KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN MANZINI, ESWATINI

by

CELIWE ZAKHONA DLAMINI

submitted in accordance with the requirements for

the degree of

MASTER OF ARTS

in the subject

NURSING SCIENCE

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: DR GC BOERSEMA

CO-SUPERVISOR: PROF GH VAN RENSBURG

February 2024

DECLARATION

NAME: CELIWE ZAKHONA DLAMINI
STUDENT NUMBER: 46609571
DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA
DEGREE: MASTER OF ARTS (NURSING SCIENCE)

KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN MANZINI, ESWATINI

I declare that the above dissertation is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

27 February 2024

SIGNATURE **DATE**

Celiwe Zakhona Dlamini

KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN MANZINI, ESWATINI

NAME: CELIWE ZAKHONA DLAMINI
STUDENT NUMBER: 46609571
DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA
DEGREE: MASTER OF ARTS (NURSING SCIENCE)
SUPERVISOR: DR GC BOERSEMA
CO-SUPERVISOR: PROF GH VAN RENSBURG

ABSTRACT

HIV self-testing is currently provided by HIV counsellors to reach the high risk, unreachable population. The purpose of the study was to determine HIV counsellors' knowledge and attitudes in offering HIV self-testing as a strategy to enhance targeted HIV services in Manzini, Eswatini. A qualitative, exploratory-descriptive design was used. HIV counsellors were sampled from a regional hospital's outpatient department, using all-inclusive sampling. The researcher conducted face-to-face interviews with 13 HIV counsellors. Data was analysed using Braun and Clarkes thematic data analysis framework. Three themes emerged namely: (1) knowledge enabling HIV counsellors to conduct HIV self-testing, (2) views on HIV self-testing and (3) proposed improvements for HIV self-testing provision as a targeted HIV service. HIV counsellors' knowledge and attitude enabled them to conduct HIV self-testing as part of targeted HIV services. Although negative attitudes were not identified, challenges in the provision of HIV self-testing as a targeted strategy were experienced. Recommendations for improving the targeting of high-risk, unreachable populations included continuous engagement with clients to share their preferences for HIV self-testing, continuous capacity-building of HIV counsellors, and government support to ensure policies promote targeting. As supervisors of HIV services delivery, professional nurses must be fully aware of HIV counsellors' capabilities to monitor and support them.

Key concepts

Attitude; Eswatini; HIV; HIV counsellors; HIV self-testing; HIV testing; knowledge; targeted HIV testing.

ACKNOWLEDGEMENTS

My sincere appreciation goes to the following persons for their tremendous support towards the completion of this dissertation:

- Doctor Christelle Boersema and Professor Gisela van Rensburg, my supervisor and co-supervisor, for their incredible and consistent support throughout the study. You never forgot to end our numerous feedback and support sessions with “continue the good work”, which would uplift my spirits to try harder as I worked through the study’s stages.
- My husband, Sibusiso, thank you for believing in me. You were my pillar when I felt frustrated by the long and hard journey of distance learning. Making prompt payments to Unisa and any other necessary payments was made possible by you believing and wishing me well with this dissertation.
- My son, Simakhile, you are the best son ever! We would be in the study room together while I work on my dissertation and you work on your school work. That, in itself, motivated me to push harder and made us study buddies for life.
- My “daughter” sister-in-law, Xoliswa, you made the journey simpler for me. I would call at all hours, and you would respond with: “Ma, I hope school is treating you well”. I would pour out my frustrations and you made calls to appropriate persons who might assist me.
- The hospital management, thank you for allowing me to conduct the study in your hospital.
- The participants who took part in the study; thank you for sharing your experiences and contributions to the study.
- Professor Sheila Mokoboto-Zwane and Doctor Bonisile Nsibandze for co-coding my data.
- Magda Botha, you transcribed my data timeously as interview recordings came to your inbox.

DEDICATION

I dedicate this study to my father, Mr Samuel Mphambanyoni Dlamini, who endured the harsh conditions of his workplace and, despite ill health, ensured I attended school and reached for the stars.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

ART	Antiretroviral Therapy
CDC	Centers for Disease Control and Prevention
ENHI	Eswatini Nazarene Health Institutions
HIV	Human Immunodeficiency Virus
HTS	HIV Testing Services
KAP	Knowledge, Attitudes and Practice
MSM	Men Having Sex with Men
PEP	Post-exposure Prophylaxis
PEPFAR	President's Emergency Plan for AIDS Relief
PrEP	Pre-exposure Prophylaxis
SHIMS 3	Swaziland HIV Incidence Measurement Survey Three
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organization

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Eswatini has a Human Immunodeficiency Virus (HIV) prevalence of approximately 24.8% among its adult population aged 15-49 years (Eswatini Ministry of Health 2022:49). Eswatini is among the eight countries in sub-Saharan Africa that account for two-thirds of people living with HIV in the world (Joint United Nations Programme on HIV/AIDS [UNAIDS] 2020:1). Although Eswatini has made progress in attaining UNAIDS' fast-track targets of 95-95-95, some sub-population groups are still unaware of their HIV status; these sub-populations include adult men aged 20-34 and women aged 15-30 (United States Agency for International Development [USAID] 2021:30). These population groups represent individuals of child-bearing age and those migrating between jobs for career advancement, and migration is a key driver of HIV transmission in Eswatini (Anglewicz, VanLandingham, Manda-Taylor & Kohler 2016:1; Belle & Gamedze 2019:2). Therefore, the estimated 4 000 new HIV infections per year in Eswatini require robust interventions to curb the spread (UNAIDS 2020:1).

A targeted HIV testing strategy has been shown to increase access to high-priority populations (Eswatini Ministry of Health 2019a:39). Targeting is the process of defining how to direct HIV testing services to identify persons who are unaware of their HIV status despite being at the greatest risk for infection (Miles 2023:7). These high-priority populations engage in sexual behaviours that render them at a high risk of contracting HIV and often face social barriers making available HIV testing services inaccessible. These populations typically include men, adolescent girls and young women, men having sex with men (MSM), sex workers, prisoners, and those in the armed forces. They are sometimes referred to as high-risk, unreachable populations in this study. Targeted HIV self-testing services thus intend to reach these high-risk population groups that previously available HIV testing strategies have missed over the years (Eswatini Ministry of Health 2019a:39).

HIV counsellors offer HIV self-testing as part of the HIV testing services provided in most testing settings. The first HIV self-test was proposed in 1986, which led the World Health Organization (WHO) to formally recommend HIV self-testing in 2016, and currently, almost 100 countries have incorporated HIV self-testing into their national HIV testing strategies (Fischer, Abrahams, Shankland, Tresha, Edward, Edward & De Wit 2023:1). In 2018, targeted HIV self-testing was introduced in Eswatini to ensure all high-risk population groups are aware of their HIV status, a gap that other rapid HIV tests could not fill. However, HIV self-testing requires knowledge of the targeted testing strategy, such as the practice of providing the service as efficiently as possible to reach targeted populations. This strategy's use is also driven by HIV counsellors' attitudes towards self-testing. Knowledge is the foundation of behaviour and beliefs, and attitudes are the driving force of practice (Fan, Zhang, Li, Li, Zhang, Liu & Jiang 2018:2). Therefore, it is important to explore and describe HIV counsellors' knowledge and attitudes in offering HIV self-testing as part of targeted HIV services to ensure practices are tailored to reach the intended population. This study was conducted to identify possible support and improvement areas to increase targeted HIV self-testing and promote sustained epidemic control in Eswatini.

1.2 BACKGROUND

This background section explains HIV self-testing and elaborates on developments in HIV testing and HIV self-testing as a targeted strategy, globally and in Eswatini. This is followed by a section describing other HIV tests in the national HIV testing algorithm in Eswatini since HIV self-testing is currently offered as a screening test. Furthermore, HIV counsellors' characteristics, roles and training needs are described.

1.2.1 HIV self-testing

HIV self-testing is a process where a person who wants to know their HIV status collects a specimen themselves (for example, oral fluids), performs a test and interprets the test results in private or with someone they trust (Eswatini Ministry of Health 2022:7). HIV self-testing is provided through an assisted or unassisted approach based on the client's preference.

Most HIV self-testing in Eswatini occurs through an assisted approach where an individual receives an in-person demonstration from a trained provider or peer before or during the test (Eswatini Ministry of Health 2020:8). Assisted HIV self-testing has advantages for both the client and the provider. The client benefits from onsite information, counselling and linkages support from trained healthcare providers (Burke, Nakyanjo, Ddaaki, Payne, Hutchinson, Wawer, Nalugoda & Kennedy 2017:1). Linkages support ensures that the client's immediate needs for HIV prevention, treatment, and care are assessed and prioritised, and clients are actively assisted or referred to receive the required services (Eswatini Ministry of Health 2019a:177). Providers are assured of correct results as they are available to assist during testing, and linkage services are provided simultaneously, reducing delays that may cause further morbidities and mortalities.

Unassisted HIV self-testing entails an individual obtaining an HIV self-testing kit and performing the test following the manufacturer's instructions without assistance. This model includes receiving an HIV self-testing kit as a secondary recipient from a person who has accessed HIV testing services from a healthcare worker (Eswatini Ministry of Health 2022:12). In Eswatini, about 20% of HIV self-testing occurred through the unassisted model between October 2017 and September 2018 (Eswatini Ministry of Health 2019a:4), however, there is insufficient information on the extent to which this model promotes targeted HIV testing services (Njau, Covin, Lisasi, Damian, Mushi, Boulle & Mathews 2019:11). A person who tests unassisted needs to reach out for further assistance if they test HIV positive. For HIV-negative results, the current HIV testing algorithm requires a follow-up test to confirm the negative self-test results before one can access prevention services, especially pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP).

