THE CHALLENGES FACED BY NURSES IN THE IMPLEMENTATION OF HIV UNIVERSAL TEST AND TREAT STRATEGY IN PRIMARY HEALTH CARE CLINICS IN A KWAZULU-NATAL DISTRICT

By

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Submitted in accordance with the requirements for the degree of Master in Public Health in the Department of Health Studies at the University of South Africa

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Dedication

This dissertation is dedicated to:

My late grandmother, Mrs Badelise Sholiphi Msane

My two beautiful children, Ntandoyenkosi and Silondiwe Hlophe, their father Mr Lizwe Hlophe father and lovely families Msane, Mthembu and Miya.

Student Number: 53994825

DECLARATION

I declare that **THE CHALLENGES FACED BY NURSES IN THE IMPLEMENTATION OF HIV UNIVERSAL TEST AND TREAT STRATEGY IN PRIMARY HEALTH CARE CLINICS IN A KWAZULU-NATAL DISTRICT** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

__Nomcebo Mthembu **6 November 2023_________**

Full names **Date**

Abstract

The purpose of this study is to describe the challenges that nurses working in primary health care clinics faced when implementing HIV Universal Test and Treat (UTT) strategy in a KwaZulu-Natal district. The researcher used qualitative study; specifically, a descriptive phenomenological design. The phenomenological research design uses interpretivist methodology to describe the participants' everyday experiences regarding the implementation of HIV UTT strategy and factors that affect the roll-out thereof. Data collection was done through one-on-one interviews, using a semi-structured interview guide. The researcher conducted the study in two primary health care clinics in one district in KwaZulu-Natal. Participants included professional and enrolled nurses (both female and male nurses) who worked in two primary health care clinics providing health-care services to HIV-positive patients. This study's focus is to gain an understanding of the challenges faced by nurses who work in primary health care pertaining to the implementation of the HIV UTT strategy and to identify factors that impact on the implementation of the strategy. The study findings can contribute to the effective roll-out of the HIV UTT strategy, which will result in immediate diagnosis and same-day initiation of antiretroviral treatment. This will benefit society by improving treatment outcomes and decreasing morbidity and mortality rates, which will also enable the Department of Health to save costs associated with treating opportunistic infections.

Key concepts:

Primary health care; perception; Universal Test and Treat; nurses; challenges; clinic

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LIST OF ABBREVIATIONS AND ACRONYMS

UNAIDS United Nations Acquired Immune Deficiency Syndrome

ART ANTI RETROVIRAL TREATMENT

ARV ANTI RETROVIRAL

AIDS ACQUIRED IMMNUNE DEFICIENCY SYNDROME

HIV HUMAN IMMNUNE VURIS

HIV/AIDS HUMAN IMMNUNE VIRUS/ ARCUIRED IMMNUNE DEFICIENCY SYNDROME

HTS HIV TESTING SERVICES

NIMART NURSE INITIATED MANAGEMENT OF ANTIRETROVIRAL TREATMENT

SANC SOUTH ARICAN NURSIG COUNCIL

PLWHIV PEOPLE LIVING WITH HUMAN IMMUNE VIRUS

UNAIDS UNITES NATIONS ACQUIRED IMMNUNE DEFICIENCY SYNDROME

UTT UNIVERSAL TEST AND TREAT

CHAPTER ONE: ORIENTATION TO THE STUDY

1.1 INTRODUCTION

This chapter provides an overview of the study, including the background, purpose, objectives, research questions, significance, and theoretical foundation of the study. In addition, the research design and methodology used to conduct the study, definitions of key concepts, the scope and significance of the study, and the layout of the dissertation is provided.

1.2 BACKGROUND TO THE STUDY

In 2019, the Joint Commission United Nations Programme (UNAIDS) 2019 annual report on the Human Immune Virus (HIV) states that 38 million people globally were living with HIV (People Living With HIV PLWH). Although 1.7 million new HIV infections were reported globally, there was a 23% decline in new HIV infections in 2019. The same report stated that 25.4 million people were accessing antiretroviral treatment (ART). Unfortunately, people are still dying due to AIDS, with 32.7 million deaths reported globally in 2019 (UNAIDS 2019:1).

In 2019, there was an estimated 20.7 million PLWH in the Eastern- and Southern-African regions. In the same year, 730 000 new HIV cases were reported. On a positive note, a total of 15.9 million people have access to antiretroviral treatment and there was a decline in HIV/AIDS related deaths from 272 000 in 2007 to 79 000 in 2020 (Stat SA 2020:7). Poor access to HIV prevention, treatment and care services could be the cause of these deaths (UNAIDS 2019:6).

It is a fact that South Africa carries the highest burden of the HIV infection globally (Tshililo & Davhana-Maselele 2009:135). The HIV/AIDS pandemic is a two-decade long public health issue that has greatly affected the demography of South Africa (Stat SA 2021:5). The high-incidence rate of HIV infections can be attributed to unsuccessful preventative initiatives, as well as to those people who are on antiretroviral treatment with an unsuppressed viral load (Rutstein, Ananworanich, Fidler, Johnson, Sanders, Sued, Saez-Cirion, Pilcher, Fraser, Cohen, Vitoria, Doherty & Tucker 2017:1). South Africa also has 4.4 million people registered on the ARV treatment programme, which is described as the largest globally (Siedner 2019:101).

According to May (2017:6), the early diagnosis of HIV infection is important because it can result in improved health outcomes for patients living with HIV. The eligibility criteria for initiation of antiretroviral treatment (ARV) were determined by antiretroviral therapy guidelines, which only allowed initiation of ART if patients had a CD4 count threshold higher than 350cells/µl or if a patient presented with advanced HIV infection, as determined by the WHO staging of HIV disease. Furthermore, the ART guidelines focused on that several blood investigations needs to be done prior initiation of ARV treatment, and there were no practical measures in place to prevent initial lost to follow-up of patients who tested positive but not initiated on ARV treatment immediately after their HIV test or those who enrolled onto the ART programme but do not return for follow-up review. Studies done post-introduction of the HIV Universal Test and Treat approach (UTT) found that same-day initiation of ART (on the day of an HIV-positive test result) seems to prevent or decrease the number of patients who are classified as lost-to-follow up. However, ensuring adherence to treatment and retention to care requires ongoing support from health-care workers. The previous guidelines also failed to retain HIV positive patients on lifelong ART therapy (Meintjies, Moorhouse, Carmona, Davies, Dlamini, Vuuren, Manzini, Mathe, Moosa, Nash, Nel, Pakade, Woods, Van Zyl, Conradie & Venter 2017:4). The main purpose of the UTT is to increase the number of HIV tests and to increase initiation of ART, which will also serve as a prevention strategy (Reynolds, Camlin, Ware & Seeley 2016:3). Due to the challenges of lost-to-follow up patients who tested positive for HIV, failure to start ARV treatment, and failure to retain them in care, South Africa became one of the first countries to implement the HIV UTT strategy in 2016. The strategy aimed to help eradicate the HIV/AIDS epidemic by 2030 through increasing the uptake of HIV services by testing for HIV and initiating early treatment (Larsen, Cheyip, Tesfay, Vranken, Fomundam, Wutoh & Aynalem 2019:2; NDOH 2016). However, implementing the HIV UTT strategy came with challenges, hence the need for this study to explore and describe the challenges that nurses are facing and identify factors that contribute to the successful implementation of this strategy.

1.3 RESEARCH PROBLEM

Early diagnosis, prompt initiation of ART, and effective management of HIV is important in the prevention of opportunistic infections amongst HIV-positive individuals and in the prevention of HIV-related deaths (Runstein et al. 2017:8; UNAIDS 2014:3). Some of the challenges experienced by nurses who work within the HIV/AIDS field relate to early diagnosis of HIV, late initiation of ART treatment, and lost-to-follow up of patients who initially tested positive for HIV but never started ART treatment. Some of these challenges could be attributed to the extensive list of blood investigations that must be done prior to starting HIV positive patients on ART, as well as delays in receiving blood results. The purpose of introducing the HIV UTT strategy was to increase the uptake of HIV services through testing and initiation of treatment in patients who are eligible for ART, with the hope of eradicating the HIV/AIDS epidemic by 2030 (Pillay 2016:2).

Despite the National Department of Health’s initiative to increase access to antiretroviral treatment through the implementation of the HIV UTT strategy, the researcher observed that nurses working in primary health-care facilities are experiencing challenges related to its implementation. The challenges include inadequate training of health-care professionals to initiate ART treatment on a wider scale: the fact that treatment can be initiated on the same day that the patient tested positive for HIV increases the workload of nurses in an overburdened health-care system that also experiences staff shortages. According to Uys and Klopper (2013:3) the standard nurse-to-patient ratio in primary health care is 1:50. Nurses are faced with long queues of patients who require ART treatment, and the researcher has observed that nurses become frustrated because they cannot spend enough time with each patient doing HIV tests and cannot initiate same-day treatment. Not spending adequate time with each patient may cause the available UTT guidelines to be overlooked, resulting in the quality of care being compromised.

The researcher also observed that non-government organisations (NGOs) providing support to the Department of Health clinics during implementation of the HIV UTT strategy are pressured by donors to meet unrealistic daily targets of same-day initiation of ART. This pressure may lead to non-compliance to the UTT guidelines, which ultimately results in the quality of HIV care being compromised. Other factors that seem to be barriers to the successful implementation of UTT strategy relate to the overwhelming workload, which contributes to nurses developing a negative attitude towards the UTT strategy. As a result, they do not promote the idea of same-day ART initiation (as per UTT guidelines) and patients might get lost in the system, never starting antiretroviral treatment. Hence, the undertaking of the study is to explore the challenges that nurses experience in the implementation of the HIV UTT strategy and to identify factors that impact the successful implementation of this strategy.

1.4 RESEARCH PURPOSE

The purpose of undertaking this study was to gain an understanding of the challenges nurses experienced pertaining to the implementation of the HIV UTT strategy in King Cetshwayo District, KwaZulu-Natal.

1.4.1 Research objectives

The research objective states what needs to be achieved in general terms. It provides a more detailed and systematic approach to addressing the various aspects of the problem, these objectives are further divided into smaller, interconnected components. Each of these sub-objectives is designed to precisely outline the actions to be taken in each phase of the study, specifying the "how," "where," and "for what purpose." This approach helps ensure that the research is conducted in a well-structured and purposeful manner (The open university 2023:np).

The research objectives for this study are:

- To explore and describe the challenges that nurses who work at primary health-care clinics face regarding the HIV UTT strategy.
- To identify factors that impact the roll-out of the HIV UTT strategy.

1.4.2 Research questions

The purpose of the research questions is to provide answers to the research problem (Polit & Beck 2021:85).

The research questions that guided the study are as follows**:**

- What are the challenges that nurses who work in primary health-care clinics have regarding implementation of HIV UTT strategy?
- What factors influence the roll-out of the HIV UTT strategy?

1.5 SIGNIFICANCE OF THE STUDY

The focus of the study was to gain an understanding of the challenges faced by nurses who work in primary health-care pertaining to the implementation of the HIV UTT strategy and to identify factors that impact the implementation of the strategy. The study findings can contribute to the effective roll-out of the HIV UTT strategy, which will result in immediate diagnosis and same-day initiation of antiretroviral treatment which will, in turn, result in improved treatment outcomes and a decrease in morbidity and mortality rates. This will benefit society and the Department of Health may save costs associated with treating opportunistic infections.

1.6 DEFINITIONS OF KEY CONCEPTS

1.6.1 Challenges

Challenges are described as the emerging and enduring problems that destabilise the current functioning, performance, or sustainability of the health systems (Roncarolo, Boivin, Denis,Hébert & Lehoux 2017:np). In the context of this study, challenges are defined as problems experienced by nurses in primary health-care clinics which had a negative effect on rendering HIV services under the UTT programme challenges.

1.6.2 Implementation

According to Oxford Learners Dictionaries (2023:np), implementation means the act of making something that has been officially decided to start to happen or be used. For this study, the researcher meant the rolling out of UTT services in the primary health-care clinics.

1.6.3 Nurse

According to the ICN (2021:1), a nurse is an individual who have undergone through a basic nursing programme education and is there authorised by who has completed a basic nursing programme education and is authorised by the appropriate regulatory body to practice nursing in their respective country such as South African Nursing Council for South Africa (SANC). A robust nursing education program is a formally recognized course of study that establishes a solid groundwork in behavioral, life, and nursing sciences. This program prepares individuals for the general practice of nursing, positions of leadership, and further specialization in advanced nursing practice or post-basic education. As a result of this education, nurses are granted the authority to:

- Engage in a broad spectrum of nursing practice, encompassing health promotion, illness prevention, and the care of individuals of all ages, whether physically ill, mentally ill, or with disabilities, across various healthcare and community settings.
- Conduct healthcare education.
- Play a full and active role as an integral member of the healthcare team.
- Provide supervision and training to nursing and healthcare auxiliaries.
- Contribute to research endeavors (ICN, 1987).

In the context of this study, the term "nurses" pertains to both professional and enrolled nurses working in the two primary healthcare clinics where the HIV UTT (Universal Test and Treat) strategy has been put into practice.

1.6.4 Primary health-care clinic

Primary health care (PHC) is one of the models used in the South African health-care system to achieve universal health coverage, integrating into the broader framework for delivering comprehensive care in a patient-centred, efficient, and equitable way. In addition, PHC focus on disease prevention and health promotion, supported by appropriate technology and cost-effective use of available resources. PHC is also defined as the first level of care at which most patients access the health system (NDoH 2020:np).

1.6.5 Universal Test and Treat Strategy (UTT)

The UTT strategy is an intervention whereby individuals are initiated on ART immediately following a confirmed HIV-positive diagnosis, removing the CD4 count and WHO clinical staging as an eligibility criterion to start ART treatment. This strategy aims to eliminate HIV as it reduces infectivity and increases access to ART (Pillay 2016:1). For this research, UTT strategy is the phenomenon under study.

1.7 FOUNDATION OF THE STUDY

1.7.1 Research paradigm

According to Rehman and Alharthi (2016:51), a paradigm is a basic belief system and theoretical framework with assumptions about ontology, epistemology, methodology, and methods. Human inquiry paradigms seek to answer questions around what the nature of the reality is (ontology) and what the relationship between the researcher and subject is (epistemology). The two broad paradigms used by nursing research include positivism and constructivism (Polit & Beck 2021:9).

For this study, the researcher adopted a constructivist paradigm because it allowed the researcher to give meaning to the circumstances surrounding the implementation of the HIV UTT strategy in two primary health-care clinics, and to identify factors that impact the roll-out of the strategy.

Constructivist studies focus on the fact that each person mentally constructs their own reality that is multiple and subjective. The researcher is an active participant in the research and human lived experiences are described through a process of careful data collection and analysis of qualitative data in a subjective and narrative form (Polit & Beck 2021:10-12). The constructivist paradigm chosen for this study assumes a relativist ontology (each person has their own reality), a subjective epistemology (where the researcher and participants interact and co-create understanding), naturalistic (collection of data takes place in the natural world of the participants), and a set of methodological procedures (Denzin & Lincoln 2005:24).

According to Broom and Willis (2007:25), a constructivist paradigm is associated with the following features:

- Interpretivist – seeks to understand and focus on subjective meaning.
- Naturalistic – the collection of data takes place in a natural environment in the context of being faced with everyday reality.
- Subjectivity – conducting research and gaining knowledge are not objective or neutral.
- Complexity – is concerned with in-depth data analysis and making inferences.
- Validity – understanding the lived experiences of participants and how the researcher interprets the data and does not seek to generalise the findings.

1.8 RESEARCH DESIGN AND METHODOLOGY

A research design is a plan used to address research questions (Polit & Beck, 2021:743). Research methods include steps and procedures followed to collect and analyse the data (Polit & Beck, 2021:735).

A summary of the research methods and design that the researcher used will be given below. A more detailed description of the research design and methodology used to conduct the study will be done in Chapter Three.

This research study was conducted using a qualitative approach; specifically, a descriptive phenomenological design. The phenomenological research design uses interpretivist methodology to describe how individuals make sense of their lived world (Saks & Allsop, 2019:45). This design will allow the researcher to describe participants’ everyday experiences regarding the implementation of HIV UTT strategy and factors that affect the roll-out thereof. Descriptive phenomenological studies aim to describe people’s ordinary everyday experiences in everyday living. Researchers that use descriptive phenomenology ask the question: ‘What do we know as persons?’. The description of things includes anything individuals can hear, see, believe in, feel or remember, as well as how they make decisions, evaluate, and act. The researcher used the following four steps: bracketing, intuiting, analysing, and describing to conduct the study (Polit & Beck 2021:471).

The researcher decided to use this design because it is appropriate for the study since it is likely that the phenomenon under investigation was present in the research setting where human behaviour and events took place (Creswell 2014:236). This design allowed the researcher to 1) generate data on the challenges faced by nurses that work in primary health-care clinics on the phenomenon under study and 2) identify factors that have an impact on the roll-out of the HIV UTT strategy in two primary health-care clinics.

1.8.1 Research setting

The research study was conducted in two primary health-care clinics within King Cetshwayo district in the KwaZulu-Natal province of South Africa. The district is located in the far northern part of KwaZulu-Natal and has an estimated population of 853 354 – the third-highest population in the province. According to King Cetshwayo District Health Plan (2019:17), HIV/AIDS accounts for 34.7% of the mortality rate within the district, which is home to five sub-districts. The two primary health-care clinics are located in the uMhlathuze sub-district and provide comprehensive care to HIV-positive people. The clinics see an average of 5 000 HIV-positive patients per month and do an average of 100 HIV tests and initiations of ART per month. The first clinic is operational for 24 hours a day, seven days a week. The second clinic is operational for eight hours a day (from 7 am to 4 pm) from Monday to Friday and is closed during weekends.

1.8.2 Study population and sampling

The study population comprises all the individuals in a specific geographic area who share similar characteristics and participate in a study (Polit & Beck 2021:746). The researcher included professional and enrolled nurses that work in two primary health-care clinics providing care to HIV-positive individuals as the study population. For selection, participants must have worked in the clinic setting, have experienced the phenomenon, and be able to provide detailed information on the topic under discussion.

Purposive sampling is defined as a purposeful method of sampling whereby the researcher chooses participants to take part in a study based on personal beliefs that the individuals will be more likely to provide reach information (Polit & Beck 2021:741). Participants were recruited using purposive sampling because the researcher believes that the nurses working in the study setting will be able to give a comprehensive description of the phenomenon under study.

1.8.3 Data collection

Data collection is the process of gathering information to address a research problem (Polit & Beck 2021:725). In this study, data collection was done through one-on-one interviews, using a semi-structured interview guide. The interview guide consists of a list of questions that are prepared in advance, standardised, open ended, and posed to all participants by the interviewer (Kumar 2020:281). The interviews were audio recorded (after participants gave consent) and lasted between 20 minutes and 40 minutes each. In addition to interviews, the interviewer took field notes, which are characterised as notes taken to record unstructured observations and interpretation thereof (Polit & Beck 2021:729). The semi-structured interview guide is attached as Appendix Five and field notes are attached as Appendix Six. The collection of data in this study was done to a point of data saturation. Data saturation is characterised by the process of collecting data until no new information is provided by the participants (Kumar 2020:389). Interviews were audio-taped and later verbatim transcribed.

1.8.4 Data analysis

Data analysis is described as systematically organising research data (Polit & Beck 2021:725). The interviews were transcribed verbatim, and the reading of the transcripts was done while listening to the audio-recorded interviews. This was done to ensure that data stated was recorded correctly. Field notes were also taken during the interviews (Appendix Six) and the researcher used content analysis to analyse the interviews and field notes. The content analysis was done using Colaizzi's steps that will be mentioned in detail in the next chapter (Polit & Beck 2021:540). Qualitative content analysis refers to the analysis of content of narrative data to identify prominent themes and patterns among themes (Polit & Beck 2021:537) and involves breaking down data into smaller units. In this study, the researcher further used an independent co-coder who is an expert in qualitative studies to validate the research findings after consensus discussions. According to Shava, Hleza, Tlou, Shonhiwa & Mathonsi (2021:557), content data analysis is regarded as an alternative to more traditional quantitative content analysis when the researcher is working in an interpretive paradigm, aiming to identify similar themes and provide a rich description of the social reality experienced by people in a particular setting. Data analysis is conducted inductively, and the researcher plays a role in turning the interpretations of the responses into meaningful data. Furthermore, the specific steps that need to be followed range from specific to general and often involve multiple levels of analysis (Creswell & Creswell 2018:250,261). The process of data analysis followed is described in detail in Chapter Three.

1.9 SCOPE OF THE STUDY

The researcher conducted the study in two primary health-care clinics in one district in the KwaZulu-Natal province. Participants included male and female professional and enrolled nurses who worked in these clinics providing health-care services to HIV-positive patients. Thus, the study findings cannot be generalised to other settings or other nurses who are involved in the implementation of the HIV UTT strategy.

1.10 LIMITATIONS AND DELIMITATIONS

The only foreseeable limitation was the fact that the study was done in only one district within the KwaZulu-Natal province and only in two primary health-care clinics therefore, meaning that its findings cannot be generalised to other settings or to other nurses.

