues discussed by the participants were: patients did not follow-up, or were late in following up on PCR testing of their infants at 18 months, and that traditional remedies are still

being used in conjunction with ARV treatment – which may have negative consequences for the patients.

The fourth theme identified under challenges was “Resources” and could be classified as facility management problems. A number of participants felt that there were general equipment shortages, and they believed that their facilities were in disrepair and non-therapeutic. Other challenges experienced were: medication shortages, and overdue blood results.

5.1.3 The third category “Possible solutions” is linked to the study’s aim which is to determine what the registered nurses’ perspectives are on the PMTCT programme as implemented at various community health clinics in the Limpopo Province in order to discover whether any improvements could be suggested.

There are four themes under “Possible solutions”. The first theme, “Staffing” indicated that participants felt that the nursing shortage can be addressed by the recruitment of more staff members. Some of the participants were of the opinion that the employment of tracing teams could help locate patients who do not follow up with PMTCT care or actually find pregnant women who are not seeking PMTCT care. Several other ideas emanated from the participants, such as that nurses should be given advance notice of upcoming training, and that the staff shortage could possibly be addressed by employing limited period contract nurses in the clinics to which permanent nurses have been assigned for extended periods of training.

The second theme under “Possible solutions” is “Education”. A considerable number of the participants thought that national campaigns using the media (radio, TV and billboards) could address both late bookings and the lack of patient knowledge. A major part of the participants felt that involving the communities - for example during imbizos (or community meetings) - in educational campaigns could address the lack of knowledge on HIV and HIV treatment, and improve the general understanding of the objectives of the PMTCT programme. In addition to these suggestions, the participants also felt that school education programmes could help solve the late booking tendencies amongst pregnant teenagers.

The third theme under “Possible solutions” is “Immigration: Home Affairs and stakeholders”. The participant who suggested this felt that the Department of Home Affairs could convene stakeholder meetings to address late booking due to human migration, and in particular, immigration.

Lastly, theme four “Computer database” was identified when a participant recommended that a national computer database could streamline appointments, and facilitate patient follow-up regardless of where they might relocate.

5.2 Discussion

This study found, according to the nurses working at the implementation level of the PMTCT programme, that the PMTCT programme is an effective programme, and that there is a definite tendency of pregnant women to report earlier for PMTCT care. Importantly, according to the participants, fewer HIV positive *infants* are born. Nurses feel that their education and commitment is instrumental in the success of the PMTCT

programme. The study found that an overwhelming number of the participants agreed that they had received the necessary timely education, support manuals and guidelines from the DoH to implement the PMTCT programme. These nurses' perceptions support the national statistics. The PMTCT programme has made significant advances, and is available at approximately 98% of the primary healthcare facilities across the country (Department of Health 2014: 7). With the steady increase in mothers taking part in the programme, the MTCT rates have dropped significantly to 1.3% in 2014 (Peterson 2014: H5). These successes can be ascribed to the persistent efforts from the DoH, and the evidence-based research behind their efforts.

However, in spite of the efficacy of the programme, the participants were of the opinion that their patients, and the communities they come from, have a significant lack of knowledge where it pertains to HIV and HIV treatment. This lack of understanding prevented women from seeking care earlier in pregnancy, and reduced their adherence to the prescribed treatment. In South Africa HIV and AIDS treatment and education have been available for over 10 years. Yet, the total number of persons living with HIV has increased from an estimated 4.02 million in 2002 to 6.19 million by 2015. In 2015, an estimated 11.2% of the total population was HIV positive and approximately 20% of women in their reproductive ages are HIV positive (Statistics South Africa 2015: 7). With the increase in numbers (even though treatment is available), it is thus reasonable to deduce that there is still a lack of understanding on how to prevent the spread of HIV and how to manage the HIV and AIDS disease process. Therefore, it was concluded that communities in the Limpopo Province (and South Africa) still need more education on HIV, HIV prevention, HIV treatment and the PMTCT programme.