1.2.2 The development of HIV testing and HIV self-testing as a targeted strategy

Globally, HIV testing services were introduced more than 35 years ago in healthcare settings (Alexander 2016:249). Eswatini increased its HIV testing services in 2003 to ensure HIV transmission is curbed by offering sufficient treatment and prevention services among the general population (Eswatini Ministry of Health 2018:9). Clinicians, mainly nurses, doctors and laboratory technicians, were the first to provide HIV testing services in Eswatini as it fell within their professional scope without any need for

additional training. However, due to a shortage of clinicians (WHO 2015:8; Zachariah, Ford, Philips, Lynch, Massaquoi, Janssens & Harries 2009:1), a shift was recommended to allocate the HIV testing task to trained lay counsellors at all levels of healthcare settings, so that clinicians could concentrate on more clinical tasks.

In 2009, HIV testing services were introduced as a routine service in all health service delivery points, resulting in most (84.7%) HIV-positive adults (77.5% males and 88.6% females) being aware of their HIV status (Eswatini Ministry of Health 2017:2). In 2015, the Eswatini national HIV testing guidelines were reviewed with guidance from the WHO to cater for emerging needs that required a more targeted approach to HIV testing services. Eswatini thus adopted voluntary counselling and testing centres as its main strategy for HIV testing service delivery. Further studies in 2021 showed an improvement in awareness of HIV status among adults to 94% (95% females and 92% males) because robust HIV testing programmes had increased HIV status awareness among the adult population (Eswatini Ministry of Health 2021:2). However, as the country moved towards epidemic control, it was becoming increasingly difficult to identify high-risk individuals that require either HIV treatment or prevention methods to halt transmission, hence the need to adopt innovative strategies that would assist in identifying these population groups.

Targeted HIV testing services aim to direct services to persons who are unaware of their HIV status and at a high risk of HIV acquisition and transmission (Eswatini Ministry of Health 2022:38). Targeted HIV services rely mostly on HIV counsellors' ability to screen clients for eligibility and conducting a thorough risk assessment to ensure proper channelling of the already limited HIV testing services. HIV self-testing was consequently one of the innovations Eswatini adopted in 2018 and scaled up to reach any unreachable, high-risk populations.

More than 100 countries face similar gaps in reaching high-risk and unreachable populations, including men. Globally, 78% of men aged 15 and older who are living with HIV are aware of their HIV status, and HIV self-testing is used as a strategy to reach these populations (WHO 2023:1-2). HIV self-testing is currently provided at HIV testing units in healthcare facilities, through campaigns, and in workplaces. Workplace initiatives of providing HIV self-testing to targeted populations include sectors like mining, agriculture, transport, tourism professions and parts of the informal economy sectors (World Health Organization [WHO] & International Labour Organization 2022:1-7). Peer

educators as well as HIV counsellors (sometimes called lay counsellors) are the main providers of HIV self-testing in these settings.

1.2.3 Types of HIV tests in Eswatini

Eswatini offers three types of HIV tests per the national HIV testing algorithm. The first test is the Enzyme Immunoassay HIV test; this antigen test is used to determine the presence of antigens in children under 18 months (Eswatini Ministry of Health 2019a:86). The test and its interpretation require a high level of technical skill, and it is thus only performed at the national referral laboratory by skilled personnel and not by HIV counsellors. The second type of HIV test is the serological HIV rapid test aimed at detecting the presence of HIV antibodies in human blood. These tests can detect antibodies after 8-12 weeks of exposure to HIV. While serological HIV tests are considered uncomplicated, they require trained personnel to conduct and interpret results (Eswatini Ministry of Health 2019a:85). HIV counsellors are the most assigned cadre certified by the Eswatini Ministry of Health to conduct and interpret this type of HIV test, together with nurses, doctors and laboratory technicians.

The third HIV test is the self-test. The need for innovation to reach targeted populations with HIV testing services necessitated the introduction and eventual increase of HIV self-testing as a third testing strategy in Eswatini. HIV self-testing is a screening test for HIV, and a positive result requires further confirmation tests. The tester performs the test using oral fluids at a space convenient to them and interprets the results, thus increasing the potential to increase HIV testing coverage since healthcare worker involvement is optional. UNAIDS (2019:24) maintains confidence in the HIV self-tests that are used globally. It has the potential to be a high-impact and low-cost intervention to reach high-risk, unreachable populations (Eswatini Ministry of Health 2019b:85).

1.2.4 HIV counsellors' certification and roles in Eswatini

HIV counsellors are the first point of contact in the provision of HIV services in most healthcare settings in Eswatini. Although they are a lay cadre, they have to meet some prerequisites in accordance with the Eswatini Ministry of Health's stipulations before they can practise as an HIV counsellor. The following section describes the training, certification, and roles of HIV counsellors in Eswatini.

1.2.4.1 HIV counsellors' training and certification

An HIV counsellor in Eswatini is an individual who has completed secondary school and received a certification from the Eswatini Ministry of Health to practice as an HIV counsellor. Certification is obtained if a candidate obtains 85% after completing a two-week theory course and four weeks of clinical practice training and has proven to be skilful in independently performing HIV tests (Eswatini Ministry of Health 2019a:9).

Training is conducted by two Ministry of Health-approved institutions using the country's national HIV guidelines that were developed from WHO standards and are updated as new guidance emerges regarding HIV testing services. The Eswatini HIV testing guidelines recommend annual refresher training for HIV counsellors to reinforce their knowledge and HIV testing skills. However, little evidence was found on the effectiveness of training in equipping HIV counsellors to provide targeted HIV services. The Eswatini Ministry of Health (2018:172) explains refresher training for HIV counsellors aims to update and build upon existing counselling skills and develop skills to respond to specific problems encountered in practice. Refresher training thus forms part of quality assurance activities for HIV counsellors to ensure effectiveness and efficiency in HIV service provision.

The researcher observed that as HIV counsellors have no professional governing body that specifically regulates and monitors their practice, they might be overlooked in terms of ensuring continuous capacity-building and support as they render HIV services. Therefore, an exploration of HIV counsellors' knowledge and attitudes as major HIV testing service providers is paramount to propose recommendations that will enhance the quality of HIV self-testing in Eswatini.

1.2.4.2 HIV counsellors' roles

HIV counsellors are primarily responsible for HIV counselling and testing in several African countries (Sanjana, Torpey, Schwarzwalder, Simumba, Kasonde, Nyirenda, Kapanda, Kakungu-Simpungwe, Kabaso & Thompson 2009:1; Mwisongo, Mehlomakhulu, Mohlabane, Peltzer, Mthembu & Van Rooyen 2015:3). Their roles were introduced in clinical settings as part of task-shifting. Task-shifting refers to the rational redistribution of tasks among health workforce teams. Specific tasks are moved, where

appropriate, from highly qualified health workers to health workers with less training and fewer qualifications to make more efficient use of the available human resources (WHO 2008:5). The introduction of HIV counsellors was thus aimed at increasing the number of individuals offering testing services and reducing waiting times for HIV testing services. HIV counsellors' roles include screening clients for HIV test eligibility, providing HIV health education, offering HIV counselling services, providing quality targeted HIV testing services, and ensuring linkages to HIV services after each HIV test.

Screening clients for HIV is essential to ensure efficiency in the provision of health services. HIV screening entails a process where an HIV counsellor determines the need for an HIV test based on a Eswatini Ministry of Health-approved tool to ensure targeting (Eswatini Ministry of Health 2019a:4). Screening for eligibility ensures that scarce HIV testing resources benefit high-risk, unreachable population that have a greater likelihood of contracting and transmitting HIV, addressing epidemic control. HIV counsellors are trained to ensure that the neediest populations are prioritised with HIV testing services in any setting.

The provision of health education is aimed at positively influencing individuals' and communities' health behaviour concerning HIV. HIV education assists clients in understanding how the HIV disease spreads, its progression, ways to prevent HIV infection, and management of an existing disease. HIV education interventions are associated with a greater likelihood of subsequent adoption of preventive behaviours when implemented in combination with behaviour change elements (Faust & Yaya 2018:2). HIV counsellors are thus equipped to provide HIV health education in all health settings as part of their daily duties (Eswatini Ministry of Health 2019a:1). Health education is delivered in a group setting during morning sessions for all clients who visit the health services that day and individually within the designated counselling rooms. Due to the importance of HIV/AIDS prevention control and its impact, health education should remain a regular part of HIV programmes (Liu, Lu, Wang, Wilkinson, Ren, Wang, Zhang, Gao & Liu 2020:187).

HIV counselling services are provided to clients at high risk of contracting HIV before and after HIV testing (Eswatini Ministry of Health 2018:31). Counselling is defined as a process that aims to help clients cope with HIV and its impact on physical, psychological, social and financial well-being (Chippindale & French 2001:1). Counselling is intertwined

with patient education and is a critical role among HIV counsellors who are the first-line counsellors for all HIV-related matters in health facilities. Their role also includes referring non-coping clients to other health professionals for mental health support. Arullapan, Chersich, Mashabane, Richter, Geffen, Vearey, Jankelowitz, Scorgie and Venter (2018:1) confirm that counsellors have sufficient skills to offer HIV health education, and they recommend regular training to refresh and update counsellors' knowledge.

The Eswatini Ministry of Health (2019:95) stipulates that all HIV counsellors need to be competent in performing quality and safe rapid HIV testing and HIV self-testing according to the country's national HIV testing algorithm. As part of targeted HIV services, testing should be performed after a thorough HIV screening and risk assessment, which aims to identify the most at-risk clients. Moreover, accurate HIV results must be attained at all times as one of the five guiding principles of HIV testing services. Correct HIV results ensure clients are promptly referred and linked to appropriate HIV services based on their test outcomes, thus breaking the chain of HIV transmission.