1.11 ETHICAL CONSIDERATIONS

In 2007, the Nursing and Midwifery Board of Ireland (NMBI) set out basic ethical principles which included principles of beneficence, non-maleficence, human dignity, and justice. This was re-launched in 2015 and aims to protect study participants from any possible adverse effects when taking part in a research study (Dimitrios, Antigoni & Kotrotsiou 2020:4069).

The researcher obtained ethical approval from Unisa’s Health Studies Research Ethics Committee [HSREC] HSHDC/894/2019 (Appendix Two). The researcher also obtained permission to conduct the study from the KwaZulu-Natal Department of Health and health institutions (Appendices Three and Four). The researcher contacted the unit managers of both clinics and requested a meeting to explain the nature and purpose of the study. Consent was obtained from participants prior to commencing with the research. Participants were given an explanation of the study’s purpose, informed of their rights to withdraw at any stage of research, and provided with information sheets to read and sign. Any clarifications requested and concerns raised by the participants were addressed.

The ethical principles that guided the study will be discussed in the sections that follow.

1.11.1 The principle of respect of human dignity

The rights, privacy, values, and needs of participants were respected at all costs at every stage of the research. The rights of participants were respected during the early stages of the research, when the researcher requested permission to conduct the study from the institutions where the prospective participants were working. The researcher reassured the participants that all research data will be kept confidential and that feedback will be provided to participants during a feedback meeting.

1.11.2 The principle of beneficence

A research study should benefit both the participants and society in general. A research study should not pose any form of harm to any participant. The psychological effects of the study need to be pre-determined and eliminated if possible, as any negative effects may be more difficult to deal with on a long-term basis (Dimitrios, Antigoni & Kotrotsiou 2020:2). The researcher conducted the interviews in a well-secured and safe environment. Finally, the research study was done in a way that will benefit the public at large, as it aimed to investigate strategies that can improve HIV UTT service uptake at the clinic level of care.

1.11.3 The principle of non-maleficence

The benefit of research is clear when it produces new, documented knowledge and further supplies society and future generations with solutions such as effective therapies or answers to theoretical issues. This is true for this study, as the researcher intends to benefit the public at large.

1.11.4 The principle of justice

The researcher needs to treat all the participants with fairness. This presupposes that everyone enjoys the same level of service and everyone is treated equally.

1.12 STRUCTURE OF THE DISSERTATION

Chapter One: Study orientation

Chapter Two: Literature review of the study

Chapter Three: Research method and design

Chapter Four: Analysis, presentation, and description of the research findings

Chapter Five: Discussion of the findings, conclusions, limitations, and recommendations

1.13 SUMMARY

In this chapter, background information related to the research problem and problem statement; the study's purpose, objectives, and research questions; definitions of key concepts; an explanation of the significance of the study; and a discussion regarding the theoretical framework. In addition, the research design and methodology, scope of the study, ethical considerations that guided the study, and the layout of the dissertation were outlined.

In the next chapter, the study will be contextualized.

CHAPTER TWO: LITERATURE REVIEW OF THE STUDY

2.1 INTRODUCTION

The researcher will discuss the relevant literature in order to gain a better understanding of the phenomenon under study and to provide the context in which the research problem exists. The scope of the literature reviewed includes information on the HIV/AIDS epidemic globally and in the South African context. Additionally, the researcher will further discus the following; South African National Strategic Plan 2017-2022, the HIV prevention and treatment programmes, namely: Nurse-Initiation of antiretroviral treatment programme, the 90-90-90 HIV Strategy, the HIV Universal Test and Treatment (UTT) Strategy as well as the health care system challenges from the patients' and nurses' perspectives will also be discussed.

2.2 HIV/AIDS EPIDEMIC

2.2.1. The global perspective

HIV remains a major global public health issue, having claimed many lives to date. Ongoing transmission is reported globally, with some countries reporting increasing trends in new infections despite declines in the past.

There were an estimated 38.4 million people living with HIV at the end of 2021, two thirds (25.6 million) of whom are in the WHO African Region. In 2021, 650 000 people died from HIV-related causes and 1.5 million people contracted HIV (WHO 2023:np). According to UNAIDS annual report there was a global decline in Human Immunodeficiency Virus (HIV) infections in 2017 (UNAIDS 2018:6). However, the number of new HIV infections remains a global health threat (Mammbona & Mavhandu-Mudzusi 2018:140). In 2019, an estimated 1.7 million people worldwide were infected with HIV, bringing the estimated number of people living with HIV (PLWH) to 75.7 million people (UNAIDS 2020:1). An estimated 38.4 million people were infected with HIV in 2021, according to the Joint United Nations Program on HIV/AIDS (UNAIDS). Despite the progress in HIV treatment, prevention, and scaling-up, there were an estimated 1.5 million new HIV infections and 6 600 deaths from HIV/AIDS-related illnesses in 2021 (Ugwu & Ncayiyana 2021:1). Jin, Restar & Beyrer (2021:13) suggests that, despite progress in ART coverage and expanding access to HIV-prevention services, the epidemics of West, Central, East, and Southern Africa continued in 2020, with incidence rates too high to achieve epidemic control in many African countries. Across Africa, prevalence of HIV. Incidence rates in many African nations remained unacceptably high, making it challenging to achieve epidemic control. Throughout Africa, the highest prevalence of HIV and incidence rates are consistently observed among specific groups, including women and men engaged in sex work, men who have sexual relations with other men (MSM), individuals who inject drugs (PWID), transgender women involved with men, as well as prisoners and detainees.

2.2.2. The Sub-Saharan perspective

The sub-Saharan region of Africa is home to the world's most extensive HIV epidemic, constituting 70% of the global burden of HIV. Nearly one out of every twenty adults (5%) become infected annually. Recently, the World Health Organization (WHO) endorsed the 2022–2030 Global Health Sector Strategy (GHSS) aligned with the United Nations Sustainable Development Goal 3 (UN-SDGs-3). This strategy's primary objective is to combat HIV by reducing the global HIV burden by at least 50% in high-burden countries. To fulfil the targets set by the SDGs and the UNAIDS 2030 goal of reducing HIV, an effective surveillance system that employs advanced statistical models to comprehend the spatial distribution of HIV and to identify region-specific risk factors can be of great significance (UNAIDS 2021:np).

The sub-Saharan Africa region accounts for 64% of HIV-positive people globally (Avert 2018:2), with reports indicating that women of child-bearing age seem to be more likely to be infected with HIV than their male counterparts. Women in the age group of 15-24 years seem to be most vulnerable, with an estimated 5 500 women contracting HIV on a weekly basis (UNAIDS 2019:1,2; UNAIDS 2020:1).

According to Sarkar, Corso, Ebrahim-Zadeh, Kimc Charania & Wall (2019:1, 10), sub-Saharan Africa experienced a significant decline in new HIV infections by over 30% since 2010. Improved access to ART has resulted in a decrease in the number of AIDS-related deaths, with sub-Saharan Africa (especially eastern and southern Africa) reporting a decrease of 39% between 2005 and 2013 (Kharsany & Karim 2016:35).

After the introduction of HIV-prevention programmes there has been a 40% reduction of new HIV infections (UNAIDS 2020:2). Globally, progress has been made in curbing the HIV/AIDS epidemic through the introduction of antiretroviral treatment (ART) (WHO

2019:3). In 2020, an estimated 27.5 million HIV-positive people worldwide were reported to be on ART (WHO 2020:5). Of the estimated 6 000 new HIV infections occurring on a daily basis, two out of three are reportedly from sub-Saharan Africa (Kharsany & Karim 2016:35) The sub-Saharan Africa region accounted for 65% of new infections reported in 2017, as well as for 74% of the deaths caused by AIDS-related illnesses in 2013 (Kharsany & Karim 2016:35). In Africa, 51% of people were on antiretroviral treatment in 2018 and a further estimated 4.7 million people from sub-Saharan Africa are in need of ART (UNAIDS 2020:1).

HIV/AIDS remains the main cause of premature deaths (Avert 2018:1; Quan & McCarthy 2018:88). In 2020 it was reported that an estimated 32.7 million people globally have died due to HIV-related diseases and complications since the start of HIV epidemic. The introduction and access of ARTs in the mid-2000s, resulted in a decline in mortality from HIV-related cases of 34% from eastern and southern Africa and 60% from western and central Africa. According to Dwyer-Lindgren, Cork, Sligar, Steuben, Wilson, Provost, Mayala, Van der Heide, Collison, Hall, Biehl, Carter, Frank, Douwes-Schultz, Burstein, Casey, Deshpande, Earl, Bcheraoui, Farag, Henry, Kinyoki, Marczak, Nixon, Osgood-Zimmerman, Pigott, Reiner, Ross, Schaeffer, Smith, Weaver, Wiens, Eaton, Justman, Opio, Sartorius, Tanser, Wabiri, Piot, Murray & HayAn (2019:189), the HIV burden remains concentrated in sub-Saharan Africa, with the region (where around 71% of HIV-positive people live) accounting for 75% of the reported deaths. The UNAIDS 2020:1), further states that sub-Saharan Africa region accounted for 74% of the 1.5 million AIDS-related deaths in 2013. In addition, an estimated 12 million children under the age of 15 have reportedly lost a parent due to HIV/AIDS-related disease (UNAIDS 2020:1).

2.2.3 The South African perspective

South Africa, in the year 2021, was home to 8.3 million adults living with HIV (Chigozie, Ugwu & Ncayiyana 2022:1). Even with substantial advancements in the execution of control and intervention initiatives over time, South Africa still contributes to 20% of new HIV infections and houses 20% of the global population living with HIV (Chigozie et al 2022:1). This places South Africa at the forefront as the continent most heavily impacted by the HIV epidemic (StatsSA 2019:6). The South African population is estimated at 58.8 million, of which an estimated 8 million are living with HIV (StatSA 2019:6,-8). South Africa accounted for the highest number of new HIV infections (an estimated 200 000) in the sub-Saharan region in 2019, of which 140 000 were women and 86 000 were men. The populations that account for the highest prevalence of HIV infection in South Africa are men who have sex with men, transgender women, sex workers, and people who inject drugs (Avert 2019:1-2). AIDS-related fatalities have continued to be a significant issue in South Africa for over twenty years. Given the distinct age and gender-specific patterns of AIDS-related mortality and their subsequent effects on South Africa's population demographics, the estimation of HIV has been consistently integrated into the mid-year population estimation models. It's important to note that there are variations in the characteristics and consequences of the AIDS and COVID-19 pandemics (STATS SA 2021:5). However, there was a remarkable decrease in HIV infections in the youth aged 15-24 years (from 8.17% in 2002 to 4.30% in 2019). HIV prevalence varies from province to province, but KwaZulu-Natal (KZN) is the province most affected by the epidemic, with an estimated 27.9% of people living with HIV in 2012, most of whom are young women (Kharsan et al. 2019:2).

Several factors contribute to the increase in the number of PLHIV, including gender-based violence and low socio-economic status, with women being the most affected. Additionally, 57% of HIV infections can be linked to the sex workers' industry and 18.1% includes men having sex with men and intergenerational sexual relationships between young women and older men. Other contributing factors relate to poverty and low education levels, risky sexual behaviour, and unsafe sexual practices (Avert 2019:1-3, 6). Research by Rustein, Ananworanich, Fidler, Johnson, Sanders, Sued et al. (2017:1) opines that unsuccessful preventative initiatives and unsuppressed viral loads in people who are on ART can be regarded as the cause of the high HIV infection rate.

South Africa has one the largest ART programmes globally and the success thereof is evident in the increase of life expectancy from 56 years in 2010 to 63 years in 2018 (UNAIDS 2020:2). Globally, South Africa is regarded as having the largest ART programme, with over 4.4 million people enrolled on the programme (Siedner 2019:101). Although much has been achieved by the country's HIV treatment programme, with approximately 3.5 million people on HIV treatment today, the number of new HIV infections is very high, with an estimated 340 000 new HIV infections in 2014 (UNAIDS 2020:2).

The decline in HIV-related deaths is attributed to improved access to ART over the years (SANAC 2019:16). The estimated number of AIDS-related deaths has declined consistently, with a decrease from 272 093 in 2007 to 79 625 in 2020. This is due to the increase in the number of people who are accessing HIV treatment, as well as the success of HIV preventive programmes (StatSA 2019:6).

2.2.3.1 The South African National Strategic Plan 2017-2022

The South African National Strategic Plan (NSP) 2017-2022 is a framework that outlines the different structures in South Africa that assist in combating communicable diseases such as HIV, TB, and sexually transmitted infections (STIs), which pose major challenges to the health-care system. The national, provincial, and local governments, private sector, civil societies, and other stakeholders are involved in the development and implementation of NSP (Southern Africa National AIDS Council). The aim of the NSP (2017-2022) is to limit the spread of HIV, TB, and STIs in South Africa and is guided by the success and challenges experienced during previous years (Southern Africa National AIDS Council [SANAC] 2017:23). The NSP further aims to decrease new HIV infections by 50% through introduction of HIV preventive strategies and ensuring that 70% of people who started antiretroviral (ARV) treatment are retained on treatment (NDoH 2016:1).

Challenges encountered within the HIV/AIDS, TB, and STI programmes over the previous five years are also highlighted within the current NSP (2017-2022) and the goals and objectives for the next five years are set out. The current NSP has set out targets that will assist in decreasing new cases of HIV infection, increase the ART eligibility criteria, and eliminate stigma and discrimination directed towards HIV-positive people and those co-infected with TB (SANAC 2017:10,24).

2.2.3.2 HIV/AIDS programmes

The South African government’s proactive response to the HIV/AIDS epidemic has been regarded as the most important milestone in the fight against the disease (Avert 2017:5). The South African Department of Health, together with assistance from non-government organisations (NGOs), developed plans to prevent new HIV infections and to provide treatment for all people affected with HIV. Strategies that prevent new HIV infections and allow for the provision of treatment for HIV-positive people were developed and HIV testing services were made accessible at all levels of care, including primary health care (Avert 2017:5; NDoH 2016:1,2).

HIV/AIDS prevention programmes

South Africa has implemented a number of HIV preventive programmes in an attempt to decrease the annual number of new HIV infections to fewer than 10 000 by 2022 (Kuhn 2018:6). HIV prevention programmes aim to limit the transmission of HIV and protect individuals and communities using biomedical, behavioural, and structural strategic interventions (Avert 2019:2). The implementation of the mother-to-child-transmission (MTCT) programme has been an important initiative that saves the lives of children born to HIV-positive mothers (Kuhn 2018:6). Pregnant women are encouraged to adhere to ARV treatment throughout pregnancy, during delivery, and for the duration of the breastfeeding period (Avert 2019:8).

Condom distribution and usage programmes are another form of intervention employed to prevent the spread of HIV, with male and female condoms made available in facilities' waiting areas, bathrooms, and consulting rooms (NDoH 2020:2). When used consistently and correctly, condoms can provide a protection rate of over 80% and are regarded as the most effective strategy for preventing the spread of HIV. Although the distribution of condoms might have increased over the years, evidence shows that condoms usage is declining, which could indicate that people are not using the condoms as a form of sexual protection (Avert 2017:8). An estimated 56% of adults with multiple sexual partners have reported that they do make use of condoms as a form of protection. However, a South African youth behaviour survey shows that only 40% of young males and 30% of females use condoms during sexual intercourse (Kanda & Mash 2018:1). The South African National AIDS Council aimed to increase the rate of condom usage by setting a target to distribute 850 million condoms between 2018 and 2019 (NSP 2017:27) and 40 million condoms in 2022 (SANAC 2018:5). SANAC distributed over 26 million female condoms and this programme was one of the biggest globally (Avert 2019:8).

A research study conducted in sub-Saharan Africa in 2010 concluded that the introduction of voluntary medical male circumcision (VMMC) can reduce the number of sexual partners transmitting HIV to their partners by 60% (Avert 2019:9). The National Department of Health in South Africa rolled out the national VMMC programme in 2016, with the aim of reaching an estimated 2.4 million men over a four-year period (NSP 2017:4). The VMMC programme was well received in South Africa and it was reported that many females encourage their male partners to circumcise, leading to an estimated 4.3 million circumcisions by 2016 (Avert 2019:9). According to TchuencheI, Njeuhmeli, Schutte, Ngubeni, Martin, Loykissoonlal, Kiggundu, Yansaneh & Forsythe (2018:2), 4.3 million South African men were targeted to be circumcised between 2010 and 2016. However, by early 2015 progress was lagging, with only 43% of this target being achieved. Although this target was missed, around 32% of adult men (ages 15-64) had been successfully medically circumcised by 2017. South Africa is continuing to increase the number of circumcisions, with more than 572,000 circumcisions performed in 2018 (compared to 485 500 in 2015) (Avert 2019:9).

In 2015, WHO recommended that all people who tested negative for HIV but who were at risk of acquiring HIV infection must be offered daily oral HIV pre-exposure prophylaxis (PrEP) drugs as a form of HIV prevention (NDoH 2016:5). The post exposure prophylaxis (PrEP) is an HIV-prevention approach whereby individuals take ART medication within 72 hours of exposure to HIV in any form. The PREP intervention should be based on individual risk assessment (NDoH 2016:5) and the medication should be taken over a period of 28 days (NDoH 2020:2). HIV prevention programmes such as VMMC, PMTCT strategies, distribution of condoms, and PREP interventions have had remarkable results in reducing HIV transmission rates (Sark et al. 2019:10)

HIV testing programmes

The main point of entry in the HIV continuum is through HIV testing services. As such, South Africa has over 40 000 public health facilities that are offering HIV testing services (NDoH 2016:1,9). HIV Testing Services (HTS) and counselling are an important step in the HIV-care continuum (Olaboye, Maddocks, Hanas-Hancock & Chetty 2020:263). South Africa has made significant progress in getting the majority of people tested for HIV by introducing HTS in 2010. The introduction of the HIV testing and revitalisation strategy in 2013 also contributed, as it focused on getting more people from the private sector, remote areas, and higher learning institutions tested for HIV (Avert 2019:1,7).

The HIV Counselling and Testing programme (HCT) entails comprehensive HIV services that need to be provided together with HIV testing. These services include counselling; screening; testing; and linking patients to HIV preventive, treatment, and support services. The HIV services offered include a full range of different health-care approaches. One of these services is provider-initiated counselling and testing (PICT), whereby HIV services are initiated and offered by nurses to all clients seeking health care in public health facilities. Another approach to curbing HIV infections is client-initiated counselling and testing (CICT), which is also known as voluntary counselling and testing (VCT). CICT entails clients voluntarily presenting themselves to health-care facilities for HIV testing services (NDoH 2016:15).

The South African National HIV Testing Policy (2016) advocates for HIV self-screening (HIVSS) as an effort to expand the HIV testing services, especially amongst the under-tested and undiagnosed population. HIVSS is a voluntary act whereby a person collects their own oral fluid, does the screening, and interprets the results in a private setting (NDoH 2016:16). Furthermore, HIV testing services were made accessible at all service points (such as maternal and pregnant-women services, STI services, TB services, mobile services, and outpatient services). The 90-90-90 strategy which means that 90% of people needs to be tested for HIV, 90% of people living with HIV must be initiated on antiretroviral treatment and 90% of people living with HIV needs to be virally suppressed and retained in the system. The 90-90-90 strategy was implemented at a community level is also used in HIV management services that encourage early HIV testing and initiation of treatment soon after an HIV diagnosis (Marinda, Simbayi, Zuma, Zungu, Moyo, Kondlo, Jooste, Nadol, Igumbor, Dietrich and Briggs-Hagen 2020:2).

South African antiretroviral treatment programme

In 2004, the President's Emergency Plan for AIDS Relief (PEPFAR) started providing antiretroviral treatment to eligible individuals in South Africa (Cloete, Regan, Giddy, Govender & Erlanger 2014:1). The initial ART programme that was rolled out in hospitals across the country was doctor centred. In order to ensure that hospitals were adequately prepared to render HIV services, certain criteria had to be met for eligibility to provide ART (Long, Rosen, Brenham, Sauls, Evans, Modi & Fox 2016:2; Simelela & Venter 2014:250). A series of procedures and steps also had to be followed before initiation of antiretroviral treatment, starting with HIV testing with pre- and post-testing counselling, adherence counselling, linking to treatment, and retention in care (Avert 2017:2).

The South African ART programme has undergone expansion while keeping up with the WHO's changing recommendations and guidelines and has made remarkable progress in the 20 years since the introduction of ART in 2004 (UNAIDS 2016:2). In

2004, the ART initiation criteria for clients diagnosed with HIV was based on eligibility criteria of CD4 <200 cells/mm3, irrespective of WHO clinical staging. However, special groups such as pregnant women, infants, and individuals co-infected with TB were eligible for ART irrespective of their CD4 count or WHO clinical staging. In 2009 the eligibility criteria changed and was based on a CD4 count of <350 cells/mm3 or less for pregnant women, TB co-infected clients, WHO clinical stage IV, and those who suffered from MDR/XDR TB (NDoH 2010:2,7). However, in 2014, the eligibility criteria changed again, allowing patients with CD4 count of 500 cells/mm3 to access ART (NDoH 2016:1). These changes allowed for increased ARV access.