A significant problem with staff shortages emanated from this study. With the increased burden of NIMART, nurses feel overwhelmed at times, having to spend a great deal more time per patient. The primary healthcare nurse: patient ratio is 1:40. In other words, NIMART nurses have to document accurate patient histories, do physical assessments, perform baseline blood tests, do pre-and post-test counselling and education, select and initiate the appropriate ARV treatment, plus complete all the relevant documentation in the prescribed registers (Ngobeni 2015: 17) during an initial patient visit. Extrapolating from the nurse: patient ratio, all these interventions should take place in a 12 minute time span. This is an unrealistic number – even for routine follow-up visits. There is palpably an increased work burden, but no additional support is given. This staff shortage could lead to longer waiting periods for patients at clinics, and decreased morale amongst staff members.

In potential support of the above-mentioned findings, an unanticipated, but relevant, discovery was made during the literature review - even though this was not part of the objective of the study. It was discovered that 74% of nurses countrywide are between 40 and 69 years of age (SANC 2015: online). In this study, specifically, it was found that 80.21% of the nurses interviewed were between 40 and 70 years old. It is clear that the nursing population at the sites studied is aging, and this could be a contributing factor to the nursing shortage currently experienced at these healthcare facilities. More importantly, it could be predictor of future staff deficiencies.

More challenges that pertained to the ineffective management of the facilities by the DoH and the local health clinics emerged during the interviews. In particular, the

buildings were reported to be in disrepair, which renders the environment non-therapeutic. Nurses also reported a significant lack of essential equipment. The absence of sufficient working medical apparatus such as haemoglobin monitors, blood glucose monitors, blood pressure monitors and working scales made their duties more protracted and ineffectual. There were also reported medication shortages on occasion, as well as slow results on blood tests (for instance, PCR results). According to Jooste (2009: 340) the DoH has identified various problems in both public and private healthcare institutions that could endanger the wellness of patients, increase healthcare delivery costs, and reduce productivity. These problems included: a lack of resources, inappropriate use made of resources, drug shortages, and poor healthcare delivery systems. The problems reported by the participants in this study and the problems reported by the DoH in 2009 are alarmingly similar, and still in 2014, not addressed.

During the interviews, participants were asked how they would address the challenges that they experienced. A general idea that emerged from this study is that the communities around the Polokwane district needed more education, and that this could be addressed by launching more national and community campaigns to increase adherence to the PMTCT programme, and encourage earlier bookings. It was also found that the participants believed the nursing shortage could be addressed by staff recruitment and the implementation of support services like tracing teams.

5.3 Suggestions for further research

Future research could be considered by sampling larger groups within the Limpopo Province's community health clinics, or even larger samples, across the country, to assess the nurses' perspectives of the implementation of the PMTCT programme.

In addition, further research should be done to ascertain the patient acuity (or workload) levels (nurse: patient ratios) at clinics in the Limpopo Province. It is unclear whether these ratios are monitored, which prompts the researcher to propose this recommendation. This will ensure that nurses are not overburdened, and where needed, that more staff appointments could be requested with substantiated evidence.

5.4 Suggestions for education

Studies may be done on the intake of new nurse trainees who are supposed to supplement and eventually replace the aging nursing population in South Africa. This could render a better explanation on the current reasons for the nursing shortage in South Africa, and possibly discover ways to encourage young school leavers to choose nursing as a career. Furthermore, to close the gender gap and ameliorate the national nursing shortage the DoH could pay more attention to changing gender stereotypes and encourage young males to pursue nursing as a career.

5.5 Suggestions for practice

Several suggestions flowed from this research to improve the implementation of the PMTCT programme in the Limpopo Province. A continued, increased effort from the DoH should be made to increase the South African citizens' knowledge on the HIV and the PMTCT programme by initiating national, community and school campaigns. On a more practical and selective level, nurses should be issued with a "take-home"

information booklet intended for the use of each patient they see. This booklet should contain general information on HIV (emphasising the importance of viewing HIV as a chronic medical problem), the patient's treatment regime, how to correctly take medication, as well as how to improve health and wellbeing. This information booklet could be a useful tool in supporting and educating patients and their immediate family members, and may combat information overload and confusion.

The study also discovered the need to improve the clinic facilities, i.e. buildings and equipment. This requires a commitment to change management in order to accept the views expressed by the nurses. Also, whilst the observations of the nurses are extremely valid and indicative of the state of the practice of medicine as it relates to the PMTCT programme, other issues were observed by the researcher that support the assertions of the nurses. The sites visited were visibly derelict, and needed improvement and regular maintenance. Whilst the matter of poorly maintained infrastructure, for example, is noted, it was also observed that a fully equipped operating theatre had been turned into a lounge-cum-tearoom for the use of the nursing staff. This suggests that the DoH needs to inspect sites and fund maintenance where needed. The facility managers could possibly improve the logging of problems by keeping a fault log book and meetings on a weekly basis to address facility management and maintenance. Facility managers could also insist on stricter selection of contractors (with workmanship guarantees) to ensure their facilities are repaired and well maintained.