Nurses and nurse managers supervise HIV counsellors as they execute their daily duties and are the first point of contact for all clients in most healthcare settings. The position of HIV counsellors, as the first point of contact in the continuum of care, requires knowledge and attitudes that support targeted HIV self-testing to ensure further HIV care and treatment services are targeted, thus promoting efficiencies in the HIV care and treatment continuum. As part of the multidisciplinary team, the HIV counsellors complement the services rendered by nurses in the clinics. HIV counsellors' knowledge and attitudes in providing HIV self-testing as part of HIV services thus need to be studied to ensure the service continues to be provided accurately and focuses on the most at-risk populations (Eswatini Ministry of Health 2019a:2).

1.3 RESEARCH PROBLEM

Eswatini's HIV self-testing strategy was scaled up to reach high-risk, unreachable populations (Eswatini Ministry of Health 2019b:39). Unreachable populations in the study refer to individuals who cannot access HIV testing services due to different barriers, including lack of awareness, fear of stigma, discrimination, lack of access and other factors that make them unaware of their HIV status. Failure to use HIV self-testing and other targeted strategies efficiently could result in the under-diagnosis of HIV

and an increase in morbidities, mortalities and the spread of HIV. Scaling up index and HIV self- testing could lead to 100 000 more people getting tested for HIV (25% more tests) with the same budget (Minnery, Mathabela, Shubber, Mabuza, Gorgens, Cheikh, Wilson & Kelly 2020:1). Similar under-diagnosis due to a lack of targeted testing was reported in the WHO's 'End TB' study (WHO 2020:121). In 2020, funds and human resources for tuberculosis (TB) were reallocated to COVID-19 activities despite TB incidence falling far below the targeted 20%. Similarly, HIV testing suffered the same fate with the emergence of new public health threats like COVID-19. Priorities shifted to reallocate funds despite the continued threats from HIV in various high-incidence countries. An increase in competing health priorities thus requires more efficient strategies to screen for HIV.

HIV counsellors' behaviour in terms of HIV self-testing provision is key to a targeted strategy since they are the main providers of HIV testing services (HTS) in most healthcare settings. They screen individuals' eligibility for this type of HIV test, and they also refer clients to further healthcare services in case of a positive diagnosis. A positive attitude towards HIV self-testing was found to promote access among targeted populations (Mavodza, Makworth-Young, Bandason, Dauya, Chikwari, Tembo, Apollo, Ncube, Kranzer, Ferrand & Bernays 2021:3).

Eswatini currently has approximately 4 000 new adult HIV infections per year, which the country aims to reduce to sustain epidemic control (Eswatini Ministry of Health 2022:1; Icap Global Health 2023:4). Prolonged failure to reach targeted populations with HIV testing services will ultimately result in poor healthcare outcomes for these populations in the future. Opportunities to avert new infections and early treatment of those diagnosed with HIV will be missed, resulting in delayed epidemic control. Delayed HIV services among targeted populations will further put a strain on the already burdened nursing and wider healthcare workforce to manage HIV in the future, resulting in increased HIV morbidities and mortalities. HIV counsellors' knowledge or attitudes towards HIV self-testing is thus important to ensure the efficient reach of targeted populations. Ultimately, behaviours and practices are driven by HIV counsellors' knowledge and attitudes (Otto 2021:5). Their knowledge and attitudes towards HIV self-testing as a targeted strategy thus need to be explored to identify areas for improvement and support, in turn improving the entire healthcare service delivery continuum for targeted populations to ensure better HIV-care outcomes.

1.4 PURPOSE AND OBJECTIVES OF THE STUDY

The study's purpose and objectives are described in the sections that follow.

1.4.1 Research purpose

The purpose of the study was to determine HIV counsellors' knowledge and attitudes in offering HIV self-testing as a strategy to enhance targeted HIV services in an outpatient department in a selected regional hospital in Manzini, Eswatini.

1.4.2 Research objectives

The study's objectives were to:

- explore and describe HIV counsellors' knowledge regarding HIV self-testing in Manzini, Eswatini
- explore and describe HIV counsellors' attitudes in offering HIV self-testing in Manzini, Eswatini
- propose specific recommendations for HIV self-testing that will enhance targeted HIV services in Manzini, Eswatini

1.5 SIGNIFICANCE OF THE STUDY

The study's findings provided an in-depth description of HIV counsellors' knowledge and attitudes in providing HIV self-testing as part of targeted HIV services. This study further identified areas for improvement and support required by HIV counsellors to deliver targeted HIV self-testing services at a hospital in Manzini, Eswatini. The research results could contribute to supporting HIV counsellors in performing their daily tasks and improving the efficiency of HIV self-testing, which could further lead to cost-savings as HIV-positive clients could be diagnosed and treatment can be timely commenced to prevent deaths and the further spread of HIV. The study highlighted nurses' and nurse managers' roles in supporting HIV counsellors in the provision of targeted HIV self-testing and nursing care for clients after testing.

1.6 CLARIFICATION OF KEY CONCEPTS

The key concepts used in the title, purpose statement and objectives of the study are clarified and explained as they were applied in this study.

1.6.1 Attitude

Attitude refers to a person's reactions towards the knowledge they acquire (Tukiman, Seman & Mustaffa 2021:885). These reactions can include thoughts, beliefs, opinions, feelings and ideas that influence behaviour. Attitude is the reason for a behaviour, and behaviour is the expression of attitude. Attitude is formed through personal experience and can be positive or negative (Bakanauskas, Kondrotienė & Puksas 2020:1). HIV counsellors' attitudes in HIV self-testing refer to the HIV counsellors' cognitive reactions in providing HIV self-testing, including their thoughts, beliefs, opinions, feelings and ideas about HIV self-testing.

1.6.2 HIV counsellors

HIV counsellors are individuals responsible for providing sustainable, high quality and client-focused HIV counselling and testing services. In Eswatini, HIV counsellors are individuals who have passed a theory and practical HIV testing services training course to perform all HIV testing service-related duties as certified by the Eswatini Ministry of Health (Eswatini Ministry of Health 2019a:3). HIV counsellors in Eswatini are employed in healthcare settings, for example, at primary, secondary and tertiary healthcare facilities, including public and privately owned facilities.

1.6.3 HIV self-testing

HIV self-testing is a process in which a person collects their own test specimen, namely oral fluids or blood, performs the HIV test at their preferred location, and interprets the results themselves or with the assistance of someone they trust (Eswatini Ministry of Health 2022:38; WHO 2018:9). This study determined HIV counsellors' knowledge and attitudes towards HIV self-testing as part of targeted HIV services.

1.6.4 Knowledge

Knowledge refers to an understanding of or information about a subject that a person obtains through experience or training (Tukiman et al 2021:885). Adequate knowledge is necessary to provide HIV self-testing in a targeted manner. In this study, HIV counsellors' knowledge refers to the facts and information they acquired through education and experience. Knowledge includes their theoretical and practical understanding of HIV self-testing. HIV counsellors' knowledge of HIV self-testing was explored and described to understand its influence on attitude and behaviour.

1.6.5 Practices

Practices refer to the ways in which acquired knowledge and attitudes are demonstrated through actions (Kaliyaperumal 2004:7). In this study, practice refers to HIV self-testing actions as a targeted strategy.

1.6.6 Targeted HIV services

Targeted HIV services are intended to reach high-risk, unreachable populations by directing HIV testing services to identify and provide services to these population groups (Centers for Disease Control and Prevention [CDC] 2022:1). High-risk populations targeted with HIV self-testing in Eswatini include sex workers and their clients, MSM, prisoners, drug-injecting clients and young women aged 15-24 years (Gupta-Wright, Barnabas, Ingold, Duneton & Abubakar 2021:2). The Eswatini Ministry of Health (2022:33) further states priority groups include men, children, adolescents (0-19 years) and young women, as well as key populations as part of targeted testing.

1.7 THEORETICAL FRAMEWORK

The Knowledge, Attitudes and Practices (KAP) model was initially developed in the 1950s to investigate human behaviour in social science research (Tukiman et al 2021:883). In 1976, Schwartz adapted the model based on the cognitive-affective-behaviour theory, which suggests that an increase in knowledge affects attitude and consequent behaviour or practice, which, in this study, refers to the provision of HIV self-testing in a targeted manner.

The KAP model describes that an increase in knowledge on a certain subject affects attitude towards that subject and subsequently leads to a certain practice or behaviour towards that subject (Kwak, Seo, Park & Han 2022:1). Knowledge is regarded as the foundation of behaviour change and attitudes are the driving force of the behaviour (Fan et al 2018:1). KAP surveys are widely used in quantitative research with predetermined and standardised questions to try and reveal misconceptions that may act as a barrier to the adoption of certain behaviours (Manika, Ppagiannidi, Bourlakis & Clarke 2021:3). The model can be used to assess a target group's current knowledge, attitude and practice on a specific health topic to identify their needs, problems and possible barriers that may represent obstacles to activities planned for implementation, as well as potential barriers to behaviour change (Hiew, Chin, Chan & Mohd Nasir 2015:2).

The researcher considered Schwartz' KAP model as appropriate to guide the current study since HIV self-testing is a human behaviour affected by knowledge and attitudes. The researcher used the model partially in the study since only HIV counsellors' knowledge and attitudes towards HIV self-testing were explored and described without studying their practice.

1.8 OVERVIEW OF THE RESEARCH DESIGN AND METHODOLOGY

An overview of the study's research paradigm, design and methodology is provided in this section. The second chapter provides a detailed discussion of the research method employed in this study.