Since 2016, people diagnosed with HIV are eligible for ART (regardless of their CD4 cell count or WHO clinical stage) and pregnant women, children, and people with advance HIV disease are regarded as vulnerable groups and receive priority attention to fast track the initiation of ART (NDoH 2019:3). This change in eligibility requirements allowed more patients to access antiretroviral treatment, resulting in improved health outcomes, deceased mortality related to HIV/AIDS, and an increase in life expectancy (UNAIDS 2018:4).

Nurse-initiation of antiretroviral treatment programme

South Africa has more health care professionals (such as doctors and nurses) than neighbouring countries within the sub-Saharan Africa region (Senkubuge 2018:15). Nurses are regarded as the backbone of the health-care system. This is particularly true in primary health-care settings, where nursing personnel are responsible for the day-to-day functioning of clinics (NDoH 2016:3). Due to the large volume of patients on ART, coupled with clients having to travel long distances to reach hospitals, the nurse-initiation-management of antiretroviral (NIMART) programme was introduced. The aim of the NIMART programme is to increase access to antiretroviral treatment, reduce travelling costs to hospitals far removed from local communities, capacitate nurses working in HIV services, and implement evidence-based systems improvement strategies (NDoH 2017:6,8). In 2010, the National Department of Health in South Africa implemented a policy on nurse-initiated management of antiretroviral treatment, decentralising antiretroviral services from hospitals to primary health-care clinics. This meant that professional nurses working in primary health-care clinics were responsible for screening, initiating, and monitoring HIV-positive patients on ART, while complicated HIV cases were referred to hospitals to be managed by doctors. Nurses who work in primary health-care settings were mentored and trained by doctors on initiation of antiretroviral treatment in preparation to manage uncomplicated HIV disease (Jones & Cameron 2017:839; Long, Rosen, Brennan, Moyo, Sauls, Evans, Modi & Fox 2016:2; NDoH 2010:16,21). Overloaded hospitals referred stable patients on ART to PHC clinics to be under the care of professional nurses (NDoH 2016:4).

The 90-90-90 HIV strategy

In 2013, UNAIDS made a global call for all countries to establish new HIV treatment targets to upscale HIV services. As a result, South Africa formally adopted the UNAIDS 90-90-90 new treatment targets (SANAC 2016:19). The 90-90-90 targets are guiding principles that aim to ensure that 90% of HIV-positive people know their status; 90% of people diagnosed with HIV are initiated on treatment; and 90% of people on antiretroviral treatment have a supressed viral load (UNAIDS 2018:1). In other words, the 90-90-90 strategy is a clinical management approach whereby individuals who test positive for HIV are linked to care for initiation of ART and retained in HIV care in order to achieve viral suppression (UNAIDS 2017:4). The appropriate screening, diagnosing, and managing of clients living with HIV is necessary in order to reduce the number of children born HIV positive, and to reduce the number of HIV-related deaths and complications. Furthermore, linking HIV-positive individuals to care is important to improve health outcomes of patients and to reach the UNAIDS 90-90-90 treatment targets (Meehan, Sloot, Draper, Naidoo, Burger & Beyers 2018:2).

The UNAIDS 90-90-90 strategy emphasises the importance of clients receiving all the necessary health information and HIV care when seeking medical assistance in health-care facilities. Clients should also be screened for any underlying diseases, all of which should be managed with urgency where applicable, as this will assist in avoiding misdiagnosing and mismanagement of comorbidities (Health Systems Trust Clinicians Guide 2016:11). South Africa has made remarkable progress in combating the HIV epidemic across the country through reaching some of the UNAIDS 90-90-90 targets, namely HIV testing and viral suppression (UNAIDS 2018:1). According to (CDC South Africa 2023:np) the country has provided support on ART services for over 2 million people living with HIV. Additionally, 76% of people living with HIV received antiretroviral treatment and an estimated 93% of people on ART have been virally suppressed.

The HIV Universal Test and Treat Strategy

In 2015, WHO announced that individuals infected with HIV need to be started on antiretroviral treatment soon after diagnosis, regardless of CD4 count and WHO clinical staging eligibility criteria (WHO 2015:26). South Africa introduced the HIV Universal Test and Treat (UTT) Strategy in 2016 to further expand the HIV/AIDS programme by allowing same-day initiation of ART (Avert 2019:1). The UTT strategy was introduced as an intervention to prevent HIV infection by offering counselling, testing and initiation of treatment soon after HIV diagnosis. The UTT strategy is described as an HIV-management approach whereby all HIV-infected individuals must be started on antiretroviral treatment within seven days after a positive HIV test result, irrespective of their CD4 count. That meant that WHO clinical staging and CD4 count were no longer regarded as criteria for initiation of ART (Baggaley & Hollingsworth 2020:306; NDoH 2016:2).

Early initiation of antiretroviral treatment is associated with improved health outcomes and may assist in prolonging the lives of HIV-positive people, limit HIV transmission between partners, and decrease the occurrence of opportunistic infections (Health Systems Trust 2016:15; Plazy, Farouki, Iwuji, Okesola, Orne- Gliemann, Larmarange, Lert, Louise-Newell, Dabis & Dray-Spira 2016:1). It was hoped that the implementation of the UTT strategy would result in a reduction of new HIV infections, as well as a decrease in the HIV-related mortality rate (Girum, Yasin, Wasie, Shumbej, Bekele & Zeleke 2020:1). The ART scale-up through Universal Test and Treat Strategy in the sub-Saharan Africa region has led to significant progress in reducing the HIV incidence and mortality rate (Thelancet 2020:306). The implementation of UTT strategy for HIV directly supported the UNAIDS 90-90-90 targets in ensuring that people who test positive for HIV get treatment immediately and are linked in to care, removing the CD4 count eligibility criteria. UTT was implemented to improve case finding and implement the strategies of the 2016 National HIV Testing Services (HTS) Policy and the 2016 HIV Disclosure guidelines (Pillay 2016:3).

2.3 HEALTH CARE SYSTEM-RELATED CHALLENGES IN THE HIV/AIDS ERA

The health-care system faces many system- and patient-related challenges that may impact on the quality of care (Tellie 2016:120). Often policies and guidelines within the ART programme are poorly implemented and understood (de Wet & du Plooy 2012:35). The South African provincial structures have autonomy regarding implementation of ARV treatment programmes. This can result in policies and guidelines being interpreted differently, which may cause delay in treatment initiation with negative consequences (Venter 2012/2013:38).

The low uptake of HIV-testing services results in late HIV diagnosis and delayed access to treatment, care, and overall HIV-prevention interventions. Despite strategies implemented to upscale HIV services, the number of patients enrolled in the antiretroviral treatment programme in South Africa remains low, particularly among young women and girls (Duby, Jonas, Appollis, Maruping, Dietrich, Van Leeuw & Mathews 2020:215). Once patients are diagnosed with HIV it is crucial that they are initiated on antiretroviral treatment as soon as possible, but studies in sub-Saharan Africa have shown that clients who tested positive for HIV still delay accessing HIV treatment (Plazy, Farouki, Iwuji, Okesola, Orne-Gliemann, Larmarange, Lert, Newell, Dabis & Dray-Spira 2016:2). The inadequate uptake of HIV services has been linked to an increase in AIDS-related deaths in sub-Saharan Africa (Duby, et al. 2020:215).

2.3.1 Patient-related challenges

It is not always easy to accept an HIV-positive diagnosis and many patients go into a state of denial. The shock of being diagnosed with HIV can be intense and may cause patients to attempt suicide (Bell, Sharma, Malone, Levy, Reast, Little, et al. 2019:128; Bidwell 2014:3). Not accepting their HIV-positive status can make disclosure very stressful and bring about mixed emotions, because they can never be sure how people will react – some may be accepting and show support and love, while others may have difficulty accepting such news. Disclosing an HIV-positive status to one’s sexual partner can be difficult, as one’s partner may fear the risk of being infected with HIV and may end the relationship. Women who are in a new relationship might also fear disclosing their HIV status to their partners because they might be rejected (Thewell Project 2019:1).

Patients often start ARV treatment late or they do not start treatment at all (Bidwell 2014:1; Ramathuba & Davhana-Maselele 2013:10). Mabelane, Marincowitz, Ogunbanjo & Govendern (2015:2) suggests that those patients who have challenges adhering to their ART treatment will experience negative health outcomes. Often, patients who do not disclose their status to partners and family also hide their treatment and have to take it secretly, making adherence to ART difficult. According to Davey, Kehoe, Serrao, Prins, Mkhize, Hlophe, Sejake & Malonen (2020:1-2), the time between testing positive for HIV and initiation of ART still remains high among the population in the sub-Saharan Africa region, with some patients indicating that one of the challenges encountered is the frequent and ongoing clinic visits and long waiting times that they encounter. The Health Systems Trust (2019:4) states that, in order to control the HIV epidemic, it is important that all people who test positive for HIV be linked to a health-care facility where they can receive care before the progression of the HIV disease. It is important to have measures in place to promptly link HIV-positive people to care, as far as possible on the same day as HIV diagnosis (Hopkins, Doherty & Gray 2018:5).

2.3.2 Nurse-related challenges

Caring for HIV-positive patients comes with unique challenges (Haoses-Gorases Haoses-Gorases, Katjire & Goraseb 2013:92). The care for these patients is very demanding: unknown illness trajectory increases nurses' workloads amidst staff shortages, which leads to nurses' inability to meet patients' expectations and needs (Mammbona & Mavhandu-Mudzusi 2018:145; Sanches, Souza & Lima 2018:281). The shortage of health-care workers has been regarded as one of the biggest challenges in expanding the ART delivery system, particularly in rural areas where recruiting and retaining human resources becomes a major challenge (Mabelane, Marincowitz, Ogubanjo & Govender 2015:1). An increase in the workload of nurses who work in primary health-care facilities and lack of training on clinical management of HIV are some of the many problems experienced. Limited knowledge of HIV/ AIDS can lead to misdiagnosis of HIV and other opportunistic infections (Koto and Maharaj 2016:57). The increase in nurses' stress levels due to being overworked makes managing HIV-positive individuals very difficult (Mohangi & Pretorius 2017:160).

Successful implementation of the UTT programme relies on collaborative strategies that involve ongoing in-service education, formal and informal training measures, services reorganisation, and the mentoring, coaching, and supervision of clinic health-care workers (including trained nurses that will implement the programme). However, if such programmes are being introduced and implemented without managerial support they can end up being less effective and, with already-limited resources, can result in compromised patient outcomes (Crowley & Mayers 2015:6).

2.4 SUMMARY

In this chapter, the researcher discussed literature about the HIV/AIDS epidemic, starting from the global to the local perspective. The researcher further discussed the

National Strategic Plan 2017-2022, the HIV/AIDS preventive programmes in South Africa, the HIV-testing programme, and the South African antiretroviral treatment programme. The researcher also reflected on the ART programme in South Africa, the HIV UTT strategy, and the challenges faced by the health-care system in the HIV/AIDS era (health-system-related challenges and nurses-related challenges).

In the next chapter the researcher will discuss the research design and methodology used to conduct the study.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, the researcher discussed the relevant literature with the aim of gaining a better understanding of the phenomenon under study and to provide the context in which the research problem exists. The researcher also reviewed literature that includes information on the HIV/AIDS epidemic globally, in sub-Saharan Africa, and in South Africa. In this chapter, the researcher discusses the research design and methodology used to reach the study objectives, measures to ensure trustworthiness, and ethical considerations.

The purpose statement of a study summarises the study goal and identifies key concepts and the relevant population (Polit & Beck 2021:85). The purpose statement for this study is:

To gain an understanding of the challenges experienced by nurses in the implementation of the HIV Universal Test and Treat (UTT) Strategy in King Cetshwayo District, in the KwaZulu-Natal province of South Africa.

The objectives that guided the study are:

- To explore and describe the challenges that nurses who work in primary health-care clinics face regarding the HIV Universal Test and Treat Strategy.
- To identify factors that impact the roll-out of the HIV Universal Test and Treat strategy.

Researchers develop research questions to give answers to the research problem (Polit & Beck 2021:85). The following research questions guided the study:

- What challenges are nurses who work in primary healthcare clinics facing regarding the HIV Universal Test and Treat?
- What factors impact the roll-out of the HIV Universal Test and Treat Strategy?

This study was conducted using a descriptive phenomenology research design. The following is a discussion of the research design and methodology used to conduct the study:

3.2 RESEARCH DESIGN

Researchers use research designs to plan and organise their studies to provide evidence that answers research questions (Saks & Allsop 2019:25). No research design is considered superior to the other, since the best design for a study is chosen based on what is most appropriate for the research purpose or research problem statement (Creswell 2014:32), as well as the type of data that is required to understand the phenomenon under study (Grossoehme 2015:8). Different research approaches that can be used by researchers include qualitative, quantitative, or mixed method approaches. The approach chosen depends on the type of enquiry (Creswell & Creswell 2018:60).

3.2.1 Qualitative research approach

For this study, a qualitative research approach was chosen. Qualitative research approaches are used by researchers to gain an understanding of rich descriptions of the lived experiences of people. The approach is chosen before the start of data collection and the design typically evolves over the course of the study (Fain 2017:181). Qualitative studies use an emergent design – the design takes place while the study is being conducted, as the researcher makes decisions and reflects on what has already been learned so that the findings can reflect the viewpoints and realities of the participants (Polit & Beck 2021:463).

3.2.1.1 Characteristics of qualitative research approach

Although qualitative designs can be used in different disciplines, the characteristics of qualitative research designs remain the same across all disciplines (Polit & Beck 2021:463). Qualitative research is based on an underlying philosophical tradition that provides direction to researchers as to which research design to use for a given study.

Polit and Beck (2021:741) state that researchers who are interested in exploring and understanding human experiences in any given situation or phenomenon are more likely to use a qualitative research approach. Qualitative research is closely associated with the experiences of people, words, or even language, rather than numerical figures and measurements. Qualitative research is flexible, able to adjust to new information during the data-collection process, and seeks to understand the whole qualitative research process (Polit & Beck 2021:463). Qualitative researchers become intensely involved in the study. Several qualitative designs are available for researchers to use when conducting a study (Bradshaw, Atkinson & Doody 2017:1), namely: narrative, phenomenology, grounded theory, ethnography, and case study research (Creswell 2013:104).

3.2.1.2 Descriptive research designs

The purpose of descriptive research studies is to explore, describe, and document the situation in which a phenomenon occurs. A descriptive research design can be used to get information concerning the current status of a phenomenon while observing participants in their natural settings. This allows for the collection of comprehensive information that can inform important recommendations around the phenomenon under study (Polit & Beck 2021:206). A descriptive research design intends to get an in-depth understanding of the phenomenon under study, with the emphasis on literal description and further understanding of a human phenomenon through analysis and interpretation of the meaning people ascribe to their everyday experiences (Bradshaw, Atkinson & Doody 2017:2). For this study, the researcher intends to describe the challenges nurses experience regarding the implementation of the HIV Universal Test and Treat Strategy in two primary health-care clinics in one district, as well as to identify the factors that impact the roll-out of the UTT strategy. This design was used to allow participants to provide comprehensive descriptions of their experiences pertaining to the phenomenon under study, through the use of a semi-structured interview guide.

3.2.2 Phenomenological research

According to Polit and Beck (2021:471), phenomenology seeks to examine human experiences and aims to describe people's experiences of certain phenomena, how they interpret the experience, and the meaning that the experience holds for them. Phenomenology research is widely used by researchers to identify and describe the lived experiences of participants pertaining to a phenomenon (Creswell & Creswell 2018:249; Fain 2017:182; Giorgi, Giorgi & Morley 2017:178). In this study, the researcher used a descriptive phenomenology research design because it allowed the researcher to explore and describe the challenges that nurses who work in primary health-care clinics face pertaining to the implementation of the HIV UTT strategy, as well as factors that impact the roll-out of this strategy.

Phenomenological research focuses on the lived experiences of people in a given time i.e., understanding people's everyday life experiences. Phenomenologists believe that the main truth about reality is often grounded in people's lived experiences (Polit & Beck 2021:471).

3.2.2 Descriptive phenomenological research design

Descriptive research's main objective is to accurately portray people's characteristics or circumstances and/or the frequency with which the phenomenon under study occurs. In describing the human experiences, the descriptive phenomenology study design consists of several steps that need to be adhered to throughout a study. These steps include bracketing, intuiting, analysing, and describing (Polit & Beck 2021:471,726).

For this study, the researcher chose a descriptive phenomenological study design because this approach allowed the researcher to describe participants' everyday experiences pertaining to the HIV UTT Strategy in two primary health-care clinics in one district in KZN. The descriptive phenomenology design allowed the researcher to 1) explore and describe the challenges experienced by nurses who worked in two primary health-care clinics pertaining to the implementation of the HIV Universal Test and Treat Strategy and 2) identify factors that impact the roll-out of the HIV Universal Test and Treat Strategy.

The following is a description of the four steps in descriptive phenomenology research used to conduct the study, namely: bracketing, intuiting, analysing, and describing (Polit & Beck 2021:471).

- ***Bracketing***

Descriptive phenomenology design consists of important phases that guide the researcher to conduct the study in the most professional, unbiased, and ethical manner possible. The first step entails bracketing, which is observed by researchers when they identify and set aside any preconceived ideas about the phenomenon under investigation (Creswell & Creswell 2018:261). Bracketing can be used to enhance the validity of data collection and analysis (Chen, Fung & Chien 2013:1). Bracketing promotes awareness and researchers are therefore able to note any preconceived ideas about the phenomenon under study (Polit & Beck 2021:471).

To guard against bias in making judgement and to increase the credibility of a study, researchers can rely on the process of reflexivity (Polit & Beck 2021:179). As an active participant of the study, the researcher reflected and identified any pre-conceived ideas about the phenomenon under study and wrote them down. The researcher also had to bracket and block any pre-existing knowledge she might have had regarding the challenges experience by nurses pertaining to the HIV UTT, in order to deal with any bias on the side of the researcher.

- ***Intuiting***

Researchers should remain open to the meaning of participants' experiences regarding the phenomenon under study and, through that meaning, begin to analyse the data (Polit & Beck 2021:472). According to Greening (2017:90), a common understanding of the phenomenon is reached, and the process of intuiting requires that the researcher becomes deeply involved in the phenomenon and processes of the study. The researcher become absorbed in the phenomenon without layering it with existing knowledge and what he or she already brackets out. During intuiting, the researcher gained an understanding of the challenges faced by nurses who worked in two primary health-care clinics in one district in KwaZulu-Natal pertaining to the HIV UTT strategy, as well as factors that impact the roll-out thereof. The researcher used open-ended questions during the interview process to get comprehensive data, since interviews are known to be one of the most widely used knowledge-generating techniques in qualitative research. All the interviews were transcribed verbatim and categorised.

- ***Analysing***

Analysing is the third step in descriptive phenomenology research. The researcher organises data in an attempt to make meaning of the phenomenon and to answer the research question(s) (Greening 2019:90). During the analysis process similar statements are gathered and categorised, and similar meaning is attached to the phenomenon being studied. Generally, phenomenologists recommend the use of a holistic approach that involves the interpreting of the narrative data as a whole and identification of important themes (Polit & Beck 2021:541,719). The researcher coded the data into themes and sub-themes. An independent co-coder was also used and consensus on the identified themes and sub-themes was reached between the researcher and co-coder.

- ***Describing***

Description is the most important and final methodology step in descriptive phenomenology. It is characterised by the researcher providing a comprehensive verbal and written description of the phenomenon under study (Greening 2019:90). During this stage the researcher observes and records aspects of the study as they naturally occur during the research process. The researcher is advised to avoid prematurely describing the phenomenon (Bradshaw, Atkinson & Doody 2017:3). The findings of the study were described, and related literature was used to make sense thereof. Discussions of the findings are in Chapter Four.

3.3 RESEARCH METHOD

Research methods are techniques used by researchers to conduct studies and to gather and analyse data in a systematic way (Polit & Beck 2021:743). Methodology includes the methods and philosophical principles that guide the researcher on technical issues as to which data collection and analysis methods to use when conducting a study (Green &

Thorogood 2018:386). This study was based on a constructivist paradigm that guided the methodology of the study. The researcher holds the view that reality is diverse and subjective, shaped by individual perspectives. Through direct engagement with participants, the study's outcomes are the outcome of these interactive processes.

The discussion that follows includes the study setting, population, sampling and sample size, data collection, data analysis, rigour, and ethical considerations.

Figure 1.1: KwaZulu-Natal map Source: (KZN top business 2022:np)

3.3.1 Study setting

The settings in which the study took place include two primary health-care clinics situated within King Cetshwayo district in KwaZulu-Natal (Figure 3.1). The district was previously known as Uthungulu and was later (2016) called King Cetshwayo district. It is situated in the north-eastern part of KZN on the eastern seaboard of South Arica and consists of six local municipalities. In the northern part of the King Cetshwayo district, there is uMkhanyakude district, Zululand district in the north-west, uMzinyathi district in the north-east, and iLembe in the south. The district code is DC28 and the population in the district is estimated to be 982 726 as of 2019. The population consists of 52.6% females, the majority of the people speak isiZulu, and racial makeup consists of 94% African and 3.2% Whites. The district offices are based in Richards Bay, and 80% of the district population and household is regarded as rural. In terms of health-care services, there is only one tertiary hospital, one regional hospital, six district hospitals, one CHC, 63 fixed clinics, and nineteen mobile clinics. The uMfolozi sub-district, where the study was conducted, does not have a district hospital and instead relies on the only tertiary hospital available (Ngwelezana Hospital) for district health-care services. HIV/AIDS is the leading cause of death in the district (accounting for 34.70% of all deaths) followed by Tuberculosis (at 22.7%) and lower respiratory tract infections (at 6.60%) (DCGTA 2020:np).