Advance notice of training from the DoH should be ensured, and nurse managers at the sites should communicate effectively with personnel to ensure that the staff members are informed of the planned training dates.

A final recommendation is the implementation of a national computer database. Nurse practitioners have a great responsibility to use the limited resources available to them to achieve the maximum outcomes. A better monitoring system will eliminate the unnecessary repetition of tests and treatment of migrating patients, resulting in a reduction of costs, and ensuring that there is an accurate audit trail on all known patients throughout South Africa.

5.6 Limitations of the study

During this study, data were collected at four community health clinics in the Polokwane district of the Limpopo Province. It will not be possible to generalise conclusions to all clinics in the Limpopo Province, and these conclusions may not be applicable to all South African clinics. However, some generalisations may possibly be applied to similar community health clinics with the same milieu and general population. The interview guide included questions that did not relate directly to the objectives of the study. These were included to extract as much information as possible from the participants – to assess if they saw themselves instrumental in the successes and/or challenges in the programme. The information letter on the study was distributed to all the participants and, despite the pre-test study, it was still found that the participants had to be made aware of their rights as some expressed reservations about being interviewed. The language barrier was partly addressed by the use of a fieldworker who was able to assist in the clarification of any questions and

responses of the participants and the researcher. This was accomplished by communicating in the mother tongue of the participants. In some cases, however, it appeared that the participants comprehended the questions fully but, on analysing the responses, some doubt may be cast on this assumption. During data analysis it became evident that the fieldworker had simplified some of the questions to the effect that the questions were not as open-ended as originally intended. This may have limited the participants' responses. Another limitation was the expectation that more participants would be present at their clinics. Absenteeism may explain the lower than expected numbers. Another consideration is the limited number of clinics in the sample.

5.7 Conclusion

In this chapter the pertinent demographic data of the participants were discussed, and the main study's product summarised and discussed per objective, and suggestions and recommendations were made. The general results indicated that the PMTCT programme is indeed an effective one, but lack of patient education, poor facilities management and staff shortages are perceived challenges, and could potentially influence the implementation of the PMTCT programme negatively.

Similar managerial challenges were experienced in Uganda in 2007 where it was also found that staffing shortages, substandard clinic sites, and a lack of resources thwart the intention of the PMTCT programme (Nuwagaba-Biribonwoha et al 2007: 273). Staff shortages were also reported challenges in a study done in 2011 in the Eastern Cape (Sprague et al 2011: 6), and these researchers also recommended that adequate numbers of staff must be employed to implement the PMTCT programme

more effectively. Furthermore, a recently published study examining the various reasons why the PMTCT programme fails, also referred to late initiation of prenatal care by patients (mean starting gestation after 20 weeks) (Kendall, Claessens, Dorward, Mfeka & Gate 2015: 144). This supports the findings of this researcher's conclusions that the exigency to educate the South African population on HIV, and in particular the PMTCT programme, is essential.

The findings and commentary in this study call for further research on the perspectives of nurses and the PMTCT healthcare policies, and general healthcare policies, too. Potentially, policy changes may have to be implemented that could be beneficial to patients. The improvements that result may then be effected at other clinics and places of healthcare in the province, and throughout South Africa. However, the drivers required reside in the management echelons (in other words, from national to provincial and facility level) – and they, it appears, need to take cognisance of the suggestions made by the nurses. This requires a commitment to change management in order to accept the views expressed by the nurses working at the proverbial coalface. All the objectives of this study were reached, and the perspectives of the nurses were described and analysed. In conclusion, the nurses' perspectives, generally, in medical practice, are important, but in terms of the PMTCT programme specifically, they are essential.