1.8.1 Research paradigm

A paradigm is a collection of assumptions about knowledge and how to acquire it. This study used a constructivist paradigm aimed at explaining the subjective reasoning and meaning behind a social action (Choongwa 2018:11). The researcher believed the constructivist paradigm was suitable for this study as it matched the research purpose to determine HIV counsellors' knowledge and attitudes in providing HIV self-testing in Eswatini as a phenomenon. The assumptions of constructivism are further explained in Chapter 2.

1.8.2 Study design

The study followed a qualitative, exploratory-descriptive research design. The study was explorative because the researcher explored HIV counsellors' knowledge and attitudes in providing HIV self-testing in Eswatini (Jolley 2020:121). The study was descriptive as it aimed to describe the full nature of HIV self-testing provision as experienced by HIV counsellors. This design was suitable as it provided rich subjective information on the provision of targeted HIV self-testing as described by the HIV counsellors themselves. The researcher aimed to understand the full nature of HIV self-testing provision by HIV counsellors and its underlying processes in Eswatini.

1.8.3 Study site

The study site is an outpatient department at one selected hospital. This hospital was selected because it is a regional referral and teaching hospital with 20 community clinics operating in the four regions of Eswatini located in Manzini, an industrial area of Eswatini, providing outpatient department services to an average of 500 patients per day (Eswatini Nazarene Health Institution [ENHI] 2022:1). Providing HIV testing services to a high number of clients daily enhances the probability that counsellors will have gained experience and can provide rich descriptions of the research phenomenon. The goal of HIV testing is to reach a high number of new high-risk clients. Therefore, the outpatient department was an ideal setting to reach this goal compared to inpatient clients, who are almost a stagnant population.

1.8.4 Study population

In this study, the accessible population was HIV counsellors providing HIV self-testing at the outpatient department of one selected hospital. Participants were HIV counsellors over 18 and younger than 60 years, working at the selected hospital's outpatient department, providing HIV self-testing as part of HIV testing services.

1.8.5 Sampling and sample size

The researcher used an all-inclusive sampling strategy; all-inclusive sampling means all eligible participants were included in the study (Brink, Van der Walt & Van Rensburg

2018:119). At the time of the study, the total number of HIV counsellors in the outpatient department was 20. Therefore, in this particular study, the sample size was determined by the number of participants from the entire population who actually participated in the study, which was 13.

1.8.6 Data collection

In this study, the researcher conducted face-to-face, semi-structured interviews in English, an official local language. SiSwati, the local language was seldomly used during the interview by the participants when they struggled to express themselves in English. The researcher translated the SiSwati data while transcribing.

1.8.7 Data analysis

Data were analysed concurrently with data collection. Before data analysis commenced, audio recordings were transcribed verbatim. Braun and Clarke's six-step coding framework for thematic analysis was used to guide the inductive analysis of the data (Braun & Clarke 2019:2; Maguire & Delahunt 2017:4).

1.8.8 Trustworthiness

The researcher used Guba and Lincoln's criteria of trustworthiness (1989) to ensure the study's integrity was maintained. Strategies employed by the researcher to ensure the study's credibility, transferability, confirmability, dependability, and authenticity are discussed in Chapter 2. The overall aim of applying the strategies was to ensure that the findings reflected the viewpoints of the participants rather than those of the researcher (Polit & Beck 2018:103).

1.8.9 Ethical considerations

The researcher obtained ethical clearance from the Scientific Ethics Committee of the Eswatini Ministry of Health and the College of Human Sciences Research Ethics Committee of the University of South Africa. The researcher ensured the research was conducted ethically, as outlined in the Belmont Report (Polit & Beck 2018:134). Respect for persons, beneficence, non-maleficence, and justice were the guiding ethical principles

throughout the study. The researcher further ensured the privacy, anonymity, confidentiality, and informed consent of all participants throughout the study. The mentioned ethical principles applied in the study are further discussed in Chapter 2.

1.9 STRUCTURE OF THE DISSERTATION

The dissertation is structured as follows:

Chapter 1 offers an overview of this study, including the background, problem statement, purpose and objectives of the study. An overview of the methodology is also provided.

Chapter 2 outlines the research design and methods, offering a detailed description of the paradigmatic approach applied in this study, the research design and methods, including the study setting, population, sampling and data collection methods. The chapter concludes with a discussion of the ethical principles that were applied and outlines the strategies used to ensure the data's trustworthiness.

In Chapter 3, the study's findings are presented. The participants' demographic characteristics are described, and verbatim quotes that support each subtheme are availed.

In Chapter 4, the findings of the study are discussed and integrated with relevant literature on HIV counsellors' knowledge and attitudes in providing HIV self-testing as a targeted HIV service in Manzini, Eswatini. The findings are contextualised to the existing body of knowledge. Gaps in the existing body of knowledge are identified and guide the development of recommendations for future studies on HIV self-testing.

The researcher concludes the study in Chapter 5 by showing how each of the study's objectives was answered. The study's limitations and recommendations for further research in the field are also provided.

1.10 SUMMARY

This chapter provided an overview of this study, including the background, problem statement, purpose and objectives and significance of the study. The key concepts in the

study were clarified, including HIV counsellors, HIV self-testing, knowledge, attitudes, practices, and targeted HIV services to ensure a mutual understanding among all readers of the dissertation. An overview of the research design and methodology was provided. Lastly, the structure of the dissertation was outlined. The next chapter provides a detailed discussion of the research methods used in the study.

CHAPTER 2

RESEARCH METHODOLOGY

2.1 INTRODUCTION

A research methodology is described as the path researchers follow when conducting research (Sileyew 2019:1). This chapter describes the research paradigm, research design, study setting, population, sampling and data collection methods employed in this study. An outline of strategies to enhance the trustworthiness of the data is provided, and the chapter concludes with a discussion of the ethical principles that were applied.

The methodology was planned and implemented to address the purpose of the study, namely, to determine HIV counsellors' knowledge and attitudes in offering HIV self-testing as a strategy to enhance targeted HIV services in Eswatini.

2.2 RESEARCH PARADIGM

A research paradigm is a person's perspective on the complexities of the real world (Polit & Beck 2021:7-8); it includes the beliefs that guide decision-making. Research paradigms guide researchers in selecting their research objects, deciding on suitable methodological approaches, as well as analysing the results. Constructivism is a paradigm that aims to understand the human experience as it is lived (Polit & Beck 2021:10). A constructivist approach was the most suitable research paradigm for this study since it allowed the researcher to engage with the participants to get a deeper understanding of their knowledge and attitudes on the provision of HIV self-testing. Furthermore, the researcher was an integral part of the process through interactions with the participants. Participants' voices and interpretations were crucial in understanding HIV self-testing in Eswatini, and the researcher aimed to explore and describe HIV counsellors' knowledge and attitudes in the provision of HIV self-testing. Table 2.1 outlines the philosophical assumptions as applied in constructivism and this study.

Table 2.1 Philosophical assumptions of constructivism applied in this study

Philosophical assumption	Application in constructivism	Application in this study
Ontology *The nature of reality*	The researcher believes that reality is not fixed but constructed from human experiences and understands the importance of reality as experienced in a particular context. The researcher believes that reality is multiple and subjective.	The study obtained an in-depth understanding of HIV counsellors' knowledge and attitudes through the researcher's exploration of their thoughts, feelings and opinions. Each participant was believed to have their own subjective opinions, and multiple perspectives were explored.
Epistemology *The nature of knowledge*	The researcher believes that the research findings come from an interactive process between the researcher and the participants.	The researcher collected data through face-to-face interviews. Knowledge was constructed on two levels in the study by: • each participant giving meaning to their experiences and opinions from their worldview • the researcher also seeking to find meaning (construct knowledge) through inductive processes that involve putting segments together into meaningful conceptual patterns to describe participants' knowledge and attitudes
Axiology *The role of values*	The researcher assumes that subjectivity and values are inevitable and desirable in the study.	The HIV counsellors described their individual knowledge and attitudes in the provision of HIV self-testing as influenced by their values. The researcher applied the bracketing technique by identifying and holding in abeyance preconceived beliefs and opinions of HIV self-testing.

Philosophical assumption	Application in constructivism	Application in this study
Methodology *The methods to collect and analyse data*	The researcher believes that the findings of the study should follow an inductive process where the phenomenon can be holistically studied in its entirety. The research methods should seek to gain an in-depth understanding while focusing on both the research product and process, with an emphasis on subjectivity.	The researcher used an explorative-descriptive design to fulfil the study's objectives. The research followed an inductive process that could result in hypothesis generation about HIV self-testing in Eswatini. Evidence that emerged from participants' experiences followed a flexible and emergent design. The researcher was part of the process. A small, information-rich sample assisted the researcher in obtaining an in-depth understanding of the research phenomenon. Furthermore, participants' narrative information was qualitatively analysed.

(Compiled from Polit & Beck 2018:40)

2.3 RESEARCH DESIGN

A research design is an overall plan for obtaining answers to research questions and acts as an architectural backbone of a study (Polit & Beck 2017:56; Sileyew 2019:2). A qualitative approach and exploratory-descriptive research design were used in this study. The qualitative design was chosen as appropriate because the researcher intended to determine HIV counsellors' knowledge and attitudes by collecting rich data from participants' experiences on providing HIV self-testing in their natural uncontrolled environment.