The two primary health-care clinics where the study was conducted are situated in the Mzingazi and Mbonambi catchment areas. Mzingazi has an estimated population of 6 000 people, while Mbonambi has an estimated population of 3 000 people. The Department of Health provides comprehensive primary health-care services, including HIV management for patients who are HIV positive, in both primary health-care clinics under community health care. Both primary health-care clinics are managed by two operational managers with a doctor that visits monthly. The overall number of staff members across the two clinics was 39, which included 20 clinical nurse practitioners, seven professional nurses, four enrolled nurses, three enrolled nursing assistants, and three lay counsellors. For the sake of this study, only fifteen nurses participated and the sample size consisted of seven nurses in total. In one primary health-care clinic, the health care services are provided from Monday to Friday from 7 am to 4 pm, while the other clinic provides 24-hour comprehensive health care services. However, HIV services are incorporated into the daily services offered by these clinics.

The researcher selected both sites purposefully as they both had the likelihood that the research problem existed, and the objectives of the study could be reached. These sites were also accessible to the researcher, as she worked in one of the primary health-care clinics prior to the study. Another reason for choosing these sites was that both clinics provide comprehensive primary health-care services, including HIV care, for all age groups. These sites allowed the researcher to explore the challenges experienced by nurses regarding the implementation of the HIV UTT strategy and to identify factors that impact the roll-out thereof.

3.3.2 Study population

According to Bhandari (2023:np), a study population is a group of people that the researcher is interested in learning more about. It is the entire group that the researcher wants to draw conclusions about. Qualitative research does not aim to generalise study findings, but seeks people who are eligible to participate in the study because they have experienced a certain phenomenon in their everyday life. Therefore, researchers are interested in identifying a population from whom rich, descriptive data can be collected (Polit & Beck 2021:491). For this study, the sample population comprised nurses who worked in two primary health-care clinics implementing the UTT strategy in one district in KwaZulu-Natal. The reason for including this population in the study was the likelihood that they were knowledgeable about the phenomenon under study, as they have experienced first-hand delivery of HIV UTT strategy services to HIV-positive patients and will be able to provide comprehensive information on the challenges experienced by nurses in implementing the HIV UTT strategy. The total number of staff members that took part in the study was fifteen, of which ten participants were clinical nurse practitioners, two were professional nurses, and three were enrolled nurses. The clinical nurse practitioners are primary health care trained; the professional nurses hold general nursing diplomas and are qualified in areas of community health, psychiatry, and midwifery; and the three enrolled nurses have certificates in nursing. The participants' experiences in the clinics ranges from two years to eighteen years.

3.3.3 Sampling

According to Polit & Beck (2021:743), a sample is a portion of the population that represents the whole population, or that gives a clear picture of the entire population. The primary aim of sampling is to identify potential participants that will help to answer the research question(s). There are different types of sampling. One of these is snowball sampling, when participants in a research study are asked to identify additional people who meet certain characteristics and are willing to participate in a research study. Another is convenience (or non-random) sampling, wherein the researcher collects data from easily accessible and available participants and where selection of participants is not done from a larger population. Convenience sampling saves time and money as it selects participants based on availability and meeting the study’s inclusion criteria (Fain 2017:143). Nursing studies generally use the non-probability sampling strategy because of the difficulties in getting access to study populations (Fain 2017:142). Sampling in phenomenology has a single guiding principle which stipulates that all participants must have experienced the phenomenon under study and be able to articulate their experiences until all the information needed to answer the research questions has been collected. If participants have experienced the phenomenon, they will be able to provide detailed information about their everyday experiences (Grossoehme 2015:8; Creswell 2014:239).

According to Speziale and Carpenter (2007:29), individuals are often invited to participate in a study as a result of their day-to-day experiences of a phenomenon and are usually actively involved in the study. This type of sampling is called purposive sampling. Purposive sampling is one of the most commonly used sampling methods in qualitative research and helps to identify and select information-rich cases related to the phenomenon under study (Palinkas, Horwitz, Green, Wisdom, Duan & Hoagwood 2015:1).

For this study, the researcher selected participants purposefully on the basis that they were most knowledgeable about the phenomenon under study and were seen as the ideal participants from whom data could be collected to reach the objectives of the study. Due to the limited number of nurses working in the primary health-care clinics, all of them were invited to participate in the study. The researcher could not determine the sample size upfront because data was collected up to the point of data saturation, which is when no new data emerged. Data saturation in this context meant that the researcher could not find any additional data from interviews (Dovetail 2023:np). At this point, 13 nurses had been interviewed, but the researcher interviewed two more participants to ensure that indeed no new themes were emerging. The final sample size was therefore a total of fifteen nurses.

3.3.3.1 Selection criteria

Nurses who met the inclusion criteria were invited to participate in the research study, while those who met the exclusion criteria were not invited to participate.

Inclusion criteria:

- Professional and enrolled nurses who worked in the two primary health-care clinics identified for the purposes of this study for longer than one year.
- Professional and enrolled nurses between the ages of 20 and 55 years, who care for HIV-positive individuals at the two primary health-care clinics.

*Exclusion criteria***:**

- Professional and enrolled nurses who worked in the two primary health-care clinics identified for purposes of the study for less than one year.

Professional and enrolled nurses younger than 20 and older than 56 years who care for HIV-positive individuals at the two primary health-care clinics.

- Non-nursing clinic staff members like data capturers, cleaners, and community health workers were also excluded from participation in the study.

The participants who were willing to participate and who fit the inclusion criteria included thirteen professional nurses and two enrolled nurses. The sample size for this study consisted of a total of ten nurses who work in the two primary health-care clinics in King Cetshwayo District in KZN and who provide comprehensive care to HIV-positive individuals. These clinics have implemented the HIV UTT strategy and the nurses, as staff members, could provide rich information on the implementation thereof.

Thus, nine nurses were selected from the one primary health-care clinic and six from the other. The youngest nurse was 31 years old and the oldest 55 years old. The number of years the participants worked in their respective clinics ranged from one to 27 years. The 10 professional nurses who participated in the study were all trained in clinical management of HIV (Nurse Initiated Management Antiretroviral Treatment). However, the three enrolled nurses and one community service professional nurse were not trained in the clinical management of HIV.

3.3.4 Data collection

Polit and Beck (2021:725) define data collection as the process of collecting data to address the research problem.

3.3.4.1 Data collection approach and method

The data-collection process forms an integral part of any research study and is of critical importance for the ultimate success of any study. Without high-quality data-collection techniques and procedures the credibility and accuracy of the research findings and conclusions can be challenged. The data-collection procedures include the steps that the researcher took to achieve the objectives of the study, the sampling methods used, collection of information through structured or unstructured interviews, and establishing protocol for the recording of interviews (Creswell & Creswell 2018:247,250).

Data collection is a systematic process. Interviews are the most common method of data collection in qualitative research and can include structured interviews, unstructured interviews, or in-depth interviews (Polit & Beck 2021:506,511). Observation is another form of data collection, characterised by the researcher taking field notes about the activities and behaviours of the participants displayed at the site of the research (Creswell & Creswell 2018:303). Depending on the research design selected by qualitative researchers they can use different data-collection methods (for example, ethnographers use a wide array of data, but observations and interviews are the primary method. They also use documents, records, artefacts, and photography). While phenomenologist and grounded theory researchers use in-depth interviews, documents and observations are also used by researchers doing grounded theory studies (Polit & Beck 2021:506). Multiple forms of data collection also form an integral part of the qualitative research (Creswell & Creswell 2018:249). If the researcher does not have an idea or understanding of what they do not know, unstructured interviews are used to obtain data (Polit & Beck 2021:509).

In phenomenological studies the main source of data collection is in-depth interviews, in which the researchers actively participate in the data-collection process by helping the participants describe their lived experiences by gaining access to their world. Semi-structured interviews are characterised by the researcher having prepared a list of open-ended questions, written as an interview guide to be used during the interviews held with all participants. Field notes also form part of the data-collection process and consist of unstructured observations and interpretations thereof (Polit & Beck 2021:471,510).

The researcher used multiple data sources to conduct this study, including one-on-one interviews using a semi-structured interview guide (Appendix Five) and field notes (Appendix Six).

3.3.4.2 Development of the data-collection instrument

According to Creswell and Creswell (2018:244), questions written in the interview guide need to be prepared prior to the interview and must be used consistently throughout the interview. An interview guide consists of a list of questions (of which there should be no more than 10) that must be posed to every participant. The interviewer’s role is to encourage the participants to talk freely about all the topics in the interview guide (Polit & Beck 2021:510). The interview guide was developed using the theoretical framework and related literature, as well as the objectives of the study.

Prior to conducting the study, the researcher piloted the interview guide. Four participants who were not included in the main study participated in the piloting of the interview guide and the findings were not included in the research report. The pilot interview allowed the researcher to test the feasibility of the research questions in the interview guide and to see if the participants will relate to the research problem. The findings of the pilot resulted in no change of the research questions in the interview guide (Appendix 5).

3.3.4.3 Characteristics of the data-collection instruments

The interview guide (Appendix Five) consists of two sections. Section A collected the demographic data of participants, while Section B consisted of three open-ended questions that had to be probed to collect comprehensive data on the challenges nurses experienced pertaining to the implementation of the HIV UTT strategy, as well as factors that impacted the roll-out thereof.

According to Polit and Beck (2021:521), field notes are important in qualitative research, they are analytic and interpretive than a simple listing of occurrences interpretive of the events that took place. Filed notes represent the researcher’s efforts to record participants’ information as it happened during data collection, as well as to understand and attach meaning to it. The field notes (Appendix Six) taken by the researcher during the interviews were the result of the observations. The researcher made descriptive and reflective notes of the things she heard, saw, experienced, and thought during the interviews. This helped the researcher to attach meaning to observations pertaining to participants’ non-verbal communication, gestures, tone of voice, and expressed emotions.

3.3.4.4 Data-collection process

The process of data-collection forms an integral part of any research design and is of critical importance for the overall success of the study. Without high-quality data-collection techniques and procedures, the accuracy and credibility of the research conclusions can be challenged (Creswell & Creswell 2018:247,250). According to Sutton & Austin (2015:226), the data-collection process in qualitative research is aimed at assisting researchers to access participants’ feelings in order to understand the phenomenon under study.

Gaining access to the study settings was a major task that the researcher had to accomplish prior to data collection. After ethics approval was obtained from Unisa’s Health Studies Research Ethics Committee [HSREC] (Appendix Two) and KZN Department of Health and institutions see Appendices Three and Four), the researcher called the unit managers of both clinics and requested a meeting to explain the nature and purpose of the study. On the appointment date the researcher met with the unit managers of both clinics and briefed them on the nature, purpose, and objectives of the study, as well as their role in helping to recruit participants. The unit manager was given a pamphlet with all the details of the study and asked to address the potential participants in the respective clinics. After addressing the participants, the unit managers compiled a list of those who showed interest in participating in the study and handed it over to the researcher. The researcher then contacted the potential participants to make interview appointments with them on a day and time that suited both the clinic and the potential participant.

On the day of the interview the researcher again explained the nature, purpose, and objectives of the study, as well as participants' roles. The potential participants were requested to read the information sheet that explained the nature of the study and their role in the study. The researcher clarified unclear wording from the consent form and participants' right to withdraw from the study at any stage of the research without any prejudice was verbalised. After all questions posed by participants were addressed and no further clarity was needed, the researcher requested that the participants sign the consent form prior to data collection. The ethical issues related to the participants' involvement in the study were explained, as was the data-collection process. The most convenient time to come back for interviews was determined and requested according to each individual's needs.

Interviews

Interviews are one of the most widely used data-collection methods in qualitative research and can be used alone or combined with other data-collection methods, such as field notes (Peters & Halcomb 2015:4). Interviews can be structured or unstructured verbal communication methods wherein information is exchanged between two or more people, such as the researcher and participants (Creswell & Creswell 2018:255). Qualitative research that uses interviews can provide deep insight into people's perspectives and beliefs. This can be true when a researcher observes people's behaviour and non-verbal communication like gestures, facial expressions, and expressed emotions. The interviewer can further use techniques like active listening and questioning to gain deeper understanding and meaning about a given phenomenon.

Qualitative interviews have defining characteristics, namely 1) they are flexible and consist of open-ended questions, 2) they focus on the lived experiences of people and how they interpret their world, and 3) the interviewer-interviewee relationship is crucial (King, Horrocks & Brooks 2019:2).

Following is a discussion of the different phases of the interview process:

- *The preparatory phase*

Semi-structured interviews are characterised by a structured set of topics to pose to each participant, but the researcher cannot predict how the participants are going to answer these questions (Polit & Beck 2021:744,746). For this study, the researcher prepared a list of open-ended questions to be covered during the interview in the form of a semi-structured interview guide.

- *Conducting the interviews*

The interviews were conducted over a period of seven weeks spanning from August to October 2019. The researcher was considerate of the most convenient times for each participant. The researcher used the interview guide to conduct the interviews and the participants were given an opportunity to respond to each question. The interviews were conducted in an honest, open, and sincere manner in one of the consulting rooms in the clinics. The environment was quiet, free from disturbances, and allowed participants to feel comfortable and safe. Each interview lasted approximately 20 to 40 minutes. Prior to conducting the interviews, rapport was established between the researcher and participants and seating arrangements were done in a manner that enhanced one-on-one interaction. The digital recorder and diary (for field notes) were also prepared for data collection. Water was made available in the interview room and the researcher explained to the participants that the interviews would take the form of a guided conversation, meaning that probing questions (which depended on the participant's response) were asked. The researcher obtained participants' permission to digitally record the interviews and reassured the participants that their information will be kept confidential throughout the study. The researcher showed respect for participants and was sensitive to the emotional climate of the interviews. Sensitive questions were asked later on during the interviews, when rapport between the researcher and participant was established. Participants was treated with dignity and their identity and all information they provided are treated as confidential. The researcher avoided asking embarrassing questions to avoid causing any harm to participants. The researcher was flexible, gave the participants time to reflect on the questions, and provided clarity where required. Time for probing was also allowed. There was minimal disruption during the interview process and any incidents (which ranged from a ringing cell phone to knocks at the door and noise from outside) did not hinder the progress of the interview, which was paused for a few seconds while attending to the minimal disruptions. Interviews were conducted until data saturation was reached. Participants were thanked at the end of each interview session.

- *Post-interview procedure*

Following each interview, the researcher chose a quiet place to listen attentively to the recorded interviews in order to determine completeness and audibility of the recordings, as recommended by Polit & Beck (2021:516). The time dedicated to analysing and checking the interview recordings allowed the researcher to determine the need for follow-up questioning and promptly implement corrective measures for any problems with the recording. The recordings were then transcribed verbatim by the researcher.

- *Field notes*

Polit and Beck (2021:521) describe field notes as a broader and interpretive data-collection method that should represent what the researcher has observed during the interviews, in an attempt to better understand the information that was recorded. Field notes are considered an important data-collection tool in the qualitative method of study. The researchers took field notes (Annexure 6) while conducting the interviews in case the audio recording device was not working. Field notes also allowed for a full description of what took place during the interview, including anything that could not be recorded audibly.

The researcher made descriptive notes, which are characterised by providing a description of observed activities, behaviours, and non-verbal responses displayed by the participants during the interviews. The researcher also took note of her personal responses during the interviews.

3.3.5 Data analysis

Qualitative data analysis is a process that includes a sequence of steps to be followed and that can range from specific to general and involve different levels of data analysis. In data analysis, organised steps must be used to analyse the different forms of qualitative data in order to eventually make sense out of the data collected (Creswell & Creswell 2018:251-252). The aim of data analysis is to enable the researcher to organise and provide meaning to the data collected. This can be achieved through repeatedly reading the transcripts to eventually grasp what is happening and understanding the data (Polit & Beck 2021:530).

For this study, the process of content analysis utilising Colaizzi’s steps was followed (Polit & Beck 2021:540). Qualitative content analysis refers to the analysis of content of narrative data to identify prominent themes and patterns among themes and involves breaking down data into smaller units (Polit & Beck 2021:537). According to Wei & Watson (2019:18), content analysis is a methodology that explores a phenomenon of interest using a theory as a guide. Data analysis is conducted inductively, and the researcher plays a role in turning the interpretations of the responses into meaningful data. Furthermore, the specific steps that need to be followed range from specific to general and often involve multiple levels of analysis (Creswell & Creswell 2018:250,261). The transcribed interviews obtained in this study were read several times to get an understanding of what is happening. The data was then coded to identify themes and sub-themes, thereafter an independent person was used to verify the identified themes and sub-themes. The independent coder signed a confidentiality agreement (Appendix 7).

The researcher identified four themes and nine categories which will be discussed in section 4.4 of the study.

According to Rodriguez and King (2015:np), descriptive phenomenology is concerned with showing the primary aims of a research study. These aims are the building blocks that define a research study and set it apart as different or unique from others. The researcher will next discuss Colaizzi's descriptive phenomenological steps to be applied during data analysis.

The steps in Colaizzi's descriptive phenomenological method are as follows:

1.Familiarisation. This is characterised by the researcher repeatedly reading through the participants' recorded data with the aim of understanding. In this study, the researcher read through the participants' recorded data repeatedly to familiarise herself with the aim thereof and to gain a general sense about the content of the transcribed data.

2.Identifying significant statements. This is when the researcher identifies all important statements that are closely linked to the research study.

3.Formulating meanings. This third step is characterised by careful studying of the statements and eventually drawing meaning from those significant statements. In achieving this, Colaizzi emphasises that the researcher needs to bracket her or his pre-existing knowledge on the phenomenon under study.

4.Clustering themes. This is the grouping of identified meanings into common themes in all accounts. In clustering the themes, it is important that the researcher brackets themselves to limit any possible influence on the phenomenon.

5.Developing an exhaustive description. In this step, the researcher writes a detailed description of the research study, including all the themes mentioned in the fourth step.

6.Producing the fundamental structure is characterised by the researcher summarising the exhaustive description into a short, detailed, and rich statement that includes all aspects that are important in the study.

7.Seeking verification of the fundamental structure, the researcher eventually goes back to the study participants' fundamental structure statements with the aim of establishing if they capture their real experiences. If feedback is different from the initial statements, the researcher can always go back and modify the steps and fit in the current feedback. Seeking verification of the fundamental structure, the researcher eventually goes back to the study participants to compare the research results with the participants' experiences.

3.3.6. Rigour of the study

Rigour in research depends on the frame on which the research is based. While undertaking cases of critical research, researchers should maintain their focus on the objectives of the research being carried out. Rigorous research is a highly effective type of study; however, it is important to establish the motive behind each study. The researcher will then provide a description on how rigour was maintained throughout the research (IvyPanda 2019:np).

Trustworthiness

In this study, trustworthiness was maintained using the five criteria described by Guba and Lincoln (1985): credibility, dependability, transferability, confirmability, and authenticity. Following is a description of the above criteria:

Credibility relates to the truthfulness of the research findings (Polit & Beck 2021:724). To maintain the study's credibility, the researcher implemented the principle of member checking, wherein participants were asked to validate that the researcher accurately understood the findings and that no misinterpretations occurred. Furthermore, credibility was upheld by the researcher's extended presence in the field, both during and after data collection. An additional measure involved engaging an independent coder to cross-validate all identified themes and sub-themes during data analysis, with any differences in interpretation resolved through consensus between the researcher and the independent coder. The researcher also used multiple data-collection sources, including interviews and field notes, to increase the credibility of the study.

Dependability refers to the consistency of data across various time frames and circumstances and serves as the counterpart to reliability in quantitative research (Polit & Beck 2021:726). The researcher provided a comprehensive account of the data collection methods, the analytical procedures, and an explanation of how the data interpretation indicates the potential for study replication. Furthermore, the researcher's supervisor, an experienced qualitative researcher, reviewed the research design and its execution. An independent coder was additionally employed to validate the identification of themes and sub-themes, and consensus on these aspects was reached between the researcher and the independent coder.

Confirmability guarantees that the findings, conclusion, and recommendations are supported by data and provides a means for addressing the researcher’s influences and biases (Rule & John 2011:107). To ensure confirmability, an audit trail, the interview guide, recorded interviews, written field notes, analysed data, and process notes were kept by the researcher. Instruments used in the study will be kept for 15 years after completion of the study for audit purposes.

Transferability is an alternative to generalisability and pertains to the degree to which a study's findings can be extended to different settings or different groups of participants (Nyathi 2018:135). The researcher provided a detailed explanation of the study design, data collection, and data analysis so that another researcher or reader can determine if the findings of the study can be applied in another, similar context. It is the reader who decides to transfer the study results (Rule & John 2011:105).

Authenticity is ensuring that the researcher has fairly shown a different range of realities as expressed by the participants (Polit & Beck 2021:720). The researcher used an interview guide to collect data during interviews, and probing was done during interviews to gain a better understanding of the everyday experiences of the phenomenon under study. Field notes were used to capture participants’ emotions and body language during the individual interviews.