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Appendix 1

Semi-structured Interview Guide

Participant Number: _____

Section A: Demographic data (Interviewer will tick in the applicable box)

<u>Gender:</u>	Male	Female			
<u>Age:</u>	20-29	30-39	40-49	50-59	60-69
<u>Marital Status:</u>	Married	Single	Divorced	Separated	Widowed
<u>Home Language:</u>	English	Afrikaans	African language		
<u>Number of years' experience in PMTCT at CHC</u>	1-10 years	11-20 years			
<u>Number of women attending PMTCT at the CHC</u>	0 – 99 per day	100 – 199 per day	200 – 299 per day		

Section B: Interview Guide

1. From your position as a registered nurse, what is your perspective of the PMTCT programme that was implemented in your clinic?
 - Probe questions: What was the most effective aspect of the PMTCT programme implemented?
 - Probe question: What was less effective or proved to be challenging in the PMTCT programme?
2. What changes are you aware of that have occurred with the PMTCT programme in the last two years?
 - Probe question: What specifically has changed in the PMTCT guidelines? What impact do you think these changes have made on HIV positive pregnant women?
3. How do you feel members of this community have responded to the PMTCT programme?
 - Probe question: Have the changes in the PMTCT programme encouraged women to book earlier at the antenatal clinic?
4. How do you think challenges in the PMTCT programme could be addressed in the future?
 - Probe question: How would you do things differently to improve the efficacy of the programme?
5. How has the Department of Health kept this community health clinic up to date on changes in the PMTCT programme?
 - Probe question: What documents do you have from the Department of Health regarding changes in the PMTCT programme?
6. How are the changes in the PMTCT protocol communicated to the nurses at the community health centres?
7. What made the implementation of the PMTCT Programme at this clinic successful?
 - Probe question: What challenges arose in implementing policy changes at the clinic?

Appendix 2

Letter to the Nursing Service Managers

POLOKWANE

0700

..... 2014

Dear Sister.....

REQUEST: PERMISSION TO CONDUCT A RESEARCH STUDY.

I, Adri Williams, hereby request permission to conduct a research study at the Community Health Clinic. I am currently enrolled at the University of the Witwatersrand to do my Master's in Nursing Science. The study will investigate the nurses' perspective on the successes and challenges of the 2010 PMTCT Programme implemented at the facility. This information will be acquired during an interview using an interview guide. The confidentiality of the participants is guaranteed. This study is done in order to see if there are any improvements that could be made to the PMTCT Programme.

If you have any questions or concerns, please feel free to contact me at any time. If you would like to receive feedback on this study, I would be happy to inform you of the outcome. I enclose an executive summary of the proposed research for your perusal, as well as the Ethics Clearance letter from the University of the Witwatersrand.

Yours sincerely

Adri Williams

(015) 290 2845

(015) 298 9082

061 357 7402

adri@edupark.ac.za

Appendix 3



R14/49 Ms Adri Williams

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M131164

NAME: Ms Adri Williams
(Principal Investigator)

DEPARTMENT: Nursing
Polokwane, Limpopo Province

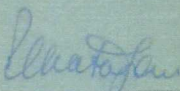
PROJECT TITLE: The 2010 Prevention of Mother to Child Transfer of
HIV Programme as Implemented at Community
Healthcare Centres in the Limpopo Province:
A Nursing Perspective

DATE CONSIDERED: 29/11/2013

DECISION: Approved unconditionally

CONDITIONS:

SUPERVISOR: Barbara Hanrahan

APPROVED BY: 
Professor PE Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 09/04/2014

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee **I agree to submit a yearly progress report**

Principal Investigator Signature _____ Date _____

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix 4

 **LIMPOPO**
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

Enquiries: Latif Shamila Ref: 4/2/2

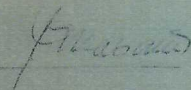
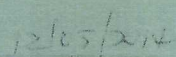
Williams A
University of Witwatersrand
Johannesburg
2050

Greetings,

Re: The 2010 Prevention of Mother to Child transfer of HIV programme as Implemented at
Community Healthcare Centres in the Limpopo Province: A Nursing Perspective.

1. The above matter refers.
2. Permission to conduct the above mentioned study is hereby granted.
3. Kindly be informed that:-
 - Further arrangement should be made with the targeted institutions
 - In the course of your study there should be no action that disrupts the services.
 - After completion of the study, a copy should be submitted to the Department to serve as a resource.
 - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.

Your cooperation will be highly appreciated.