2.3.1 Qualitative approach

Qualitative research is a subjective approach that systematically aims to describe lived experiences and give them meaning. It involves a set of interpretive practices that make the world visible (Islam 2019:2). Qualitative research is conducted when little is known about a phenomenon. A qualitative approach was thus suitable for this study since participants' perspectives were explored on HIV self-testing, a topic about which little is known in the context of Eswatini. HIV self-testing has recently been introduced and

scaled up as part of HIV testing services in Eswatini, and the researcher aimed to explore and describe HIV counsellors' knowledge and attitudes in providing this service. The researcher used the qualitative approach to gather emergent and meaningful insights on HIV self-testing in the HIV counsellors' natural settings. HIV counsellors explored and described the way they provided HIV self-testing as part of targeted HIV services through their lived experiences.

2.3.2 Exploratory research design

An exploratory research design is used to examine the nature of a phenomenon of interest (Polit & Beck 2018:46). Tegan (2021:1) explains that an exploratory research design investigates research questions on a topic that has not been studied in-depth before. The design was appropriate for this study as the researcher explored HIV counsellors' knowledge and attitudes, which affect how HIV self-testing services are provided.

2.3.3 Descriptive research design

A descriptive research design aims to provide a rich description of a phenomenon that has not yet been explored in depth. Descriptive research is ideally used to describe situations being studied and is geared towards assigning meaning and providing useful data for further research (Choongwa 2018:63; McCombes 2020:1). Brink et al (2018:96) indicate that descriptive designs may be used to identify problems with current practice and to judge or determine what other professionals in similar situations are doing. The researcher used a descriptive research design in this study to describe HIV counsellors' knowledge and attitudes in the provision of HIV self-testing services and later proposed recommendations for HIV self-testing to enhance targeted HIV services in Eswatini.

2.4 RESEARCH METHODS

Research methods are the techniques the researcher uses to sample participants, collect and analyse data (Choongwa 2018:84). The researcher chose the study site and participants in a manner that ensured detailed descriptions of HIV counsellors' knowledge and attitudes in the provision of HIV self-testing.

2.4.1 Research setting

A research setting is the physical, social or experimental context within which research is conducted, and the research site is the exact location where data collection took place during a study (Polit & Beck 2021:803). This study was conducted at an outpatient department at a regional referral hospital in the Manzini region, Eswatini. The hospital is located at the centre of the country, which is also an industrial hub. The hospital has an average of 500 outpatient clients per day (ENHI 2022:1). The outpatient department consists of several units, including medical, surgical, maternal, TB, HIV, voluntary male medical circumcision (VMMC), physiotherapy, eye care and child health units.

The researcher purposively chose the outpatient department because it provided a range of health services to a high volume of patients in the most densely populated central region of the country. The selected site has a higher number of HIV counsellors compared to other health facilities in the region (about 20 HIV counsellors) due to the high number of HIV patients seeking medical attention per day. The outpatient department provides healthcare services to members of the public with medical and surgical conditions, catering to primary, secondary and tertiary healthcare levels, as well as acute care services. Therefore, the outpatient department is a critical setting for targeted HIV self-testing as it is the entry point to other health services, including inpatient and referral services. The quality of nursing care depends on the HIV counsellors' ability to identify clients' needs and offer targeted services before referrals to other targeted nursing interventions are made.

The outpatient department was an ideal setting to conduct this research compared to inpatient clients who are almost a stagnant population. The health facility also acts as a regional referral hospital. The department's operational hours are from Monday to Saturday, 05h00 to 17h00.

2.4.2 Study population

Brink et al (2018:160) define a population as the entire group of persons who meet the criteria the researcher is interested in studying. An accessible population is defined as the portion of the target population accessible to the researcher (Polit & Beck 2018:243). The accessible population for this study was 20 HIV counsellors providing HIV self-testing

at the hospital's outpatient department. HIV counsellors are the main providers of HIV testing services, including HIV self-testing in Eswatini, providing more than 80% of all HIV testing services in most healthcare settings (Eswatini Ministry of Health 2021:4).

2.4.3 Sampling and sample size

Sampling in qualitative research is a process where the researcher ensures that participants are able to provide in-depth insights into the phenomenon of interest. Given the small size of the accessible population, an all-inclusive sample was drawn, meaning that the entire accessible population was approached to participate in the study. All the members of the accessible population met the eligibility criteria as set out below. Therefore, all 20 potential participants could be invited to participate. Of the 20 potential participants, 13 agreed to participate in the study, thus creating a sample size of 13.

Eligibility criteria

- HIV counsellors aged 18 to 60 years, working at the selected hospital's outpatient department providing HIV self-testing as part of HIV testing services. (The age bracket was based on the average age of secondary school leavers as well as the official retirement age in Eswatini.)
- HIV counsellors should have received certification from the Eswatini Ministry of Health on HIV testing services.
- Potential participants should have worked as an HIV counsellor for more than 12 months.

2.4.3.1 Recruitment

Before data collection commenced, the researcher received approval from the College of Human Sciences Research Ethics Committee of the University of South Africa (REC 240816-052 (see Annexure 1) and the Eswatini Health and Human Research Review Board (see Annexure 2). Once both committees approved the study, the researcher requested permission from the study site (see Annexure 3). The participant information leaflet (see Annexure 5) and informed consent (see Annexure 6) form were handed to the participants by a gatekeeper (one of the HIV counsellors). The gatekeeper was trained to explain the study to the potential participants. Interested individuals were told

to give their contact information directly to the researcher if they were interested in participating in the study. Potential participants were then contacted telephonically by the researcher to further explain the study and make an appointment for the interview on a date and time suitable to the participant. Informed consent was received on the day of the interviews.

2.5 DATA COLLECTION

In this section, the techniques and processes followed to collect data are discussed. Semi-structured interviews were appropriate as they allowed an exploration of the phenomenon as narrated by the participants. The flexibility that comes with semi-structured interviews allowed the researcher to guide the interviews and ensure areas of interest aligned with the research objectives.

2.5.1 Data collection technique

The researcher collected data by conducting face-to-face interviews using a semi-structured interview guide (see Annexure 9). The data collection approach was appropriate since face-to-face interviews allow an in-depth exploration of a topic of interest. Additionally, non-verbal cues could be observed during the interviews (Leedy & Ormrod 2019:153). SiSwati, a local language, was seldomly used by participants during the interview when they struggled to express themselves in English. The researcher and HIV counsellors are conversant in both English and SiSwati, which is the researcher's mother language, and the researcher thus translated the SiSwati comments for data analysis purposes.

2.5.1.1 Advantages and disadvantages of semi-structured interviews

Semi-structured interviews allowed participants to freely express their views of HIV self-test provision while being constantly guided by probes to ensure the richness of the data. The researcher explored the advantages and disadvantages of a semi-structured interview and found this approach relevant to this study. Table 2.2 tabulates the advantages and disadvantages of semi-structured interviews.

Table 2.2 Advantages and disadvantages of semi-structured interviews

Advantages	Disadvantages
Allow the capturing of independent thoughts from each individual on a topic of interest.	Interviews are time-consuming to conduct.
Allow deeper understanding of an unknown topic of interest.	This strategy requires a competent researcher who is knowledgeable of relevant substantive issues compared to structured interviews.
Clarity can be sought from participants, and more insights are gathered in the process due to its flexible nature. Participants are less confined to pre-developed questions and rather allowed to share their experiences with some occasional probing from the researcher.	The process is labour-intensive as the interviewer and participant need to be together in a private space for face-to-face interviews to be successful. Data collection tools like recorders are also required to ensure the accurate capturing of interviews.

(Compiled from Brink et al 2018:139)

The disadvantages of semi-structured interviews were minimised by the researcher carefully planning and continuously engaging with participants to ensure a reasonable number of interviews could be conducted each day (a maximum of two interviews were conducted daily). Moreover, piloting the data collection tool (interview guide) assisted the researcher in refining her interviewing and probing skills. The researcher's knowledge of and experience with HIV self-testing assisted in ensuring adequate probing and rich data.

2.5.1.2 Interview guide

The interview guide was developed by the researcher prior to data collection. The interview guide included open-ended questions to allow free expression on the topics of interest. Each topic in the guide had probes available that assisted the researcher in soliciting more details on the topic.

The interview guide consisted of two sections. Section A had seven questions focusing on participants' demographic information, including their age, gender, highest educational qualification, HIV services training (including training on HIV self-testing), and years of service as an HIV counsellor. The demographic information was collected with a separate questionnaire (see Annexure 8) that was handed to participants to fill out following informed consent and before the interview commenced.

Section B of the interview guide (see Annexure 9) consisted of four main questions. The first question was designed to collect data to assist the researcher in describing HIV counsellors' knowledge of HIV self-testing. This question had probes to seek clarity on the topic should a need arise during the interviews. The second and third questions with probes aimed to explore the HIV counsellors' attitudes in offering HIV self-testing in Eswatini. The fourth question was designed to allow the HIV counsellor to make recommendations and clarify support areas for HIV counsellors in the provision of HIV self-testing.

2.5.2 Exploratory interviews

Exploratory interviews were conducted with four participants who were not considered part of the study participants as a means of piloting. The purpose of the exploratory interviews was to improve the researcher's interviewing skills and test the technicalities of the interview. Brink et al (2018:161) affirm that an exploratory interview assists in identifying possible flaws in the interview guide and confirming whether sufficient depth can be achieved with the questions and probing.

Conducting exploratory interviews enhances the trustworthiness of a study and prepares the researcher to conduct in-depth interviews. The exploratory interviews were conducted in an environment similar to that of the actual study. Quiet counselling rooms within the selected sites were used to conduct the pre-test interviews in the afternoons. In the process, the researcher was able to gain the experience and skills necessary to conduct interviews to ensure rich data were solicited. This included probing skills based on participants' responses to attain rich data on each question. Additions and changes to the data collection tool were made based on the pilot testing outcomes to ensure it captured participants' knowledge and attitudes toward HIV self-testing.