3.4 ETHICAL CONSIDERATIONS

Ethics is described as a system of moral values that guide researchers to adhere to research procedures that are professional, legal, and socially ethical (Polit & Beck 2021:727). The researcher believes that it is important that ethical issues are taken into consideration when conducting research so as to ensure the findings are not biased.

The researcher applied the following ethical principles throughout the research study to ensure that the study was conducted in an ethical manner:

- **Voluntary participation**

Consent needs to be given freely by the potential participants of a research study, and participants need to understand fully what is expected from them. Therefore, prior to participation in a study, participants need to be well informed about the research, be able to comprehend information, and have freedom to choose whether to participate or not (Roshaidai & Arifin 2018:30). The researcher gave each participant an information sheet which explained the nature and purpose of the study, the risks and benefits of partaking, and their role as participants in the study. The researcher also indicated that participation is voluntary and reassured them that they have the right to withdraw from the study at any time without any prejudice towards them.

- **Informed consent**

According to Polit and Beck (2021:731), informed consent is one of the ethical principles that requires researchers to get participants to voluntarily agree to participate in the study after explaining the possible risks and benefits of the study to them. Informed consent to participate in the study was obtained from all the participants prior to the commencement of data collection. The researcher ensured that the rights, privacy, values, and needs of the participants are respected during the study. Prior to obtaining consent, the researcher also explained to participants the nature, purpose, objectives and potential risks and benefits of the study and what their role would be. Participants were also given an opportunity to ask questions before signing consent.

- **Confidentiality**

Confidentiality entails protection of the study participants by ensuring that their information is not made public (Polit & Beck 2021:723). A researcher ensures confidentiality of participants by protecting their names and identities during data collection, analysis, and reporting of the findings. Confidentiality is also maintained in the physical environment where interview sessions are conducted (Roshaidai & Arifin 2018:30). In this study the researcher ensured confidentiality and respect of participants throughout the study. The participants' names and contact details were excluded from the research reports. The researcher also ensured that the editor and co-coder signed a confidentiality agreement stipulating that they will keep all information pertaining to the study confidential. Another measure the researcher employed to ensure confidentiality is the use of pseudo numbers during data collection, ensuring that the data collected is not linked to any participant.

- **Respecting the human rights of the participants and informed consent**

The researcher ensured that the rights, privacy, values, and needs of participants were respected at all costs. During the early stages of the research, the researcher requested permission to conduct the study from the institutions where the prospective participants were working. The researcher also developed a research proposal which was approved by the Department of Health Studies Ethics Committee (Appendix Two). The KZN Department of Health granted permission to conduct the study (Appendix Three) and institutional permission was granted by the CEO and operational managers of both primary health-care clinics (Appendix Four). The rights of participants were explained prior to data collection, and the process of informed consent was followed prior to participants signing consent (Appendix One). The researcher reassured the participants that all research data will be kept confidential and that the researcher will provide feedback to participants during a feedback meeting.

- **Informed consent**

Obtaining informed consent requires that researchers provide participants with adequate information about the nature of the study, the purpose of the study, risk and benefits involved in participation, and the role of participants in the study. Such information will allow participants to make an informed decision on whether to participate in the study or not (Polit & Beck 2021:143). For this study, the researcher provided detailed information about the entire study process to the participants. Unclear wording was explained in detail on the informed consent forms and participants were advised of their rights to withdraw at any stage of research should they wish to do so. All participants signed informed consent prior to data collection.

- **The right to privacy**

Researchers have an obligation to ensure that participants' privacy is maintained at all costs, in every stage of the research, and the participants have the right to demand that their data be kept confidential (Polit & Beck 2021:141). Measures to maintain the privacy and confidentiality of participants' identities were employed and no names or any identifiable information were used in the research report. A unique number was also allocated to all participants. All data will be kept for a period of 15 years in a safe place. Electronic data is kept on a password-protected computer and hard copies in a locked cupboard to which only the researcher has access to.

- **Do no harm**

Participants should not be exposed to unnecessary discomfort and researchers need to ensure that participants are protected from any form of physical or emotional harm (Creswell & Creswell 2018:329). The researcher explained to the participants what their rights are and that they can withdraw from the study at any stage without any prejudice. The researcher strived to minimise the potential risk and maximise benefits by asking questions in a sensitive and non-judgemental way. Those participants who experienced emotional discomfort due to the sensitive nature of the questions posed were referred for counselling with the available social worker or psychologist, as arranged prior to data collection.

- **Principle of beneficence**

According to Polit and Beck (2021:139), researchers need to ensure that their research is conducted in a way that minimises any form of harm and increases the benefits of the study instead. A research study should not cause any form of harm to the participants, be it physical or psychological. However, it should be noted that psychological effects can often be difficult to identify and, in such cases, the researcher must refer participants for psychosocial support (Dimitrios, Antigoni & Kotrotsiou 2020:1468). The interviews were conducted in a well-secured and safe environment. The research study was done in a way that will benefit the public at large, as it aimed at looking at strategies that can improve HIV UTT service uptake at the clinic level of care.

- **Principle of non-maleficence**

Researchers must protect the wellbeing of research participants by removing any potential harm, be it emotional or physical harm or a negative impact on employment, social status, and financial standing (Heale & Shorten 2017:7). Polit and Beck (2021:139) emphasise that researchers are ethically obliged to avoid, limit, and prevent any form of harm to their participants. In this study, the researcher ensured protection of the participants through all the stages of the study by explaining the purpose the study and outlining all the potential risks and benefits involved. Participants were also afforded referral for psychosocial support should there be a need. Fortunately, no participants needed referral post interview.

3.5 SUMMARY

In this chapter the researcher discussed the research design; the methodology used to conduct the study; and the rationale behind the approach, highlighting its suitability to describe the lived experiences of participants. Measures taken to ensure trustworthiness and the ethical issues applicable to the study were also discussed. In Chapter Four, the researcher will discuss the data analysis and study findings.

CHAPTER FOUR: ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

In the previous chapter, the researcher described the research design and methodology used to conduct the study. In this chapter the researcher will describe the data-analysis process and the presentation and description of the research findings. The purpose of the study was to explore the challenges that nurses in primary health care face in the implementation of the HIV UTT strategy in a KwaZulu-Natal district.

4.2 DATA MANAGEMENT AND ANALYSIS

Data management in qualitative research studies involves several tasks prior to starting the analysis process. Data analysis can be described as a process of organising research data (Polit & Beck 2021:725). The data-analysis process aims to provide an understanding of the patterns of meanings derived from data concerning the lived experiences of participants. The researcher also strives to understand the meaning embedded in the experiences and then describe their experiences textually (Sundler, Lindberg, Nilsson & Palmer 2019:736). Creswell & Creswell (2018:260) argue that it is important for researchers to look at data analysis as a process that requires a sequence of steps (ranging from specific to general) to be followed and which involves multiple levels of analysis. For this study, content data analysis was done using Colaizzi’s steps, allowing the researcher to identify prominent themes and patterns among the themes.

4.2.1 Data management

The interviews were conducted in English and were audio-recorded and saved in the audio-recording device. The researcher also took field notes to document non-verbal gestures or behaviour displayed by the participants during the interviews. The interviews were transcribed verbatim, and the reading of the transcripts was done concurrently with listening of the audio-recorded interviews. This was done to ensure that data stated was recorded correctly.

4.2.3.1 Ensuring high quality data analysis

Polit and Beck (2021:741) defines qualitative data analysis as a process of analysing and interpreting narrative data with the aim of discovering new underlying themes, subthemes, and categories of relationships. Examples related to the evidence of the study findings are found in the transcript of the interviews and field notes (Appendix Six).

- **The researcher's role in data analysis**

In qualitative research, the researcher has a distinct role to play as the primary instrument during data collection and analysis. The researcher must rely on his or her instincts and abilities to ensure that data is correctly interpreted (Merriam 2009:52). While bias can occur at any stage during a qualitative research study it should be avoided to prevent any misconceptions and not compromise the validity of the study. Qualitative researchers use flexibility to guard against any form of bias when judgement is being made; as such, the researcher reflected on her own personal values that could have an influence in the interpretation of data in this study (Polit & Beck 2021:179). Trust between the researcher and the participants is important to allow the participants to share their personal experiences knowing that it is done under confidential conditions (Simon 2011:np). A qualitative researcher believes in multiple realities and is committed to understanding participants' different views on the phenomenon under study. In recognising and reflecting on her own biases and assumptions around the phenomenon under study, the researcher ensured that the research report reflects the findings accurately.

4.2.2 Analysis of the qualitative data

Qualitative data analysis is one of the most challenging and demanding tasks and aims to bring together the meanings that people ascribe to their actions and their responses to a given phenomenon. Data analysis in qualitative research involves the researcher becoming instrumental in understanding the meaning behind participants' behaviour and generating data through asking narrative questions. A holistic approach to the experiences of the participants is emphasised while the researcher becomes aware of his or her own influence on the interpretation of findings (Ravindran 2019:40). The researcher followed the process of content analysis by applying Colaizzi's descriptive phenomenological steps, as described in 3.3.5 (Chapter Three). The findings of the study are projected as themes and categories. Polit and Beck (2021:721) defines a theme as a reoccurring regularity that emerges during qualitative research, while a category is known as the system that is used to sort and organise data in qualitative data analysis.

The researcher identified four themes and nine categories, which will be discussed in section 4.4 of the study.

4.3 RESEARCH FINDINGS

The research findings will be presented in a narrative form. The objectives of the study are:

1) To explore and describe the challenges that nurses who work at primary health-care clinics face regarding the HIV UTT strategy, and

2) To identify factors that impact the roll-out of the HIV UTT strategy.

In order to achieve the study objectives, the researcher conducted individual interviews. The research questions that guided the study were:

1) What are the challenges that nurses who work in primary health-care clinics have regarding the implementation of the HIV UTT strategy?

2) What factors influence the roll-out of the HIV UTT strategy?

4.3.1 Demographic analysis of participants

One-on-one interviews were conducted with fifteen participants (professional and enrolled nurses) who were aged between 23 to 55 years and who worked at one of the two primary health-care clinics. The researcher allocated numbers to participants to indicate each participants' responses. These are indicated as Participant 1 to Participant 15.

The following table (Table 4.1) provides an overview of the participants' demographical data.

Table 4.1 Demographical data of the participants

Participant Number	Gender	Age	Professional category	Trained in NIMART	Stream working in	Years working in the clinic
1	Female	54	Professional nurse	Yes	Primary health care	18
2	Female	55	Professional nurse	Yes	Primary health care	20
3	Male	35	Professional nurse	No	Primary health care	12
4	Female	37	Professional nurse	Yes	Maternity unit	14
5	Female	46	Enrolled nurse	No	Chronic disease stream	8
6	Male	44	Professional nurse	Yes	Chronic disease stream	10
7	Male	23	Professional nurse	No	Primary health care	2
8	Female	39	Professional nurse	Yes	Primary health care	11
9	Female	49	Enrolled nurse	No	Primary health care	15
10	Female	55	Professional nurse	Yes	Chronic disease stream	8
11	Female	44	Enrolled nurse	No	Chronic disease stream	11
12	Female	40	Professional nurse	Yes	Primary health care	13
13	Female	36	Professional nurse	No	Primary health care	7
14	Male	35	Professional nurse	No	Primary health care	9
15	Female	43	Professional nurse	Yes	Chronic disease stream	10

The group of participants consisted of both males and females, with three enrolled nurses and twelve professional nurses. The participants had been employed in these two facilities for a period of two to 15 years. The nurses work in different inter departments within the clinics. Nine nurses were working in the primary health-care streams, five nurses were working in the chronic stream, and one professional nurse was working in a maternity unit within the clinic. A total of eight professional nurses were NIMART trained. The participants have undergone nursing training ranging from a two-year enrolled nursing qualification to a four-year nursing diploma and degree, as well as specialty nursing in primary health care, clinical assessment, diagnosis, treatment, and care.

4.3.2 Presentation of findings

The research report consists of the findings obtained from analysis of the transcribed interviews. Through a process of content data analysis, the researcher identified nine categories that were grouped under the four themes identified (Table 4.2). The researcher will present the themes, categories, verbatim quotations of the transcribed work, and the meaning that emerged from the data analysis. The themes are described as recurring regularly that emerges from the analysis of qualitative data. The themes and categories are used to give a description of the phenomenon (Polit & Beck 2021:59).

Table 4.2 Themes and categories

Themes	Categories
Theme 1: Health systems-related challenges	1.1 Lack of resources
	1.2 Lack of support from management
	1.3 Challenges regarding implementation of Universal Test and Treat guidelines
Theme 2: Client-related challenges	2.1 Acceptance of diagnosis
	2.2 Disclosure of HIV status
	2.3 Adherence to antiretroviral treatment
Theme 3: Nurse-related challenges	3.1 Nursing care practices
	3.2 Overwhelming workload
Theme 4: Perception of nurses pertaining to the implementation of the Universal Test and Treat guidelines	4.1 Feelings experienced by nurses
	4.2Proposed solutions/recommendations

4.3.2.1 Theme 1: Health systems-related challenges

For this theme, the researcher identified three categories which will be presented with representative quotes.

The participants voiced that some of the challenges they experience relate to the health-care system. These challenges include lack of resources, lack of management support, and challenges related to the implementation of the Universal Test and Treat (UTT) strategy.

Category 1: Lack of resources

This category consists of responses from participants in the form of quotes pertaining to the lack of resources in the primary health-care clinics that implemented the UTT strategy.

Based on participants' responses, it was evident that lack of resources has a negative impact on managing patients using the Universal Test and Treatment (UTT) guidelines. The participants perceived the lack of resources as a major challenge in health-care service delivery. Participants verbalised that medication shortage is one of the many barriers to effective health care delivery. Staff shortages and long patient queues also affect the services rendered. The following quotes show participants' views regarding the impact of a lack of resources in health care delivery.

Participant 2 "*At times the clinic **will run out of medication** and there will be a queue of patients seeking medication which is not available, and when that happens one had to rely on nearby clinic in getting treatment''.*

Participant 7 "… *when we are going deeply to ask what happened you find that **they run away because of no medication at times in this clinic** because now we have to initiate clients immediately and **the shortage of treatment** because we don't have an idea how many clients will be tested and they will be positive because of the same-day initiation".*

Participant 8 *"…we **running short of staff**, maybe the screening is not enough. Even if the screening is enough the thing that came to the patient for the first time is not attended".*

Participant 11 *"In our facility you will find that there are maybe **2 nurses per shift and there are plenty of people who come to the clinic and** you have to see this patient* *and initiate, while there* ***is a long line of people outside****, so according to me it was a good strategy but because they didn't add people who can do such work".*

Participant 12 *"The most challenges are because of staff shortage not just patient, the biggest* ***challenge is staff shortage but because if department can fill up gaps of unemployed nurses.*** *…it you can't expect two people to do everything on their own".*

Participant 13 *"You see that the clinic is like this there is that only one park home for chronic patients.* ***Everybody who is taking ARVs treatment they must go to that park home it is embarrassing to the patient*** *whereas other facilities there is a one stop shop… ".*

Participant 5 *"Sometimes the lack of appropriate resources to provide health care to our people is major downside in our government…".*

Category 2: Lack of management support

Most participants expressed that they were getting very limited or no support from management. This support is necessary to help them increase the number of people getting tested for HIV before the disease progresses and more aggressive treatment is required. The lack of support has impacted service delivery as comprehensive health service is compromised.

Participant 6 *"…you find that you work here very hard and dedicated but when it comes to* ***trainings and development only the manager's favorite nurses*** *will be considered for trainings and development like NIMART"*.

Participant 14 "Then ***senior managers from above you, they will blame you*** *if patient complains and expect miracles whereas there is no better services to be given to patients".*

Participant 11 ***"The managers and matrons do not support*** *the literacy classes on HIV anymore before initiation on HIV treatment and also* ***if managers can support in fill up gaps of unemployed nurses,*** *you can't expect two people to do everything on their own…".*

Participant 12 *"…at the end we are seen by managers as clinic that does not want to comply with the roles whereas* ***they do not offer us support*** *for easy doing of duties and* ***a big challenge is government said we must use whatever we got and you***

ask you self but how? *Other categories are not allowed to initiate only sister who have NIMART".*

Participant 15 "***Management tells staff that solving the staff's problems is outside their scope….***".

It is evident that participants were not happy with the lack of support from the management structures.

Category 3: Challenges regarding implementation of Universal Test and Treat Strategy (UTT) guidelines

The third category identified is the implementation of Universal Test and Strategy guidelines in primary health-care clinics. The participants' responses included feelings that UTT introduction was not patient-centered, opinions that patients' readiness and mental wellbeing were not taken into consideration when treating them under UTT, and concerns surrounding the frequent amendment of guidelines. The participants' different views regarding the implementation of UTT HIV guidelines in primary health-care clinics is outlined next.

Participant 3 *"… as a health worker sometimes you feel that and in fact see that* ***the focus on UTT is targets driven not patient focused****…".*

Participant 2 *"…* ***not even ready mentally which increases loss to follow (sic: should be follow-up) that*** *leads us to the loss to follow (sic: should be follow-up) because we gonna give them the treatment today you expect them to come maybe after two weeks, they won't come after two weeks…".*

Participant 7 *"The ongoing* ***frequent amendment of the guidelines to fit in the needs of the government*** *not the people on the ground is a problem in providing services".*

Participant 14 *"The* ***introduction and the implementation of UTT in KZN is not in accordance with South African guidelines,*** *things are done different here facility per facility …".*

Participant 12 *"I think when we are testing people maybe hundred then you didn't find one who are positive then you have done nothing because* ***it seems the nice thing is when we are getting the positive, when we are getting negative we are not done right….***".

Participant 8 "…*screening it's not enough for the patient…. Maybe they* ***need more than a day to talk about this thing because some people they cry when they hear*** *this thing that you got HIV…".*

Participant 4 *"Some of them they are having problems with the kidneys ...* ***patients are mismanaged under care of nurses in UTT…****".*

According to HIVinfo (2021:np), some HIV medicines can affect the kidneys. It is therefore important that health-care providers carefully consider the risk of kidney damage when recommending specific HIV medicines.

4.3.2.2 Theme 2: Client-related challenges

A total of three categories were identified for this theme and are presented below. Considering participants' responses, the researcher deduced that patients still have difficulty accepting their HIV-positive status and, as a result, struggle with disclosure and adherence to antiretroviral treatment.

Category 1: Acceptance of diagnosis

Participants indicated that patients display different behaviours when they receive the news that they are HIV positive. Patients being in a stage of denial about being infected with HIV results in more defaulters, while other participants mentioned patients doing multiple HIV tests with the hope that their statuses might change to HIV negative. Other participants voiced that some patients become so emotional when being told of the outcome of their HIV test that it is too overwhelming for same-day ART initiation, as per UTT guidelines.

Participant 1 *"There are those patients that* ***are on a denial stage****… when you try to give him/her information that this one was not good.,* ***sometimes that patient will lose trust in you then goes to another facility…*** *then you end up having a problem when you try to get that* ***patient to continue with the medication****…".*

Participant 2 *"… the nurse you tell the patient before I even treat you we have to test, … tell me now I am not* ***ready mentally then I will just keep quiet*** *I will give you my hand you will prick me all of a sudden I am HIV positive.* ***Then you expect me to just take treatment today****?"*

Participant 4 *"…like the **patient readiness of being agree** that now I am HV positive I have to do bloods, I have to do the follow up as the nurses instructed. I have to tell those people around me about my confidentiality especially at home and the visits as directed…".*

Participant 8 *"It's **painful when patients cry for having HIV**, it's very painful even to you but you try to you have to assure the patient that you are going to be okay".*

Participant 10 *"…you cannot just test a patient now and you tell yourself that you gonna initiate **because the patient has not come yet to acceptance.** Patients should be allowed to go and bargain and the come to acceptance and accept the condition, that's why we have so many defaulters about this thing…".*

Participant 12 *"…and because of the **patient's acceptance sometimes you find it difficult while the patient is still bargaining that he or she is HIV positive then at the same time**…."*

Participant 13 *"… you **end up with people that you cannot trace back to care after testing** but you know that they are HIV positive and the other thing they used **to give us the wrong physical address and wrong** cell phone numbers….".*

The participants expressed different views regarding patients' levels of acceptance of an HIV-positive diagnosis. One participant stated that patients display such extreme feelings of denial regarding their HIV-positive diagnosis that they get retested in another health-care clinic with the hope that their status might change to HIV negative. Kennedy, Mda, Thomas, Quinn, Stead & Hansoti (2020:7) is of the view that patients prefer uncertainty to facing the psychosocial consequences of an HIV-positive diagnosis, especially considering the stigma attached to such a diagnosis.

Category 2: Disclosure of HIV status

This category summarises participants' responses pertaining to patients' disclosure of their HIV-positive status to loved ones, including sexual partners and family members. Based on the responses from participants, the researcher deduced that disclosure of HIV status still seems to be challenging for patients. The participants felt that some patients feel they do not get enough support from their loved ones at home, which makes them reluctant to disclose an HIV-positive status. This is problematic as patients cannot take their treatment in front of other people.