Head of Department 
Date

16 College Street Polokwane, 0700, Private Bag x9302, POLOKWANE, 0700
Tel: (015) 293 6000, Fax: (015) 293 6211/20 Website: <http://www.limpopo.gov.za>

The heartbeat of Limpopo

Appendix 5



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF HEALTH & SOCIAL DEVELOPMENT –
CAPRICORN DISTRICT**

REF: S/10

ENQ: TLEANE MM

DATE: 2014/06/23

TO: CENTRE
CENTRE
CENTRE
CLINIC

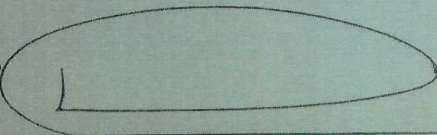
ATTENTION: THE OPERATION MANAGERS

Kindly be informed that following student from the University Witwatersrand IRO: Williams A have been granted permission to do semi structure interview for the purposes of research at the above mentioned PHC Facilities around Capricorn District.

The required period for the observation is estimated as two months starting from the 1st July to the 29th August 2014 which is the requirement from her institution.

You are requested to assist her in all regards.

Your cooperation and in this regard will be highly appreciated.

PP 
DISTRICT EXECUTIVE MANAGER

23/06/2014
DATE

Appendix 6

Letter with information to potential participants

...Community Health Clinic

POLOKWANE

0699

..... 2014

Dear Colleague

My name is Adri Williams, and I am currently enrolled at the University of the Witwatersrand to do my Master's in Nursing Science. I would like to invite you to participate in a study at thecommunity health clinic.

The study will investigate the perspective of nurses on the successes and challenges of the 2010 PMTCT Programme implemented at the local facilities. This information will be acquired during an individual interview using an interview guide. This interview will be concluded in a private room at your community health centre, and it will take about one hour.

The opinions of all participants will be anonymised by removing their names as well as any information that may result in identifying them. This data will be kept in a locked safe at my home and I will be the only one with access to the key. This data will be kept for 6 years. This will ensure participant anonymity and confidentiality.

Participation is voluntary and a participant may withdraw from the study at any given time – with no consequences. There will no reimbursement for participating in this study and you will not benefit from this study personally.

This study is done in order to see if there are any improvements that could be made to the PMTCT Programme at community health centres.

If you have any questions or concerns, please feel free to contact me at any time. If you would like to receive feedback on this study, I would be happy to inform you of the outcome.

I also include the Human Research Ethics Committee (HREC) contact details for any complaints or queries you may have: Ms Zanele Ndlovu (Administrative Officer: Human Research Ethics Committee (Medical). Tel: 011 717 1252. E-mail: zanele.ndlovu@wits.ac.za;

Yours sincerely

Adri Williams

(015) 290 2845

(015) 298 9082

061 357 7402

adri@edupark.ac.za

Appendix 7

Participant Consent Form

The 2010 PMTCT Programme as Implemented at Community Healthcare Centres in the Limpopo Province: a Nursing Perspective.

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

I understand that participation in this Clinical Project is completely voluntary and that I may withdraw from it at any time and without supplying reasons. I know that this Study has been approved by the Human Research, Ethics and Publications Committee of Faculty of Medicine, University of the Witwatersrand, and I am fully aware that the results of this Study will be used for scientific purposes and may be published. I agree to this, provided my privacy is guaranteed.

I hereby give consent to participate in this Study.

.....

Name of participant

.....

Signature of participant

.....

Place.

Date

Statement by the Researcher

- I provided written information regarding this Study.
- I agree to answer any future questions concerning the Study as best as I am able.
- I will adhere to the approved protocol.

Adri Williams

Name of Researcher

Signature

Date

Place

Appendix 8

Consent to audio taping interview

The 2010 PMTCT Programme as Implemented at Community Healthcare Centres in the Limpopo Province: a Nursing Perspective.

I understand that the interview will be recorded on audio tape and will be used strictly for analysing data and that my privacy is guaranteed. I also understand that the tapes will be destroyed after the data has been extracted.

I hereby give consent to being recorded on audio tape for the collection of data needed in this study. I also consent to having my words quoted anonymously in the research report.

.....

Name of participant

Signature of participant

.....

Place.

Date

Statement by the Researcher

- I provided written information regarding this Study.
- I agree to answer any future questions concerning the Study as best as I am able.
- I will adhere to the approved protocol.

Adri Williams

Name of Researcher

Signature

Date

Place

Appendix 9

Turnitin report (plagiarism report)