The first question to explore and describe HIV counsellors' knowledge of HIV self-testing was modified to include the roles of HIV counsellors in the health facility as far as HIV self-testing services were concerned. The second question to gain an understanding of HIV counsellors' knowledge of the high-risk populations requiring HIV self-testing had a possible probing question added that allowed the participants to give a list of the targeted populations for HIV self-testing and get an understanding of how they determined these were high-risk, unreachable populations. A possible probing question on the HIV

counsellors' attitudes towards HIV self-testing was modified to describe both thoughts and feelings regarding the current HIV self-testing strategy. The recommendation question had areas of support added so participants could offer recommendations on these aspects.

2.5.3 Data collection process

The data collection process entailed accessing participants in their natural setting at the selected site, preparing for the interviews, and conducting the interview sessions.

2.5.3.1 Preparation for the interviews

A counselling room within the outpatient department was selected as it was conducive to conducting the interviews; it was well-ventilated and private. Permission was obtained from the department's nurse manager to use this room as the interview venue. The researcher allayed participants' anxiety and allowed free expression during the interviews.

2.5.3.2 Interview sessions

A total of 13 interviews were conducted over ten days between June to November 2022. Before the interviews were conducted, the researcher reassured the participants of the confidentiality of the process, explained the purpose of the study, and requested permission to audio-record the interview. Demographic information was collected with a demographic questionnaire, which the participants filled out and handed to the researcher before the commencement of the interview.

Signed consent forms were completed following an explanation of the study's purpose, potential benefits, expectations and rights of the participants before the commencement of the interview. The researcher used an audio recorder to capture all the interview sessions after obtaining permission from each participant. Field notes were kept during data collection and used as a reference during data analysis. The researcher initiated the interview with the first question on the HIV counsellors' role in HIV self-testing and took notes on the most important aspects that emerged during the interview. The researcher paraphrased and summarised responses at the end of each question to elicit

rich descriptions and ensure responses were well captured. SiSwati, a local language, was only used by the researcher and participants during the interview when the participants struggled to express themselves in English or when they struggled to understand the question or probing question. Two of the participants used the local language a few times, especially when they were trying to describe their attitudes toward HIV self-testing. The researcher, being a born Swazi, translated the interviews into English. As planned, not one of the interviews exceeded an hour. Moreover, after each interview, the researcher wrote reflections on any technical issues experienced during the interview, impressions of the interview, and aspects that stood out that she wanted to remember. This formed part of the field notes.

Data saturation involves sampling until no new information is obtained and redundancy is achieved (Polit & Beck 2018:293). Data saturation was reached after ten interviews. The researcher continued to conduct three further interviews to confirm data saturation and give participants who were part of the accessible population an opportunity to participate in the study.

2.6 DATA ANALYSIS

The analysis of data is a process of methodically organising and synthesising the data of a study (Polit & Beck 2021:783). The process evolved until clear and distinct themes and subthemes emerged from the data.

2.6.1 Data management

All demographic-related responses were sequentially numbered and aligned with the recorded interviews and field notes. The completed demographic questionnaires were clearly labelled and stored in a lockable cupboard.

Audio recordings were listened to after each interview to check for audibility and completeness. The audio recordings were transcribed verbatim by a professional transcriber, and the researcher translated the SiSwati data from the recordings. Translated data was then back-translated by the researcher to confirm the accuracy. The researcher confirmed the accuracy of each transcript before data analysis commenced by listening to the audio recordings while checking the transcript.

2.6.2 Analysis of the demographic data

Demographic data analysis was incorporated into the study's findings and was critical in assisting the researcher in understanding each participant's profile better as far as HIV self-testing provision is concerned. Participants' profiles were qualitatively analysed in terms of participants' ages, gender, highest level of education, year of HTS training, as well as their years of experience providing HIV self-testing. Participants' demographic information is presented in Chapter 3 in a narrative format.

2.6.3 Analysis of the interview data

The interview transcripts were analysed inductively using Braun and Clarke's six-phased coding framework for thematic analysis. Thematic analysis involves looking for units of information with similar content or meanings and identifying what is contradictory about emerging categories or themes (see Annexure 10). Inductive analysis involves placing segments together into meaningful conceptual patterns (see Annexure 11) (Polit & Beck 2018:392). In qualitative research, data analysis can occur concurrently with data collection because of the emergent nature and need for iterative analysis (Braun & Clarke 2022:1; Moser & Korstjens 2018:5).

Braun and Clarke's coding framework for thematic analysis entails six steps in analysing the data (Braun & Clarke 2019:1; Maguire & Delahunt 2017:4). Table 2.3 summarises the data analysis process according to the six thematic analysis steps.

Table 2.3 Braun and Clarke's coding framework

Step	Action
Become familiar with the data	• Listen to each interview recording before transcribing • Read and re-read the entire data set • Make preliminary notes
Generate initial codes	• Identify interesting data items • Code any item of data that might be useful
Themes search	• Collapse multiple codes that share the same concept into a single code • Assemble codes into initial candidate themes
Review themes	• Review the initial themes in relation to coded data items and the whole data set • Review relationships among data items and codes that guide each theme and subtheme • Develop a finalised thematic map
Define themes	• Express each theme and subtheme in relation to the data set and research question
Write up the report	• Report on the results of the study

(Compiled from Braun & Clarke 2022:6)

2.6.3.1 Step 1: Become familiar with the data

The reseacher listened to the interview recordings and compared them with the transcriptions to ensure the correct capturing of the interview data. Reading and re-reading all the transcripts was the first step in the data analysis process to ensure the researcher became familiar with the data before attempting to give meaning to it.

2.6.3.2 Step 2: Generate initial codes

Coding reduces data into small meaningful parts (Maguire & Delahunt 2017:5). Data were manually coded using printed transcripts. Every data segment that seemed to answer the research question was highlighted with different colour codes to represent different codes and labelled. As groups of similar data emerged, they were labelled with a code, which was later reviewed to combine similar data. Codes were used to build a description of participants' knowledge and attitudes towards the research phenomenon.

2.6.3.3 Step 3: Themes search

Codes were examined, and those that fitted into initial broader themes were labelled. Codes were organised into broader initial themes that addressed a specific part of the research question.

2.6.3.4 Step 4: Review themes

In this phase, preliminary themes were identified by reviewing and modifying broad initial themes. Themes should be coherent and distinct from each other (Maguire & Delahunt 2017:8). The researcher searched for enough data to support each theme to ensure themes did not overlap, and only real themes were identified.

2.6.3.5 Step 5: Define themes

This step involved a final refinement and accurate labelling of each theme. Three themes were identified with different subthemes under each theme. Subthemes were refined to ensure they relate, were mutually exclusive, and aligned with the main theme.

2.6.3.6 Step 6: Write up the report

The results that emerged from the data analysis are presented in a passive voice in Chapter 3. Themes and subthemes that emerged are discussed in detail, and multiple perspectives in the form of direct quotes from the different participants are presented throughout the findings' chapter.

To ensure rigour in the study, the researcher engaged an expert in qualitative research as a co-coder. An initial meeting was held between the researcher and the co-coder, where the study's purpose was discussed. After each independently analysed the data, the researcher and co-coder met to discuss their findings and reach a consensus on the emerging themes and subthemes. The co-coder signed a confidentiality binding form before they were presented with the transcripts (see Annexure 7).

2.7 TRUSTWORTHINESS

Trustworthiness refers to the truthfulness of the study's findings (Choongwa 2018:240). Several strategies were applied to ensure trustworthiness in this study, namely credibility, transferability, dependability, confirmability and authenticity, as outlined by Guba and Lincoln (1989).

2.7.1 Credibility

The credibility of a study is the extent to which the findings inspire confidence in the accuracy of the data. The researcher used several strategies to inspire confidence in the study's findings (Polit & Beck 2018:415).

The first strategy entails prolonged engagement with the data during data analysis to gain a better understanding of the meaning of each response obtained during the interviews. The researcher was involved in conducting face-to-face interviews and in the iterative data analysis process.

The second strategy to enhance credibility was to assess the researcher's proficiency in interview skills by conducting exploratory interviews. Additionally, exploratory interviews assisted the researcher in identifying aspects of the interview guide that needed modification. Refining the interview guide from these interviews ensured the research instrument would efficiently and adequately address the research questions, and interview questions could be clearly understood by the participants.

The researcher conducted member-checking during interviews by summarising participants' responses and probing for confirmation; this process is also called respondent validation. The researcher checked the accuracy and allowed participants to expand, clarify or amend their narrations.

2.7.2 Transferability

Transferability is the extent to which the findings of a study can be transferred to or applied to other settings or populations. This includes a process of applying research findings to the body of knowledge to confirm relevance and contributions. Rich and

thorough descriptions of research settings, the study sample, and the findings support a study's transferability (Choongwa 2018:24). The researcher provided a comprehensive, thick and rich description of the research process, participants, the study context and the study's findings to enable others to judge the applicability of the method and findings in other contexts with similar conditions.

2.7.3 Dependability

Dependability is a criterion that seeks to ensure the reliability or consistency of the research findings (Choongwa 2018:247). The study needs to display consistency in its findings over time and similar conditions.

The researcher recruited participants who met specific eligibility criteria to ensure data richness based on their experiences with HIV self-testing provision. The researcher digitally recorded the interviews to ensure participants' responses were accurately captured. An expert transcriber and co-coder were involved in limiting errors in transcription and co-coding. The dependability of research findings was further ensured through a rich and thick description of the research process, participant characteristics and the research context. An audit trail will be possible since field notes and recordings of interviews were captured and stored.