Participant 7 *“Now the problem is that the client sometimes it might happen that she is not ready* ***to take the treatment home as she has not disclosed the status*** *to the partner most of the time…”.*

Participant 8 *“…youth patients when find with HIV,* ***become afraid to tell partner of their status*** *and resort to hide like that even the treatment…”.*

Participant 13 *“****Other challenge is disclosure because they are not supported from home and community****, they did not disclose the status. Disclosure yah. It is difficult for them especially when they have* ***to try to disclose so that family members*** *can support you and remind you to take pills but if you did not tell anyone in the family you cannot do anyhow, and treatment will not be taken as told by the clinic”.*

Participant 14 *“… is there was this thing of disclosure, when patient is given treatment for the first time,* ***they will fear to tell others because they were also not aware of the new status until after test so it difficult phase****…”.*

Participant 6 *“…that’s why the government put all chronic patients together because* ***of the stigma of this thing of HIV and wanting to keep it yourself*** *only so if all patients are in one area it becomes easy”.*

Participant 10 *“It’s bad because there’s no use to give the treatment* ***when the patient is not ready to tell loved ones about the status change,*** *because it is better for you to get the patient and see that this patient can take the treatment and continue. Because sometimes they come here committing suicide with this treatment because they are not taking this treatment sometimes, because they were not ready”.*

According to The Well Project (2022:2), disclosing your HIV status can be stressful because you may receive love and support from some of the people you tell, but others may not be as accepting. It is therefore important that one’s state of readiness is considered prior to the process of disclosure.

Category 3: Adherence to antiretroviral treatment

Participants reported that, although the benefits outweigh the risks, implementing the UTT strategy did raise issues related to adherence to antiretroviral treatment. Participants mentioned that some patients will collect the treatment from the clinics but subsequently discard of them on their way home or on the clinic’s premises. The participants also verbalised that the resistance of ART treatment goes to the extent of patients purposely providing health-care workers with incorrect physical addresses, making it a challenge to trace them and bring them back to the clinics to continue their treatment.

Participant 7 *“I have mentioned* ***the issue of missed appointments was established through UTT*** *and how it started as I have mentioned it having some confusion to some of our staff members”.*

Participant 9 *“This test now and treat all thing was good approach but now problem begins when* ***patients don’t want to stick to their treatment as we tell them****…”.*

Participant 5 *“We are having clients that are initiated today and* ***when you are doing the follow up you find that they are nowhere to be found*** *and they are giving us this early missed dates until lost”.*

Participant 14 *“…there was this thing of disclosure, when patient is given HIV treatment for the first time going home it will not be easy to comply on treatment and* ***becomes difficult for that and hide treatment****”.*

Participant 12 *“While it is just because they need that stats, this stats thing which mean we will continue giving the treatment, but the outcome will be wrong because* ***if the people are not ready to take the treatment because when they go back home they throw it away*** *and stay at home”.*

Participant 13 *“They must encourage people to come and they must encourage people to* ***disclose to the relatives so that they can support them*** *other people challenge is alcohol, they mixed treatment with alcohol”.*

Participant 11 “…*you see there our toilets people would just discard the medication there, when the General Assistant goes to clean she will find number of packs and we will not know who it belongs to because we don’t have cameras… He comes and collect but* ***after collection he will go and throw away the medication****”.*

It is evident from the participants’ responses that patients have had treatment-adherence challenges since UTT was introduced.

4.3.2.3 Theme 3: Nurse-related challenges

Two categories were identified: nursing care practices and overwhelming workload. Both sub-themes look at the different views nurses have on the impact of nursing care practices and overwhelming workload regarding the implementation of HIV UTT in primary health-care clinics.

Category 1: Nursing care practices

This category speaks to the views of participants regarding the nursing care practices, as well as the overwhelming workload caring for patients in primary health-care clinics that implemented the UTT strategy. Here the participants expressed different views on nursing practices within the clinics the study was conducted in, with one participant pointing out that it could have been much better if additional nursing staff members were employed to deal with UTT management. Another participant was of the view that other nurses are just initiating HIV-positive patients for the sake of increasing the statistics of patients initiated, but not providing comprehensive health care as required.

Participant 6 *"…having an understanding that was giving me the ambiguity that how it's going to work* ***since as nurses it is well known even though not all of us are, we do not abide like closely to the guidelines****…"*

Participant *7 "Universal Test and Treat with my perspective it's a tool or its exercise or it a* ***strategy that has offloaded lots of burden to us as nurses and it has assisted to the angle of the client again*** *but even though* ***nurses sometimes still apply the old routines when helping patients and do not stick to relevant practice****".*

Participant 2 "*It is difficult unless if they offer* ***more nursing staff training in this programme*** *and* ***implement it fully****".*

Participant 13 *"…so many defaulters I think it's because they just start this treatment on same date no symptoms of illness. Yah I think it's that, but other problem is that they don't keep the date for coming and* ***collect the treatment and also nurses don't even take bloods as expected routinely****".*

Participant 15 *"There* ***is no person who is dedicated to go through all the results and interpret the results because I can say go and pick up so and so and those results but did you look at*** *them…but we also never* ***dealt with providing***

***knowledge on HIV positive patients** so they make their choices and then we are like we need to test you before we provide services to you".*

Participant 4 *"Others withdraw soon **if as a nurse you are not well equipped to provide all support** to patients to deal with ART long term".*

Category 2: Overwhelming workload

Participants reported how demanding the care required by HIV-positive patients can be with the implementation of UTT strategy. The participants felt that implementing the UTT strategy increased the demand to initiate antiretroviral treatment on the same day or soon after testing positive for HIV. The difficulty around same-day initiation is exasperated by the shortage of staff caused by the high turnover of staff working in the primary health-care clinics.

Participant 4 *"…the other thing is **challenges of the staff turnover** has increased because of the **high workload**…"*

Participant 6 *"…sometimes you want to provide full care for this HIV patient, but the **queue is becoming long outside** minute by minute, so you do touch ups for the sake of finish all the patients early…"*

Participant 10 *"… but it's (UTT) not working with us as I have said before because **of shortage, because of the workload**…"*

Participant 11 *"…it has those kinds of mixed feelings where let me attend the patient or say come tomorrow, the **person will not come tomorrow because of the line outside and while you are working…**"*

Participant 14 *"…thing it's a lot of people that **increase the burden to the staff** … There are lots of patients that are coming to the **facility that needs to be initiated, need to be given treatment…**"*

4.3.2.4 Theme 4: Perceptions of nurses pertaining to the implementation of the UTT strategy

For this theme (the perceptions of nurses regarding implementation of the UTT strategy), the researcher identified one category. This category looks at the feelings experienced by nurses regarding UTT strategy.

Category 1: Feelings experienced by nurses

One category was identified under this theme: nurses' feelings about the UTT strategy. This category is characterised by mixed feelings experienced by the nurses. Participants view the implementation of UTT positively, as there are no more patients who get severely sick of HIV-related conditions since they have access to diagnosis of HIV before the progression of the disease. Others raised negative feelings regarding patients not responding well to the news of being HIV positive, as well as being unable to provide them with the care needed at that time.

Positive feelings experienced by the nurses:

Participant 3 *"…the experience I got at the moment is of a good angle* ***and I am happy we are*** *having UTT it has assisted us…"*

Participant 7 "… *Universal Test and Treat with my perspective it's a tool or its exercise or it a* strategy that has offloaded lots of burden to us as nurses and it has assisted to the angle of the client again*. There* ***are clients who are happy and that's the portion of clients who are happy because they know now that they are not to wait for certain years or months to get the treatment…****So my feelings and experience in terms of service delivery to HIV positive patients is of a good signal".*

Participant 6 *"…I personally think the* ***UTT program introduction was a good move****, therefore I am happy when I look at the outcomes".*

Participant 5 *"****Some of patients they make us happy just because if you****…if you saw a patient coming in with a wheelchair or a stretcher the patient comes again walking and when you see a different it makes us happy. Then the patient do follow the visits as you instructed its one of them that make us experience a good results…"*

Participant 8 *"In 2003* ***people were dying like flies because they were tested and you must wait for 2 months for 3 months then the patient die because*** *they were sick. But this UTT it helps a lot because people came and test and treat while they are not sick…"*

Participant 9 *"* ***It's painful when patients cry for having HIV, it's very painful*** *even to you but you try to you have to assure the patient that you are going to be okay and also, they will feel better when with other people with the same condition* ***will make***

them feel better because they have same thing but other people on the other side it not good to be *alone it's better to be mixed with other people".*

Participant 10 *"It* ***was a good strategy but it is not a working good*** *because as we are very short staffed especially during the night we see that it is not working for us and for our patients because you know patients they like to do things during the night because they say during the day it's busy…"*

Participant 11 *"Since* ***it started it has made a very good initiative what you call…(thinking) implementation because lot of people last time were coming to start ARVs but*** *we couldn't do it because of the guidelines were only guiding us to only give people at certain stage. But now with UTT everyone must start ART and they will leave longer even the stigma thing no one will know because you don't get sick".*

Participant 13 *"…it feel much better as it was before because there is improvement now* ***UTT in my opinion it's good so that you can start treatment when you are still okay****".*

Participant 15 "UTT ***was a very good initiative for the government to initiate*** *because when you look before we had patients who were becoming sick even if their CD4 count was above 500 but they were looking unwell and some of them actually died so we don't have to wait for CD4count to not be below…what's the latest…"*

Negative feelings experienced by the nurses:

Participant 1 *"…it* ***feels very painful and some people*** *if I can say the people who defaulted are those people who are dying now a lot".*

Participant 2 *"****It is frustrating most of the time*** *as one cannot provide all expected HIV activities and services on time and patients who struggle with accepting status…"*

Participant 12 *"Yah I would say of* ***government can revisit this UTT strategy maybe we will have this voluntary thing I strongly agree with VCT*** *it must be voluntary because with this thing even if I know my status but I am not ready to start treatment".*

Participant 14 *"…you it is* ***frustrating because sometimes*** *I do feel like I do my own reflection at the end of the shift or at the end of my duties sometimes we work four days and we off".*

Talking about one's HIV status can put a strain on the best of relationships, making it important to be cautious of their feelings. It is important for nurses to understand that HIV-positive people go through different emotions when dealing with HIV. However, keeping the information to oneself for too long can be detrimental. If you find it difficult to decide when and how to tell your partner, it may be helpful to get some professional counselling (The Well Project 2022:3).

Category 2: Proposed solutions/recommendations

The participants are of the view that, in order to ensure that patients adhere to their ART treatment, facilities need to invest in adequate resources to offer these services. These resources include enough clinic staff to attend to all the needs of HIV-positive patients and medication stock levels that are adequate enough to ensure that all patients have access to medication.

The participants were also of the view that nurses need to be well trained and capable of proper HIV-programme management so that they can confidently offer appropriate HIV services. This recommendation was based on opinions that some professional nurses were not confident in the initiation of HIV-positive patients, while others were not following the recommended national HIV guidelines.

Participant 4 *"We do staff meetings once in a* ***month so that we try to accommodate everybody then the OM is one of them who is always in the meetings the*** *OM is included in meetings".*

Participant 17 *"**If all clinics can make it mandatory that every Tuesday we are having a meeting that is known as facility nerve centre it is where we then we share all the challenges then we come up with the strategies of overcoming them like the quality improvement plan…**".*

Participant 2 *"**It is difficult unless if they can include the nursing staff who are trained then this programme will be implemented fully…**"*

It was necessary for both clinics to implement the UTT strategy because many patients diagnosed with HIV did not start antiretroviral treatment until they got sick or reached a certain eligibility criteria. In cases of resistance to change, the change agent should recognise each person's reasons for resisting change and use strategies to manage the resistance (Setswe, Naude & Zungu 2018:180). Understanding the challenges nurses experience pertaining to the implementation of the HIV UTT strategy could assist change agents to manage resistance to change.

4.4 SUMMARY

The researcher demonstrated that there is a link between the research findings and the data collected using interviews, which increased the reliability of the data (Elo & Kyngäs 2008:112). The researcher described the findings in detail, which included using verbatim quotes to ensure a clear understanding of how the analysis was done. The reliability of the findings was ensured by using an independent coder, and a consensus reached between the researcher and the coder.

The themes and categories identified are presented in Table 4.2. The interpretation of the categories was supported by quotations from participants.

The discussion of findings, conclusions, limitations, and the recommendations for the study will be dealt with in Chapter Five.

CHAPTER FIVE: DISCUSSION OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

In Chapter Four, the researcher described the data analysis, presentation, and interpretations of the research findings. In this chapter, the researcher presents an overview of the research design and methods followed in the research study. A discussion and interpretation of the research findings will follow and recommendations for the study discussed. These recommendations include recommendations for nursing management and for research. Lastly, the contribution of the research findings, limitations, and concluding remarks are made.

5.2 RESEARCH DESIGN AND METHODS

This research study was conducted using a qualitative approach; specifically a descriptive phenomenological design.

For data collection, the researcher conducted semi-structured, one-on-one interviews with the participants until data saturation was achieved. The aim of the study was to explore the challenges faced by nurses in the implementation of HIV UTT, and to identify factors that impact its roll-out in primary health-care clinics in the King Cetshwayo district in KwaZulu-Natal.

5.3 DISCUSSION AND INTERPRETATION OF THE RESEARCH FINDINGS

It is important that nurse managers ensure that the UTT strategy becomes the norm for nurses’ approach to their work. Setting this standard requires ongoing effort, leadership support, and a focus on reinforcing the desired behaviours and practices. The change should be implemented by all employees (Kritsonis 2005:2). Understanding the challenges that nurses experience and identifying the factors that impact the roll-out of the HIV UTT strategy can help managers to develop strategies to address challenges around the implementation of the HIV UTT strategy. The findings of the study are discussed based on the questions that were posed to the study’s participants. A discussion of the findings relevant to each study objective follows. The researcher is of the view that the research objectives were met.

5.3.1 Objective 1: To explore and describe the challenges that nurses who work at primary health-care clinics face regarding the HIV Universal Test and Treat strategy

Through the participants’ responses, it became clear that nurses working in primary health-care clinics face several challenges regarding the HIV Universal Test and Treat strategy.

Some participants, as staff members who are directly involved in rendering HIV services, felt that they should be consulted prior to the implementation of guidelines so that their input can improve health outcomes and improve overall service delivery. The participants were of the view that recommendations tabled by guidelines and policies are sometimes impractical. It is therefore important to get opinions from people who are playing a direct role in the implementation of such policies.

In South Africa, an estimated 4.4 million people were successfully initiated on ART in 2017, which accounted for a major increase since UTT policy was implemented in the country. Although the increase in initiations proved to be a success, it also accounted for challenges when it comes to linkage to care after diagnosis (Onoya, Sineke, Hendrickson, Mokhele, Maskew, Long & Fox 2020:2). According to Onoya et al. (2020:2), the implementation of UTT in primary health-care clinics might be met by challenges related to health systems’ capacity constraints: since facilities become heavily burdened, they struggle to accommodate the large volume of patients seeking HIV services. It is important that health-care systems encourage improvement and improved access of quality HIV services in clinics (Adeagbo & Naidoo 2020:239). Challenges related to the long distances patients travelled to facilities seeking health care services and longer waiting times caused by shortages of staff result in poor uptake of HIV services under the UTT program (Iwuji et al. 2020:2). Staff’s potentially negative attitudes towards patients seeking HIV services has resulted in patients limiting clinic visits, further compromising the uptake of HIV services.

In another clinic there are consultation rooms designated for ART and HIV services, which leaves patients feeling stigmatised when seen going to the specific park home within the clinic premises. According to Iwuji (2020:5), patients living with HIV will usually avoid visiting HIV clinics because of fear for being victimised by other patients and community members; therefore, they are reluctant to use that service. Another observation was that patients who were accessing HIV services in government facilities were made to wait in a separate area within the facility (Iwuji 2020:9). Iwuji (2018:124) is of the view that, in order to achieve the 90-90-90 treatment cascade and maximise the individual benefits of ART, it is important that comprehensive HIV services are offered in all clinics.

The management structures of the primary health-care clinics do not provide clinics with the necessary support for easy execution of duties (not least of which is the issue of staff shortages in the clinics). According to Anoya et al. (2021:2), the introduction of Universal Test and Treat in the clinics was not accompanied by an increase in human resources and improved infrastructural capacity by the department. The development structures and human resources would enable clinics to meet the demand for ART and increased patient flow. Without these, an already-overburdened health-care system compromises the quality of HIV services rendered.

It is evident from the participants' responses that lack of resources (including medication and clinic staff) can potentially have a negative impact on service delivery to HIV-positive individuals in those primary health-care clinics that implemented the UTT strategy. Unavailability of medicine can result in patients not taking their treatment as per regimen and could result in resistance to antiretroviral drugs. The participants verbalised concerns over the lack of infrastructural resources like adequate space for consultation and management of patients, as this may result in a lack of confidentiality and affect the psychological wellbeing of patients. Limited human resources and an ever-increasing number of patients seeking health-care services under the UTT programme can have a negative impact on service delivery.

Onoya, Sineke, Hendrickson, Mokhele, Maskew, Long & Fox (2020:2) states that the implementation of UTT was not accompanied by an increase in human resources and improved infrastructure as expected, which would assist in meeting increased service demands. As a result, this has overstretched the health care system and compromised quality of care provided and the shortage of human resources was one of the barriers to UTT implementation. Kitchen, Barninghausen, Dube, Dlamini-Nqeketo, Johnson, Barninghausen, De Neve & McMahon (2020:191) is of the view that stable financial resources from government is necessary in fighting the HIV epidemic and it is important that a large portion of the national budget is allocated to health and HIV/AIDS programs. In Eswatini, the task shifting of HIV services to primary health-care facilities meant that clinics that are known to be under staffed were now forced to provide HIV services to reduce patients' travelling costs and waiting times. Iwuji, Chimukeche, Zuma, Plazy, Larmarange, Gliemann, Siedner, Shahmanesh & Seeley (2020:5) is also of the view that patients avoided going to the clinic due to being victimised by other patients while accessing HIV services in the park homes.

It is evident that participants were not happy with the lack of support from management structures. The participants expressed concerns about nepotism being practiced by their managers when it comes to professional growth and development of the staff. Consideration for NIMART training was given only to those in favour of the management, and no eligible criteria was used to select individuals for training and development. Another participant expressed that managers expect better service delivery by the nurses but fail to provide the necessary resources and their complaints are not attended to. From the participants' views it is also evident that the managers were not in favour of providing holistic nursing care (which also considers psychological wellbeing) to patients, meaning that even the literacy classes were not regarded as important.

Onoya et al. (2020:4) is of the view that primary health-care managers do not provide clinic nurses with proper guidance on transition to the UTT policy. As a result, staff were sceptical of implementing UTT. The uptake of HIV services can be compromised if the implementers of such services are not well capacitated.

5.3.2 Objective 2: To identify factors that impact on the roll-out of the HIV UTT strategy

The following factors that impact the roll-out of HIV UTT were identified:

5.3.2.1 Patient-related factors

Patients in denial

There are patients that are in denial about their HIV-positive status to the extent of losing trust in health-care workers and seeking the same service in another facility. If they are eventually initiated into treatment, they tend to have treatment-adherence problems. Onoya et al. (2020:2) is of the view that early ART initiation is associated with challenges in acceptance of an HIV-positive status, increased lost to follow up to care, and poor adherence to treatment by patients. The provision of information and education to HIV-positive people about HIV, viral load, and ART drugs with fewer side effects is important in ensuring ART initiation and adherence to treatment (Iwuji et al.

2020:9). According to Onoya et al. (2020:2), patients that started treatment soon after a positive HIV diagnosis are less likely to transmit HIV to their sexual partners and have improved viral suppression rate. Beery, Martin, Ndlovu, Toodi, Mngomezulu, Delany-Moretlwe & Imre (2020:2) is of the view that poor treatment adherence is more likely to happen due to immediate ART initiation, shortened counselling periods, and the increased pill burden the patient has to take on daily basis. Asymptomatic patients with a high viral load tend to display poor treatment adherence; therefore, early treatment initiation often results in early lost to follow up in care (Girum et al. 2020:2). Iwuji et al. (2020:10) argues that the feeling of being well and healthy by some HIV-positive patients is one of the reasons for delays in seeking HIV-care services, while denial of an HIV-positive status results in poor uptake of HIV services and retention to care. Iwuji, Larmarange, Gliemann & Tanser (2018:122) is of the view that, despite the immediate availability of ART through UTT, there was still marked poor linkage to care, attributed to the youth of some patients, the long distance travelled from patients' homes to clinics, and not knowing anyone who is HIV positive. In addition, there were concerns regarding the treatment adherence of asymptomatic HIV-positive individuals, who tend to have repeatedly high viral loads.

Disclosure challenges

Participants had differing views on the disclosure of one's HIV status. One participant said that patients struggle to disclose their status to family members and sexual partners, which leads to difficulty in taking treatment at home because of fears that they might be caught. One participant stated that one of the difficulties related to HIV-diagnosis disclosure is a lack of support from family members and communities. Another participant felt it is not good to give patient treatment on positive diagnosis because chances of them taking treatment is limited if they have not disclosed to their partners and loved ones.