2.7.4 Confirmability

Confirmability is achieved by maintaining neutrality in the study's findings and ensuring the findings do not reflect the researcher's interpretations, biases, or motivations (Brink et al 2018:111; Polit & Beck 2021:570). Brink et al (2018:111) further state that research findings, conclusions and recommendations should be supported by data, and there should be an internal agreement between a researcher's interpretations and actual evidence to guarantee a study's confirmability.

The researcher practised reflexivity during the study to ensure confirmability. The researcher used an audio recorder and field notes during data collection and referred to these during data analysis, thus ensuring the findings' neutrality. Co-coding the data during analysis with an experienced qualitative co-coder ensured the researcher's bias was minimised in interpreting the data. Verbatim quotes on HIV self-testing by HIV

counsellors were also analysed against recent literature to contextualise different realities on HIV self-testing globally.

The study supervisors, who are experienced researchers, engaged with the researcher and cross-examined every step of the research process to confirm the accuracy of the process and reporting.

2.7.5 Authenticity

Authenticity is the extent to which a researcher faithfully shows a range of different realities in a truthful manner, reflecting the experiences of participants (Polit & Beck 2018:431). The researcher understood the potential bias that her role as a programme manager in a non-governmental organisation working on HIV programmes could carry, thus made efforts to contain such by applying the bracketing technique. Preconceived knowledge and assumptions by the researcher were consciously bracketed with the goal of attending to, and progressively immersing herself in the data that was provided by participants by minimising researcher's own influence on the interpretation and to ensure participant's voices were reflected truthfully. Moreover, the researcher was not working at the study site at the time of the study thus reducing any form of coercion.

To ensure fairness and authentic engagement with all the participants, the researcher engaged with them in a respectful manner and continued to ensure privacy and confidentiality throughout the data collection process. This promoted a conducive environment to observe the truthful realities of HIV self-testing. The researcher further offered a faithful presentation of their reality by reporting on participants' verbatim quotations.

2.8 ETHICAL CONSIDERATIONS

Ethics is a system of moral principles that guides researchers to comply with professional, legal and social obligations towards their study participants. There should be strict measures to ensure human rights are respected in studies involving human participants (Polit & Beck 2021:133).

2.8.1 Institutional permission

The researcher received ethical clearance from the Research Ethics Committee of the Department of Health Studies of the University of South Africa (see Annexure 1) and from the Eswatini Health and Human Research Review Board prior to data collection (see Annexure 2).

2.8.2 Ethical principles

The researcher ensured the research was conducted ethically by adhering to the principles of beneficence, non-maleficence, respect for persons and justice, as outlined in the Belmont Report of 1987 (Polit & Beck 2018:134).

2.8.2.1 Beneficence

The principle of beneficence requires researchers to ensure that the research participants' well-being is maintained by protecting them from discomfort, exploitation, and harm (Brink et al 2018:29). Participants were informed of the risks and benefits of participating in the study before consenting and commencing the interview. It was clearly explained to the participants that there would be no immediate benefits for their participation in the study. However, their contribution and the outcome of the study can assist in identifying areas that need improvement and support, and ways to support HIV counsellors in the provision of targeted HIV self-testing in Eswatini could be proposed. The study was categorised as a low-risk study involving direct human participants. The only anticipated risk was the potential of minor discomfort or inconvenience, thus not posing a risk above the everyday norm.

2.8.2.2 Non-maleficence

Non-maleficence is an ethical principle that safeguards study participants from any harm as a result of participating in research. Debriefing sessions were available to mitigate any distress that participants might experience regarding the interview content, although none of the participants used this service after the interviews. The researcher ensured that each interview did not exceed the estimated 60 minutes, which was explained at the

beginning of the study. Patients' right to care was ensured as interviews were conducted at suitable times that did not interrupt health service delivery.

2.8.2.3 Respect for persons

Respect for persons entails the right to self-determination and full disclosure. Self-determination refers to participants' ability as independent individuals who can control their actions and make decisions for themselves (Brink et al 2018:29). In this study, participants voluntarily chose to participate without undue influence or coercion. Witnessed informed consent forms were signed prior to data collection (see Annexure 6). Participants could also ask questions before, during and after the interview to allay any anxiety. Moreover, participants were informed that they could withdraw from the study at any time without any negative consequences to them (see Annexure 5).

Information, including a full description of the study, the right to refuse participation, benefits and likely risks, were clearly explained to prospective participants prior to providing consent. Full disclosure ensures participants' right to make informed, voluntary decisions based on a thorough description of the study and its implications (Polit & Beck 2017:138). No incentives were offered that might pressure prospective participants into cooperation as no financial costs were incurred by participants during the study.

All information obtained from the participants was treated confidentially, and participants' names were not mentioned anywhere in the data. The researcher used a unique code for each participant through which they could not be identified. A confidentiality binding form was signed by the co-coder before being presented with the transcripts. Codes were also used to refer to the participants in the reporting of the findings of the study.

The right to privacy entails the researcher ensuring that research reports are not presented in a way that other people would become aware of how a participant responded or behaved during the study (Leedy & Ormrod 2019:114). Transcripts and audio recordings, as well as the reflective notes from participants, were kept safe and password-protected on a computer, only accessible to the researcher. Future use of the data will be based on further approvals by relevant ethics review committees when necessary. The researcher plans to destroy the data by shredding the hard copies five years after the study's publication.

Interviews were conducted face-to-face in a quiet and private space within the selected outpatient department. No unnecessary intrusion into participants' personal lives took place during the study, as the researcher used a pre-tested interview guide for data collection to guide the interviews.

2.8.2.4 Justice

The principle of justice in research involves fair treatment and the equitable distribution of the benefits and burdens of the research (Polit & Beck 2018:137). An all-inclusive sampling method was used to ensure equal opportunity to participate for all eligible participants. All participants were treated equally during data collection, including those who declined or withdrew from the study.

2.9 SUMMARY

This chapter described how the research design and methods were applied in this exploratory-descriptive qualitative study. The ethical principles applied throughout the study to minimise harm, respect the participants, and ensure fair treatment were also discussed. All measures the researcher took to optimise the trustworthiness of the findings against the framework of Guba and Lincoln (1989) were stated in this chapter. The participants' demographic characteristics and the study's findings are discussed in the next chapter.

CHAPTER 3

PRESENTATION OF THE FINDINGS

3.1 INTRODUCTION

The research methodology was discussed in Chapter 2. In this chapter, the findings of the study, obtained through individual interviews, are discussed. The semi-structured interviews were transcribed verbatim, and Braun and Clarke's six-step thematic analysis framework guided the data analysis process. An independent expert co-coder was engaged during the analysis of the data to confirm the codes, themes and subthemes that emerged. The participants' demographic characteristics and thematic data are presented according to the three themes and nine subthemes that emerged from the analysis.

3.2 RESEARCH FINDINGS

The research purpose guided the analysis and presentation of the study's findings. The study's intention was two-fold, namely, to explore and describe HIV counsellors' knowledge and attitudes in providing HIV self-testing as part of targeted HIV services, and propose recommendations to enhance targeted HIV self-testing. The participants' demographic characteristics are presented first, followed by the thematic data.

3.2.1 Demographic characteristics

The demographic characteristics of the 13 participants are presented in terms of their age, gender, highest level of education, year of HIV counsellor training and years of experience in providing HIV self-testing. The participants were aged between 25 and 40, as can be expected, since these ages fall within the working-class bracket. Seven participants were between the ages of 31 and 34 at the time of the study. Nine female and four male participants took part in the study. A majority of female participants could be expected since men's enrolment in HTS training is lower than women's. Social and cultural stereotyping of nursing-related duties, including counselling, can also contribute to the small number of male enrolments in the HTS training (Budu, Abalo, Bam,

Agyemang, Noi, Budu & Prepah 2019:1). The female-dominated nature of nursing, where the HIV counsellors are supervised and supported since HIV counselling was task-shifted from nurses, make the HIV testing space an uncomfortable place for most men (McLaughlin, Muldoon & Moutray 2010:2).

All participants had a certificate in HTS, and four had diplomas in other fields of study. The year in which participants received HTS training indicated if the participant received training on HIV self-testing as part of their initial HTS training since self-testing was incorporated into the curriculum in 2019 (Pasipamire, Nesbitt, Dube, Mabena, Nzima, Dlamini, Rugongo, Maphalala, Obulutsa, Ciglenecki & Kerschberger 2020:2). All participants received their initial HTS training between 2008 and 2017, before the introduction of HIV self-testing. However, all participants were expected to have received HIV self-testing training since annual refresher training was ongoing. Annual refresher training is an important component of continuous capacity development for HIV counsellors in practice. It updates their knowledge of new HIV testing strategies that the country continually adopts based on its evolving needs. Participants' training status was important to consider as HIV testing strategies changed from universal to targeted HIV testing, including the introduction of HIV self-testing in the HIV testing algorithm.

Participants had between two to five years' experience in the provision of HIV self-testing, with ten participants having four years' experience. Participants' experience in the provision of HIV self-testing indicates how much HIV self-testing knowledge and skills each participant might have acquired at the time of the study.

3.2.2 Thematic data

Three themes emerged from the data, each with several subthemes; Table 3.1 outlines the themes and subthemes. Theme one reflects the HIV counsellors' knowledge of HIV self-testing as part of targeted HIV services. Theme two describes the HIV counsellors' views on HIV self-testing as part of targeted HIV services. Theme three addresses proposed improvements for HIV self-testing provision as part of targeted HIV services in Eswatini.