Skovdal, Nyamukapa, Wamoyi, Ddaaki, Bukenya, Renju, McLean, Moshabela, Seeley, Bonnington & Wringe (2021:np) states that patients display varying states of readiness to disclose their HIV-positive status to significant others. People that have HIV are uncomfortable disclosing their statuses (even to local communities' health-care workers) as they feel it may bar them from accessing HIV services (Kitchen et al. 2020:191).

Participants raised concerns that patients who have not disclosed their HIV-positive status to loved ones are more likely to have treatment-adherence problems and mentioned an increase in the number of patients who missed appointments for their clinic visits since UTT was introduced. Other participants cited that UTT was a good approach, but the challenge is when patients hide their treatment from significant others because they have not disclosed their HIV status. Another participant is of the opinion that government should encourage patients to bring relatives along to facilities to support them in the disclosure process.

Onoya et al. (2020:2) states that patients might disengage from the health-care system and eventually not adhere to treatment, even after promptly starting treatment under UTT. Beery, Martin, Ndlovu, Tudy, Mngomezulu, Delany-Moretlwe & Imrie (2020:np) is of the view that, even though the UTT policy implementation has shortened the period before ART initiation, patients who were lost to follow up remained high and there seems to be no improvement, even after six months' retention to care. Measures need to be implemented to monitor retention to care, as newly initiated clients are being lost in the system.

5.3.2.2 Factors related to Universal Test and Treat Strategy (UTT) implementation

Mixed feelings among health-care workers

The participants had feelings ranging from despair and dissatisfaction to satisfaction with the introduction and implementation of the UTT approach, citing different clinical experiences and observing their colleagues in rendering HIV services to patients. One issue was failure to follow the guidelines. Participants also mentioned that clinicians do not spend enough time doing proper patient screening, considering the eligibility criteria a patient must meet to be initiated and treated under UTT.

Patients that start treatment soon after diagnosis have improved viral suppression, are less likely to die of AIDS-related causes, and are less likely to transmit HIV to their partners. Further emphasis is on the importance of doing a proper clinical screening, including monitoring blood specimens prior to initiation on ART, to ensure improved patient health outcomes and benefits of ART (Onoya et al. 2020:2). Onoya et al. (2020:3) is of the view that, although they understand the importance of UTT in improving clinical outcomes, primary health-care providers have concerns about same-day ART, citing inadequate clinical resources and patients' psychological and social circumstances. Mabelane et al. (2016:9) states that successful implementation of UTT programmes relies on a comprehensive primary health-care approach and clinical mentoring on updated HIV guidelines.

Some nurses felt the implementation of UTT was a good initiative in ensuring ART services are accessible early on to all HIV-positive patients (irrespective of CD count), but that government should have considered the accompanying increase in nurses' workload. Some nurses raised concerns surrounding many patients' acceptance of the early initiation of ART (Onoya et al. 2020:9).

Several nurses felt frustrated about the inability to provide comprehensive HIV services on the day of HIV diagnosis, especially in patients that struggle to accept their HIV-positive diagnosis. The reluctance of health-care providers in primary health-care clinics might contribute to the slow rate of initiation and the feasibility of the strategy. Beery (2018:np) is of the view that, although UTT has hastened ART initiation, the lost to follow up after initiation remained high and therefore retention to care activities needs to be strengthened. Iwuji et al. (2020:9) is of the view that easy access to HIV services and the accessibility thereof has improved the life expectancy of individuals living with HIV, as has health-care providers being friendly towards patients.

Another participant believed that government needs to revisit this UTT strategy and consider making UTT voluntary because they believe that voluntary counselling and testing needs to be incorporated in the process to ensure that patients are ready for long term ARTs. According to Onoya et al. (2021:3), primary health-care workers were aware of the benefits of UTT but were not keen to implement same-day initiation directives due to limited resources in clinics and disregard of the psychosocial needs and circumstances of patients prior to starting treatment. Nurses were further hesitant to implement same-day initiation because they believed UTT policy contradicted previous HIV guidelines.

It is important to note that, whilst the study focused on challenges experienced by nurses, a few positive and unexpected themes also emerged from the findings. These included participants stating that the introduction of UTT and the accompanying ease of access to affordable treatment resulted in less people dying from HIV/AIDS complications.

Another positive theme that emerged is that of improved overall health outcomes in HIV-positive patients after CD4 count eligibility criteria for ART initiation was no longer used or considered. The availability of UTT also resulted in increased ART uptake and a decrease in loss to follow up of patients in the system.

Patient readiness

Patients' readiness is not taken into consideration during UTT, with some participants feeling that UTT is imposed on patients. Participants also feel that patients should test for HIV of their own volition to avoid them feeling extremely emotional when informed of their status. Another participant is of the view that it is only fair that patients are not immediately initiated on ART and should first be given time to deal with the change of status. According to The Patients' Rights Charter (KZNhealth 2023:np), patients have the right to participate in making decisions on matters affecting their health and have the right to refuse treatment. This should be taken into consideration when initiating UTT.

According to Skovdal, Nyamukapa, Wamoyi, Ddaaki, Bukenya, Renju, McLean, Moshabela, Seeley, Bonnington & Wringe (2021:np), it takes time for patients to accept their HIV-positive status. Knowing someone else who is HIV positive, whether on ART or not, influences a patient's readiness to start treatment, as does experiencing any form of illness.

There are concerns that patients might struggle to accept an HIV-positive status to the extent of refusing to be treated under UTT (Onoya et al. 2020:2). Kitchen et al. 2020:193) is also of the view that, because patients diagnosed with HIV feel stigmatised, they do not access health services, deny an HIV-positive status, or avoid getting tested all together.

According to Iwuji, Orne-Gliemann, Larmarange, Blestre, Thiebaut, Tanser, Okesola, Makowa, Dreyer, Herbs, McGrah, Barninghausen, Boyer, Oliveira, Rekacewicz Bazin, Newell, Pillay & Dabis (2017:116), Universal Test and Treat strategy implementation can assist in reducing new incidents of HIV infection. This is important because HIV is more commonly associated with sexual transmission than with other methods of infection; therefore, ensuring availability of ART services immediately after diagnosis can help reduce further HIV infections.

5.3.2.3 Resource shortage related factors

Shortage of HIV medicine

The absence or shortage of some of HIV-related medicines has been consistently cited as one of the issues resulting in compromised service provision by the participants. That, in turn, becomes a barrier to accessing health-care services as a whole in a primary health-care setting.

Staff shortage

As shown in one-on-one interviews, some of the participants had concerns about the increased demand for providing HIV services to HIV-positive patients, especially given the fact that the clinics were severely short staffed. The participants felt that implementing the UTT strategy increased the demand to initiate antiretroviral treatment on the same day or soon after patients testing positive for HIV. Challenges surrounding same-day initiation are exacerbated by the shortage of staff caused by the high turnover rate of staff working in primary health-care clinics.

5.3.2.4 Nurse-related factors

Attitudes and compliance

In order to increase the uptake of HIV services in clinics, it is important for health-care workers to address the time patients spend in clinics in a respectful and efficient manner (Iwuji et al. 2020:10). Inappropriate staff attitude has a negative influence on the uptake of HIV services in clinics (Iwuji, et al 2020:2).

Other patients withdraw from care due to nurses who are inadequately skilled at providing long-term and comprehensive ART support to patients. According to Onoya et al. (2021:2), when new policies (such as UTT) are introduced, it is important that public health-care providers are assessed on how they have received and understood the policy changes prior to implementing them. This will help identify any gaps and discrepancies and allow for sustainable solutions to improve clinical practice.

Non-adherence to UTT guidelines

Patients that are started on ART do not always comply with their clinic appointment dates for treatment collection, while nurses do not always follow the clinical guidelines in ensuring that baseline blood specimens are taken as they should be. Onoya et al. (2020:8) is of the view that lack of baseline bloods data in HIV-positive patients that have been initiated under the UTT strategy can be attributed to unclear information given by the UTT policy regarding the importance and timing of baseline bloods, as well as patients being too overwhelmed and exhausted because of having to do everything on the same day (testing and initiation). In addition, there must be measures in place to further increase the uptake of ART and timeously ensure baseline safety and routine monitoring of bloods.

According to Tadele at al. (2020:2), there is a high possibility of poor treatment adherence for patients initiated immediately due to pill burden and shorter and ineffective counselling times offered by health care providers.

Participants verbalised different views regarding nursing care practices since implementation of the UTT programme in primary health care. Concerns were raised about non-adherence to clinical guidelines, as some nurses were not following guidelines and patients were not given adequate information and support around HIV upon diagnosis. Another participant raised that UTT has assisted patients in improving health outcomes as they no longer have to wait for years to be initiated, which was the case before. One participant is of the view that it would have been better if nurses were offered adequate training to equip them with knowledge that would allow them to implement the UTT programme. It emerged that patients are still experiencing challenges in sticking to appointment dates for blood-specimen collection, compromising services offered.

Skovdal et al. (2020:np) state that health-care services offered to HIV-positive patients need to be patient centred, taking into consideration availability of the patients and the travel distance to access such services. According to Onoya, Mokhele, Sineke, Mngoma, Moolla, Vujovic, Bor, Langa & Fox (2021:1), the process followed by nurses in assessing patients readiness to be initiated on ART immediately was not in line with clinical guidelines.

5.3.2.5 Positive outcomes of UTT

The introduction of UTT has assisted in improving the overall health outcomes of HIV-positive patients. Patients diagnosed as HIV positive no longer have to wait and be guided by eligibility criteria prior to receiving HIV services; ART is available immediately, while one is still well. This, in turn, assisted in reducing mortality related to HIV and the possibility of opportunistic infections. Girum, Yasin, Wasie, Shumbej, Bekele & Zekele (2020:np) is of the view that early initiation of ART can improve treatment outcomes for HIV-positive people through increasing ART uptake and decreasing loss to follow up. According to Beery et al. (2020:1), there was an increase in the number of patients initiated within the same month of diagnosis since the introduction of UTT, meaning that the introduction of the programme brought patients who were not eligible for ART previously into care. Although the UTT policy shortened the ART-initiation period, concerns were that the programme brought about increased loss to follow up and poor retention to care. It is important to ensure policy change on universal ART coverage to achieve linkage to care for those identified as HIV positive and raise HIV-status awareness for those with an unknown status (Iwuji et al. 2017:117). Onoya et al. (2020:7) is of the view that there was a decline in HIV-positive patients presenting with a CD4 count that is below 350 since the implementation of the UTT policy. Prior to implementation of UTT, HIV-positive patients presented with advanced WHO clinical staging and opportunistic infections, and the mortality rate of HIV-positive individuals on ART was significantly higher than that of patients treated on UTT (Girum 2020:9).

5.4 RECOMMENDATIONS

In order to improve the implementation and roll-out of the HIV UTT strategy, the researcher recommends the following:

5.4.1 Recommendations for primary health-care management

- Enhance primary health-care managers' leadership visibility

Empowering primary health-care managers with project-management skills will equip managers with the skills to plan and provide the necessary resources (including adequate human and financial resources) for successful implementation of the HIV UTT strategy.

Primary health-care managers should attend leadership training to enhance their understanding of ethical leadership practices and the importance of creating an inclusive and supportive work environment.

Primary health-care managers should actively demonstrate their commitment to the UTT strategy by consistently modelling the desired behaviours and practices. This could inspire nurses working in public health-care facilities to commit to the implementation of the UTT strategy.

Primary health-care managers should share success stories and examples of how the UTT strategy has positively impacted patient care, outcomes, and overall efficiency. Sharing success stories could reduce public health-care nurses' negative attitudes towards the UTT strategy.

Primary health-care managers should establish key performance indicators to monitor the effectiveness of the UTT strategy. These key performance indicators should be regularly reviewed and the necessary adjustments made to achieve the desired outcomes of the UTT strategy.

Primary health-care managers should establish mechanisms for nurses to provide feedback on the UTT strategy. They should seek the nurses' inputs on what is working well and where improvements could be made.

- Addressing the lack of resources

Primary health-care managers should advocate for increased funding and allocation of resources, including medication, staffing, and infrastructure.

Primary health-care managers should develop strategies for recruiting, training, and retaining qualified health-care professionals to address the shortage of staff.

Task shifting or task sharing could be considered to redistribute responsibilities among health-care workers.

Establishing a mechanism for nurses to voice their resource-related concerns and complaints will help ensure that resource issues are promptly addressed.

Primary health-care managers could collaborate with local authorities and relevant organisations to improve the infrastructure of primary health-care facilities.

Efficient medication supply chains and distribution systems should be established to ensure a consistent and adequate supply of antiretroviral drugs.

Implementing measures to enhance patient confidentiality and privacy during consultations will mitigate stress for patients. These measures could include redesigning facility layouts and providing training for health-care providers.

Raising awareness and engaging the community in supporting HIV-positive patients and the UTT strategy would also be beneficial to the programme’s success. Community resources and volunteers could be mobilised to aid and support patients.

Primary health-care managers should collect and analyse data on resource utilisation, patient outcomes, and facility performance to identify areas for improvement and to optimise resource allocation.

Primary health-care managers could collaborate with organisations, NGOs, and advocacy groups to amplify the voice of health-care providers and patients to advocate for increased resources and UTT strategy implementation.

- Improving primary health-care management support

Private health-care management should offer comprehensive training and skill-development programmes to equip nurses with the knowledge and abilities necessary to roll-out the UTT strategy. To ensure equal access to training opportunities, managers should implement transparent and standardised selection criteria for training attendees. The decision-making process should be clear and based on merit rather than personal relationships.

Measures should be taken to ensure fair selection for training using a structured selection process that considers both the needs of the organisation and the qualifications of staff. This should be communicated to the nurses.

Primary health-care managers should create communication channels between nurses and management for feedback from nurses about their needs, challenges, and suggestions for improvement.

Primary health-care managers should develop and enforce clear anti-nepotism policies and ethical guidelines that prevent favouritism when allocating staff to training opportunities.

5.4.2 Recommendations for the roll-out of UTT strategy

- Improving patient adherence to the UTT strategy

It is important to provide comprehensive information to patients about the benefits of early treatment, the importance of adherence to medication regime, and the potential consequences of non-adherence.

Implement patient-education programmes to emphasise the importance of adhering to medication regimens.

Offer one-on-one counselling sessions to address patient concerns, dispel myths, and answer questions related to HIV treatment and UTT strategy.

Develop clear and personalised treatment plans for each patient, which should include outlining medication schedules, potential side effects, and the expected benefits of adherence to the UTT strategy.

Involve the patient in the development of their treatment plans to enhance their sense of ownership and responsibility to adhere to the treatment plan.

Implement medication reminder systems such as mobile apps, text messages, or pill organisers to help patients remember to take their medication on time.

Establish a system for regular follow-up appointments to monitor patients’ progress, assess adherence to medication plans, and address challenges and concerns.

Use follow-up visits as an opportunity to reinforce the importance of adherence and provide additional education if needed.

Keep patients informed about the latest advancements in HIV treatment while emphasising the benefits of UTT adherence.

Provide counselling to patients on the importance of disclosing their HIV status to close contacts, especially sexual partners, to prevent transmission and ensure their partners’ health. This could include discussing the optimal timing and methods for disclosure.

Educate patients about the potential benefits of disclosing their HIV status to family members and close friends. Empower them with strategies to address and combat stigma when disclosing their HIV status.

- **Following UTT strategy guidelines:**

Nurses in primary health care should attend comprehensive training on HIV management of the pre-testing, testing, and post-testing stages. Such training will ensure that every staff member is equipped with the necessary knowledge, skills, and abilities to manage patients diagnosed as HIV positive and to provide ongoing support to patients should the need arise.

Offer regular updates and refresher courses to ensure that primary health-care nurses are well informed about the latest clinical practices and recommendations.

5.5.3 Recommendations for further research

The study might act as a starting point for the following additional research:

- The challenges nurse managers experience in the implementation of changes in the guidelines in clinics and hospitals
- The patients' perceptions of health-care workers when seeking HIV health-care services
- How does the availability of resources influence health service delivery in a given district?

5.6 CONTRIBUTIONS OF THE STUDY

This study will contribute valuable information regarding the challenges of UTT in primary health-care clinics.

The rich data that emerged from interviews contributes to important health-care information and can be helpful in future research and improvement of poor service delivery. The focus of the study was to gain an understanding of the challenges faced by nurses who work in primary health care pertaining to the implementation of the HIV UTT strategy and to identify factors that impact implementation of the strategy. The study findings can contribute to the effective roll-out of the HIV UTT strategy, which will result in immediate diagnosis and same-day initiation of antiretroviral treatment. This, in turn, will result in improved treatment outcomes and a decrease in morbidity and mortality rates, allow the Department of Health to minimise costs associated with treating opportunistic infections, and benefit society in general.

5.7 LIMITATIONS OF THE STUDY

The study was conducted in only two primary health-care clinics in the King Cetshwayo district in KwaZulu-Natal. Hospitals were excluded because they do not offer comprehensive HIV services; therefore, this research study can only be generalised to the setting of the research study.

5.8 CONCLUDING REMARKS

The participants' quotes make evident that the lack of resources severely affected the implementation of the programme, as did lack of support from management structures at the clinics. Some participants observed that nurses in the clinic were not following the stipulated clinical guidelines when treating HIV-positive patients under UTT, thereby compromising the services offered.

It is evident that client-related challenges also played a big role in the poor uptake of HIV services through UTT. The participants were of the view that the psychological wellbeing of HIV-positive patients was not considered, especially upon diagnosis – patients were usually initiated on ART without consideration given to their acceptance of an HIV-positive status. Patients who struggle with acceptance of their HIV-positive status generally do not disclose their diagnosis to loved ones and, as a result, they ended up defaulting on treatment or got lost in the system. Participants verbalised that nurses in clinics felt overwhelmed by the work accompanying the introduction of UTT and noted that staff shortages negatively impacted the care of HIV-positive patients, as time constraints did not allow them to pay full attention to each patient. Aspects like looking at eligibility criteria and baseline blood-specimen collection were therefore neglected.

Introduction of the UTT strategy meant that more patients would visit clinics seeking HIV services, thereby increasing the workload of nurses and making it challenging for nurses to offer comprehensive HIV services.

5.9 RESEARCHER'S REFLECTIONS

Many lives were lost prior to the availability and accessibility of ARTs globally and in South Africa. With research developments and positive research findings on the availability of ARTs to manage HIV, it slowly became possible for everyone infected with HIV to access ART. As someone who has lost relatives to HIV (prior to the introduction of ART in South Africa), I considered the Department of Health's introduction of UTT as a good strategy, as it meant that one does not necessarily have to become sick to access ARTs. I fully acknowledge that the introduction of new programmes in the health-care sector always comes with advantages and disadvantages but, if the benefits outweigh the disadvantages, it is worth a try. It is therefore important that health-care workers equip themselves with the knowledge and skills necessary to assess, manage, and retain patients on ARTs. Care should be taken to treat each patient holistically, as individuals’ circumstances differ. I consider my experience in the provision of HIV services in a primary health-care setting as one of the most remarkable moments in a nursing career, as it was through this experience that my passion for conducting this study developed. However, this was not an easy journey, and there were times of doubt, confusion, and fear of the unknown.

My academic journey has not been an easy one, but I remain grateful for all the challenges encountered because the experience unleashed hope that I was not even aware I had. Despite all the fears and conspiracy theories surrounding the onset of COVID-19, I had an uncomplicated pregnancy, delivery, and post-delivery experience. The COVID-19 epidemic affected everyone, including me. The severe impact included two job losses, the passing of my supervisor (may her precious soul continue to rest in peace), and hospitalisation as a result of contracting COVID-19. Not a moment passes without memories of my late supervisor and how she could check or push me every day, especially if I was too silent. If not for myself, I hope to succeed with this research in honour of my late supervisor.

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APPENDECES

APPENDIX 1: INFORMED CONSENT

PARTICIPANT INFORMATION SHEET

Ethics clearance reference number:
Research permission reference number:

August 27, 2018

Title: The Perceptions of primary health care nurses towards HIV Universal Test and Treat Strategy in one district in KwaZulu Natal.

Dear Prospective Participant

Student research project

My name is Nomcebo Mthembu and I am doing research with Dr Marcia Tellie, a Senior Lecturer in the Department of Health Studies towards a Master in Public Health Degree programme at the University of South Africa. We have no funding at the moment but have applied and awaiting for response from Cannon Collins Trust Scholarship and National Rated Foundation (NRF) Masters Block Grant. We are inviting you to participate in a study entitled: The perceptions of primary health care nurses towards HIV Universal Test and Treat Strategy in one district in KwaZulu Natal.

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect important information that could assist in identifying factors that can promote the roll out of HIV Universal Test and Treat Strategy, identify barriers to the Universal Test and Treat Strategy and recommend strategies to overcome the barriers to the successful implementation of the HIV Universal Test and Treat Strategy.

WHY AM I BEING INVITED TO PARTICIPATE?

Why did you choose this particular person/group as participants?
I have requested for your participation into the study because of the fact that you are working in a PHC setting that offers integrated management of conditions including HIV, so there is likelihood that you are knowledgeable on the phenomenon under discussion and will therefore be able to provide rich information about HIV Universal Test and Treat Strategy in a PHC setting. I have requested for permission to conduct the study from the KwaZulu Natal Provincial Department of Health, King Cetshwayo Health District and uMbonambi clinic Operational Manager. *[the Protection of Personal Information Act, nr 4 of 2013, necessitates the disclosure of how access was gained to the personal information of prospective participants].* Prospective participants will be approximately 10 nurses who will be individually interviewed. Indicate the approximate number of participants *[this is useful information to assist the participant to make an informed choice whether to participate in the proposed study – potential breaches of confidentiality increase with a small sample size]*.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

Describe the participant's actual role in the study.
The study will involve individual audio recording of semi structured interviews which will follow a scheduled interview guide. Expected research questions will be based on: exploring the perceptions of primary health care nurses towards HIV Universal Test and Treat Strategy,
:identifying factors that can promote the roll out of HIV Universal Test and Treat Strategy :identify barriers to the HIV Universal Test and Treat Strategy and recommend strategies to overcome the barriers to successful implementation of the HIV Universal Test and Treat Strategy. The expected duration of participation and the time needed to complete specific research interview will be approximately an hour per person.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Statement that participation is voluntary and that there is no penalty or loss of benefit for non-participation.

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any stage of the research and without giving a reason. However it will not be possible to withdraw once you have submitted the questionnaire but the researcher will anonymise personal data of which in this study there is none anticipated. Thus someone could ask for withdrawing the questionnaire.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

This study is expected to collect important information that could assist in identifying factors that can promote the roll out of HIV Universal Test and Treat Strategy, identify barriers to the Universal Test and Treat Strategy and recommend strategies to overcome the barriers to the successful implementation of the HIV Universal Test and Treat Strategy.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

There is no anticipated risk involved in the study, except for minimal inconvenience that might be caused in terms of time during data collection with the respective participants. The researcher intends to set up individualized appointments that will suite the participant’s availability and not disrupt day to day practice of rendering HIV services. The only anticipated discomfort might be psychological discomfort during the interview sessions of which the researcher will refer the respective participants for psychological counseling when desired. There is also no anticipated physical harm or injury during the study and no applicable arrangement for indemnity or insurance coverage for participants.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

As a participant you have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research *[this measure refers* *to confidentiality]* or In addition, your name will not be recorded anywhere during the research process and no one will be able to connect you to the answers you give *[this measure refers to anonymity]*. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Access to the data by external personnel will include transcriber or external coder who will play a role in analysing the information provided during the study and will maintain confidentiality by signing a confidentiality agreement. The confidentiality agreement will be submitted to the Research Ethics Review Committee for consideration. Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Anonymous data may be used for other purposes, such as a research report, journal articles and/or conference proceedings and privacy will be protected in any publication of the information. Such publication can include for example a report of the study may be submitted for publication, but individual participants will not be identifiable in such a report. Please keep in mind that it is sometimes impossible to make an absolute guarantee of confidentiality or anonymity, e.g. when focus groups are used as a data collection method but in this study, it will be maintained at all cost.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet for future research or academic purposes, electronic information will be stored on a password protected computer of the researcher. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. If necessary information will be destroyed for example hard copies will be shredded and or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

There is no payment or incentives that will be provided for participating into the study, instead refreshment snacks and drinks will be provided to the participants. No additional cost is anticipated in participating in the study as interviews will take place in the natural setting where HIV Universal Test and Treat Strategy usually take place.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee of the College of Human Science, Health Studies Department, University of South Africa. A copy of the approval letter can be obtained from the researcher if you wish so.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Nomcebo Mthembu on 073 588 8392 or email: nomcebopmthembu@gmail.com. The findings are accessible for <insert time frame>.
Should you require any further information or want to contact the researcher about any aspect of this study, please contact: Nomcebo Mthembu on 073 588 8392 or email: nomcebopmthembu@gmail.com

Should you have concerns about the way in which the research has been conducted, you may contact Dr Mercia Tellie, telephone number: 012 429 8049, email: telliemj@unisa.ac.za. You can further contact the research ethics chairperson of the HSREC, Prof J E Maritz at HSREC@unisa.ac.za if you have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.
Thank you.
<insert signature>
Researcher: Nomcebo P Mthembu

CONSENT TO PARTICIPATE IN THIS STUDY

I, __________________ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the <insert specific data collection method>.

I have received a signed copy of the informed consent agreement.

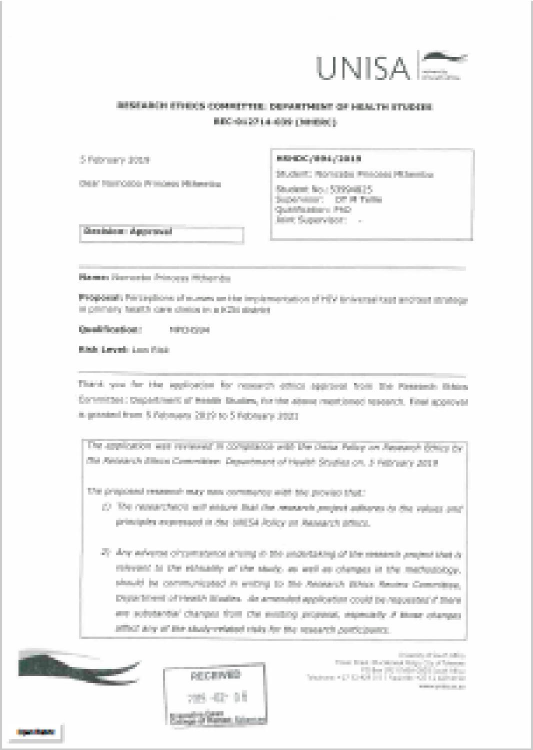
Participant Name and Surname………………………………………… (please print)

Participant Signature……………………………………………..Date…………………

Researcher's Name and Surname………………………………………(please print)

Researcher's signature…………………………………………..Date…………………

APPENDIX 2: ETHICAL APPROVAL



UNISA

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)

5 February 2019

Dear Nomcebo Princess Mthembu

HSHDC/894/2018
Student: Nomcebo Princess Mthembu
Student No.: 53994825
Supervisor: Dr M Tette
Qualification: PhD
Joint Supervisor: -

Decision: Approval

Name: Nomcebo Princess Mthembu

Proposal: Perceptions of nurses on the implementation of HIV universal test and test strategy in primary health care clinics in a KZN district

Qualification: MPCHS94

Risk Level: Low Risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 5 February 2019 to 5 February 2021

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on, 5 February 2019

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

RECEIVED
2019 -02- 15
College of Human Sciences

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *You are required to submit an annual report by 30 January of each year that the study is active. Reports should be submitted to the administrator HSREC@unisa.ac.za. Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.*

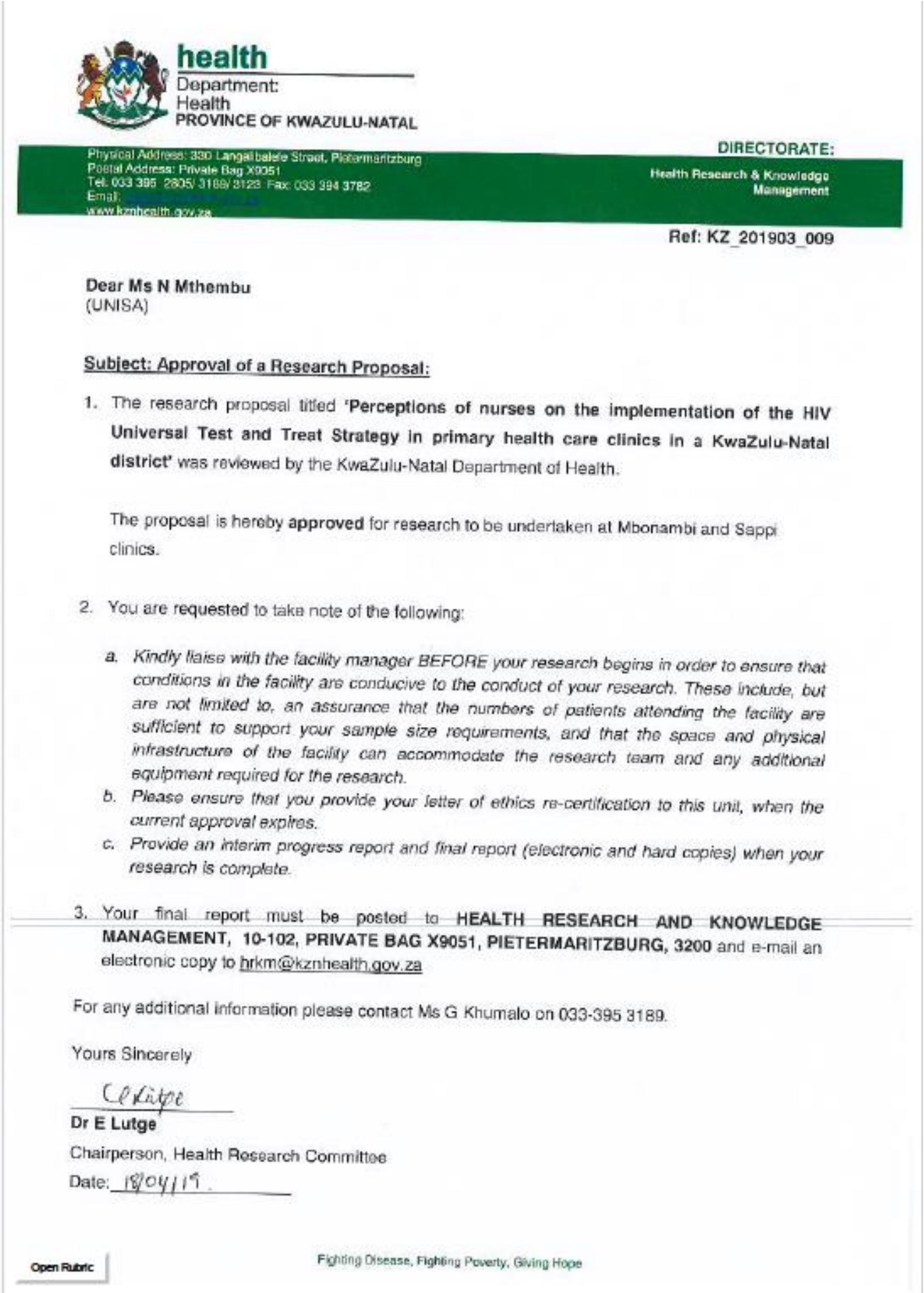
Note:
The reference numbers (top middle and right corner of this communiqué) should be clearly indicated on all forms of communication (e.g. Webmail, E-mail messages, letters) with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za

Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES

APPENDIX 3: KZN DEPARTMENT OF HEALTH CONSENT



health
Department:
Health
PROVINCE OF KWAZULU-NATAL

Physical Address: 330 Langalibalele Street, Pietermaritzburg
Postal Address: Private Bag X9051
Tel: 033 395 2805/ 3189/ 3123 Fax: 033 394 3782
Email: [illegible]
www.kznhealth.gov.za

DIRECTORATE:
Health Research & Knowledge Management

Ref: KZ_201903_009

Dear Ms N Mthembu
(UNISA)

Subject: Approval of a Research Proposal:

1. The research proposal titled **'Perceptions of nurses on the implementation of the HIV Universal Test and Treat Strategy in primary health care clinics in a KwaZulu-Natal district'** was reviewed by the KwaZulu-Natal Department of Health.

   The proposal is hereby **approved** for research to be undertaken at Mbonambi and Sappi clinics.

2. You are requested to take note of the following:

   a. *Kindly liaise with the facility manager BEFORE your research begins in order to ensure that conditions in the facility are conducive to the conduct of your research. These include, but are not limited to, an assurance that the numbers of patients attending the facility are sufficient to support your sample size requirements, and that the space and physical infrastructure of the facility can accommodate the research team and any additional equipment required for the research.*
   b. *Please ensure that you provide your letter of ethics re-certification to this unit, when the current approval expires.*
   c. *Provide an interim progress report and final report (electronic and hard copies) when your research is complete.*

3. Your final report must be posted to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to hrkm@kznhealth.gov.za

For any additional information please contact Ms G Khumalo on 033-395 3189.

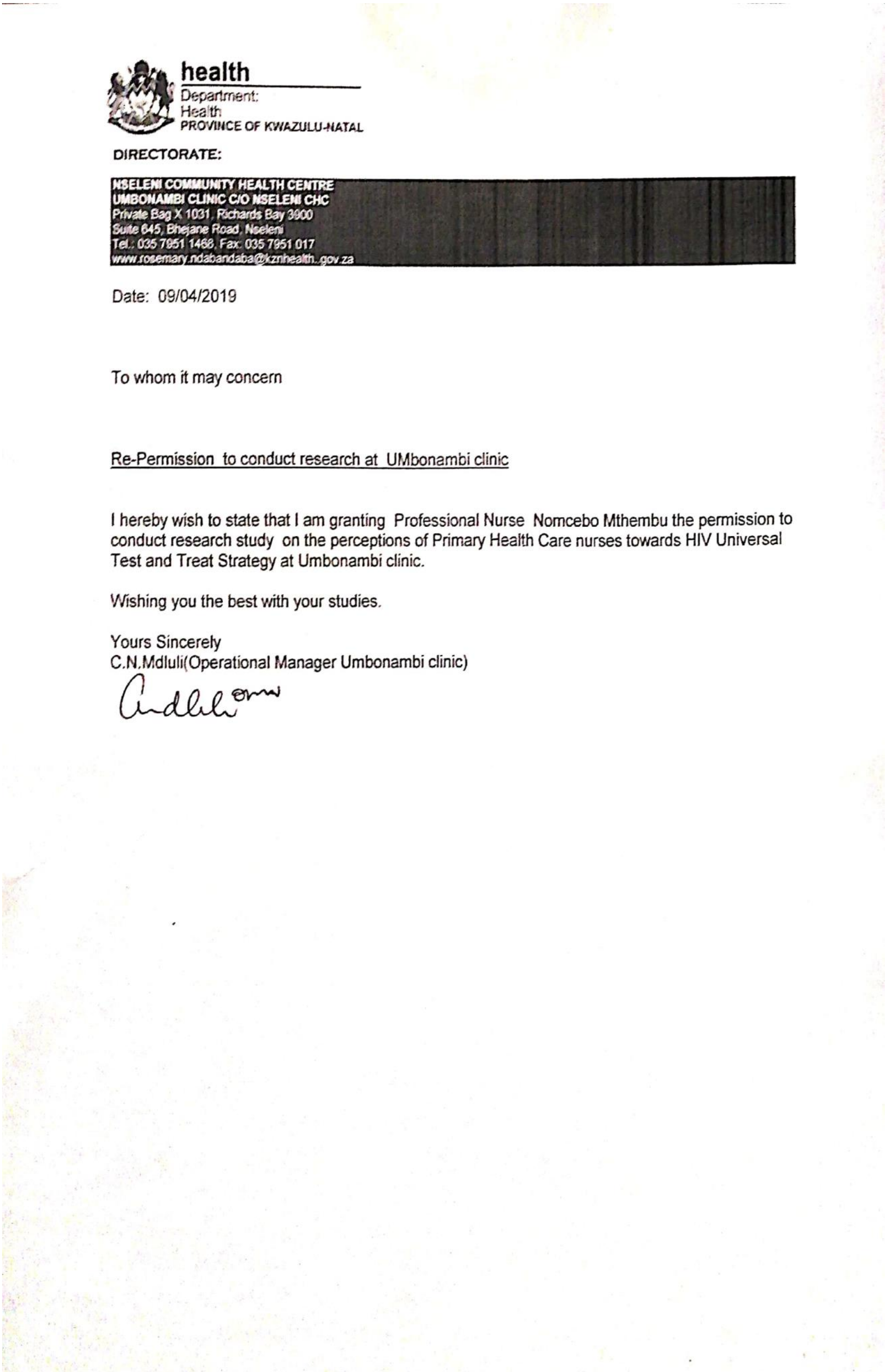
Yours Sincerely

Dr E Lutge
Chairperson, Health Research Committee
Date: 18/04/19.

Open Rubric

Fighting Disease, Fighting Poverty, Giving Hope

APPENDIX 4: OPERATIONAL MANAGERS PRIMARY HEALTH-CARE CLINICS CONSENT



health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:

NSELENI COMMUNITY HEALTH CENTRE
UMBONAMBI CLINIC C/O NSELENI CHC
Private Bag X 1031, Richards Bay 3900
Suite 645, Bhejane Road, Nseleni
Tel.: 035 7951 1468, Fax: 035 7951 017
www.rosemary.ndabandaba@kznhealth..gov.za

Date: 09/04/2019

To whom it may concern

Re-Permission to conduct research at UMbonambi clinic

I hereby wish to state that I am granting Professional Nurse Nomcebo Mthembu the permission to conduct research study on the perceptions of Primary Health Care nurses towards HIV Universal Test and Treat Strategy at Umbonambi clinic.

Wishing you the best with your studies.

Yours Sincerely
C.N.Mdluli(Operational Manager Umbonambi clinic)

health

Department:
Health
PROVINCE OF KWAZULU-NATAL

SAPPI CLINIC

To: Miss Nomcebo Princes Mthembu

From: E.S Gumede

Operational manager: Sappi Clinic

Date: 10 April 2019

RE: Permission to conduct a research on the perception of primary health care nurses towards HIV universal test and treat strategy in king Cetshwayo District.

The permission is hereby granted to you to conduct the research on the perception of primary health care nurses towards HIV universal test and treat strategy at Sappi Clinic.

Thank you

E.S Gumede

Operational manager

APPENDIX 5: INTERVIEW GUIDE

Interview Guide

Research title: The challenges faced by nurses in the implementation of HIV universal test and treat strategy in primary health care clinics in a Kwazulu-natal district.

Section A:

Demographic Information:

1. Participant code: ____ ☐

2. Nurses category: 1. Professional nurse ☐

2. Enrolled nurse ☐

3. Gender 1. Male ☐

2. Female ☐

4. Age ☐

Section B:

5. Tell me about the challenges you experience since the implementation of the HIV Universal Test and Treat strategy at your clinic.

6. Tell me about available opportunities to talk about the challenges you experience.

7. How does the feelings you experience impact on service delivery to HIV positive patients in your clinic.

Thank you for participation

APPENDIX 6: FIELD NOTES

Field notes: Interview with Clinical nurse practitioner, 15 September 2019

Location: uMbonambi clinic, King Cetshwayo district

Interviewee: Sr XXXX Age: 55 years old Position: Clinical nurse practitioner

Start time: 19:10 pm   End time: 19:36pm

Setting of the interview: We sat in a park home situated at the back of the clinic, quite area around evening hours. It was furnished with a single table, closed medication cupboard and two chairs.

Observation: The room utilised was clean, good air circulation and adequate lighting source

Physical environment: The park home was a bit quiet considering that it was evening hours therefore less patients were flooding in the clinic. Distance noise heard from colleagues passing by to nearby consulting rooms however it was not disruptive at all

Interviewee's behaviour:

Sr XXX looked well relaxed, and groomed in her uniform gear. She also seemed a bit enthusiastic but in instances whereby she was talking about challenges encountered in the process her face will be a bit sad and tone of voice will change as well

Non-verbal cues:

She made consistent eye contact with the interviewer throughout the interview and spoke with so much enthusiasm. At times she would show emphasis through the repeated use of hand gestures when communicating challenges by the facility or repeated encounters with similar problems from patients.

Key quotes:

"Shortage of staff plays role in the facility, a big challenge but government said we must use whatever we got"

"Because it seems the nice thing is when we are getting the positive, when we are getting negative we are not done right"

Reflections post interview:

The interview held with Sr XXX brought to light on both the challenges and positive effects that UTT implementation brought along in primary health care clinics. It also gave a more personalised experience from each individual nurse’s perspective regarding UTT.

The relaxed environmental setting and the fact that the clinic was less busy during that evening resulted in the nurse being more open and ability to articulate herself properly on the subject at hand

APPENDIX 7: INDEPENDENT CODER CONFIDENTIALITY AGREEMENT

53994825 Mthembu
Nomcebo Princess

Confidentiality Agreement:

Title of the study: **The challenges faced by nurses in the implementation of HIV universal test and treat strategy in primary health care clinics in a KwaZulu-Natal district.**

Researcher: Mthembu NP

The Research Ethics Review Committee stipulates that access to the data by external personnel like independent coders or transcribers who play a role in either transcribing the information or analysing the data provided during the study must maintain confidentiality by signing the confidentiality agreement.

Therefore, the coders or transcribers of the data collected needs to commit themselves to maintain confidentiality when transcribing or coding the data.

I, Theresa Sheila Mokoboto-Zwane, commit myself to keep all the information confidential during the course of analysing the qualitative data for the study.

Coder Signature: **Date:** 03/08/2020

APPENDIX 8: EDITING CERTFICATE

28 October 2023

To whom it may concern

This is to certify that I, Chanel Serfontein, have edited the dissertation submitted for the degree of

Master in Public Health in the Department of Health Studies at the University of South Africa titled “The Challenges Faced by Nurses in the Implementation of HIV Universal Test and Treat Strategy in Primary Health Care Clinics in a Kwazulu-Natal District” by Nomcebo Mthembu.

The onus is, however, on the author to make the changes and address the comments.

Warm regards,

Chanel Serfontein

Page Turner

chanel@pageturner.co.za