Table 3.1 Overview of the themes and subthemes

Themes	Subthemes
1 Knowledge enabling HIV counsellors to conduct HIV self-testing as a targeted strategy	1.1 Knowledge of HIV counsellors' roles and responsibilities 1.2 Knowledge to optimise targeting
2 Views on HIV self-testing	2.1 Effectiveness of HIV self-testing as a targeted strategy 2.2 The target population's acceptability of HIV self-testing 2.3 Accessibility to HIV services 2.4 Reduction of HIV counsellors' workload
3 Proposed improvements for HIV self-testing provision as a targeted HIV service	3.1 Client involvement 3.2 Building HIV counsellors' HIV self-testing capacity 3.3 Government support

Each theme and subtheme are described, and supporting direct quotes from the participants' verbatim transcripts are provided. Participants were assigned codes from 'P01' to 'P13' during data collection and quotations are reported using these participant codes.

3.2.2.1 Theme 1: Knowledge enabling HIV counsellors to conduct HIV self-testing as a targeted strategy

The first theme encompasses two subthemes reflecting participants' knowledge of HIV self-testing as part of targeted HIV services, namely (1) knowledge of HIV counsellors' roles and responsibilities, and (2) knowledge to optimise targeting.

3.2.2.1.1 Subtheme 1.1: Knowledge of HIV counsellors' roles and responsibilities

The HIV counsellors' roles and responsibilities involve activities that HIV counsellors perform to ensure HIV self-testing services are targeted at the eligible populations. Participants displayed knowledge of their roles and responsibilities in HIV self-testing as part of the overall HIV testing services they provide daily. HIV counsellors offer the greatest percentage of HIV testing services in health facilities since the introduction of task-shifting (CDC 2022:2). The roles participants described included screening clients for HIV self-testing eligibility, educating clients on how to perform HIV self-tests, confirming HIV self-tests positive screening results, and offering linkages to treatment and HIV prevention services.

Eligibility screening for HIV self-testing is important to ensure the service is directed to the intended beneficiaries. Participants described the processes they used for eligibility screening involved the use of an approved screening tool to assess each client's level of HIV risk. Most participants described screening for eligibility as important to ensure the targeted population is reached.

> "I screen for eligibility for HIV self-test by using the risk assessment which is a screening tool which was developed by the Ministry of Health." (P01)

> "My key duties as an HIV counsellor are to ensure proper screening of clients and to ensure that HIV self-test is given to the high risk and unreachable population." (P03)

> "On the screening of the eligibility, usually we want to know their sexual exposure if they ever had a sexually transmitted disease because this is one hint that this person has a high possibility of acquiring HIV due to evidence of no condom usage at times or all times during sexual encounters." (P09)

Participants also mentioned educating clients on how to correctly perform an HIV self-test as one of their primary roles. Most participants described clients' education on HIV self-testing include onsite assistance to perform the test as well as virtual support for off-site users. Education is also provided on how to store the test kit and how to interpret the results. Participants highlighted that although HIV self-testing can be delivered in an assisted and unassisted model, HIV counsellors preferred the assisted model as it gave them control over the accuracy of the test and interpretation of results.

> "I also provide education on how to use the self-test on how to store it and how to interpret the results." (P03)

> "As an HIV counsellor I also educate the clients, how to use the HIV self-test and how to read the results." (P04)

> "I also perform HIV education the client including how to use the self-test kit, how to handle or store as well and how to perform and reading the results correctly at the right time." (P06)

Participants were fully aware that HIV self-testing is a screening test according to Eswatini's HIV testing algorithm (Eswatini Ministry of Health 2019b:4). Confirmation of HIV-positive results using other rapid HIV tests was described as an important step towards ensuring targeted populations access quality HIV testing. Participants also displayed an understanding of HIV self-testing being a gateway to both HIV treatment and prevention services; thus, the ultimate goal of each test is to ensure linkages to HIV treatment and prevention services if the results are negative.

> "When a client has screened positive, I confirm the results using the rapid tests and link client to relevant HIV services, for example HIV treatment. I link clients to prevention services which is PrEP, and condoms. On top of that, I avail myself to assist and address any questions that may arise pertaining HIV self-test." (P01)

> "If a client was screened HIV positive using an HIV self-test, I confirm the result using an HIV rapid test as guided by the national HIV testing algorithm, if the results remain positive, I refer and link the clients to HIV care and treatment." (P02)

> "You can't screen positive and take that as an HIV-positive result. You screen positive then you confirm with a Determine and Unigold test. So, after verifying, if you find that the client is positive, we then refer and link for anti-retroviral therapy, and if the client is negative, we then give pre-exposure prophylaxis, we then refer for VMMC and encourage condom use." (P03)

Several services are available after an HIV test, including VMMC, PrEP, as well as PEP for HIV-negative tests. For individuals who test HIV positive, antiretroviral treatment is available immediately as per national HIV management guidelines for all HIV-positive tests.

3.2.2.1.2 Subtheme 1.2: Knowledge to optimise targeting

Participants displayed an understanding of the value of HIV self-testing as a targeted strategy. They had unique knowledge based on their experiences to optimise the use of available HIV self-testing resources to reach targeted populations. HIV counsellors had

insight into high-risk, unreachable populations, different ways of providing HIV self-testing, and the ideal times to reach the targeted population with HIV self-testing services.

Participants were able to list the populations they targeted with HIV self-testing and the risk profile of each population, including adolescent girls and young women, men aged 29 to 39, drug-injecting users, female sex workers, transgender women, serodiscordant couples, and individuals in the armed forces. Knowledge of this target population helps the HIV counsellor to reduce specific barriers and improve access.

> "The high risk and unreachable population are the following, although not limited to adolescent girls and young women, men of ages 29 to 39, drug injection users, female sex workers, sero-discordant couples and men having sex with men. So, most of the time they are in a hurry, they don't have enough time to test, they fear stigma, and discrimination. So, with HIV self-testing, I am able to maximize my HIV testing coverage of these populations by eliminating the barriers that these populations have to access HIV testing." (P01)

> "Those who present with sexually transmitted infections are at high risk of contracting HIV as there is evidence of no condom usage." (P10)

> "High risk populations are those clients who are difficult to reach, we have clients like the males, the men who have sex with men. Those are high risk clients because in Eswatini they are discriminated and there is stigma attached to being a gay." (P11)

HIV self-testing providers displayed knowledge of the complementary approach of HIV self-testing and its position in the national HIV testing algorithm. Participants described HIV self-testing as an additional innovation to assist in reaching clients who have not been reached by the previously available HIV testing strategies. It was evident from the participants' narratives that they understood HIV self-testing has not been introduced to replace existing available HIV testing modalities, but acts as a complementary HIV testing strategy. They acknowledged that HIV self-testing was introduced so currently unreached high-risk populations could access HIV testing services. Most participants also displayed knowledge of the flexibility that comes with HIV self-testing, uniquely positioning the test to reach previously unreachable populations. The flexibility of HIV self-testing, as described by participants, means that a healthcare professional is not needed but

optional for HIV testing as one can perform the test using the instructional aid included in the HIV self-testing package. There is also the option to have someone assist during the HIV self-test.

> "I consider HIV self-testing as an additional testing tool or an additional testing strategy to other existing rapid tests that have been available for some time now, specifically to reach persons most affected by HIV which is high risk populations." (P02)

> "HIV self-test does not need a health personnel for one to use it, so it is flexible to be used by any individual." (P04)

> "HIV self-test reaches individuals where an HIV counsellor wouldn't have reached with the HIV testing services." (P10)

Participants displayed an understanding of the most ideal times to reach the targeted population with HIV self-testing services. Most participants mentioned evenings as ideal times to offer HIV self-testing to eligible populations, after changes in work shifts have occurred and workplaces and schools are typically closed.

> "Factory workers are one of those that don't have time because factories open at six in the morning and their day ends at 8 in the evening sometimes, so they really don't have time to go to the facility for HIV testing. So, the self-test is really working for us to get those clients who are working at the factories as we target them when they knock off duty in the evenings." (P03)

> "We target the times where there is availability of the high-risk population which includes working flexible hours which include the evenings." (P04)

> "There are areas that are dominated by females, young women which are at high risk. Most of them are paid less, therefore, to supplement their standard of living in the evening they sell sex for extra money and that make them high risk to HIV. We also use the HIV self-test to reach them, sometimes we even go into their areas where we can reach them and target their convenient times, most of the time the hospital doesn't work in the afternoons, so we make a strategy using the self-test to reach them during those times." (P07)

The outpatient department's operating hours are from Monday to Saturday, 05h00 until 17h00, reflecting the need to establish outreach services outside normal working hours to reach more of the high-risk unreachable populations. Outreach activities are typically offered at bus ranks, workplaces, as well as night mobile clinics (also called moonlighting) to service socially marginalised populations, including sex workers and MSM.

3.2.2.2 Theme 2: Views on HIV self-testing

The second theme that emerged encompasses four subthemes relating to participants' views on the provision of HIV self-testing as part of targeted HIV services. The four subthemes include the (1) effectiveness of HIV self-testing as a targeted strategy, (2) the target population's acceptability of HIV self-testing, (3) accessibility to HIV services, and (4) reduction of HIV counsellors' workload. Participants were asked to share their thoughts and feelings about current HIV self-testing services and their effectiveness in reaching high-risk, unreachable populations.

3.2.2.2.1 Subtheme 2.1: Effectiveness of HIV self-testing as a targeted strategy

The majority of participants expressed confidence towards HIV self-testing's effectiveness in reaching high-risk, unreachable populations. Participants felt HIV self-testing is reliable in ensuring eligible individuals are not overlooked in accessing HIV testing services. This helps to achieve the first 95 of the United Nations 95-95-95 strategy, meaning that 95% of HIV-positive individuals will be aware of their HIV status. This awareness assists in reducing the transmission of HIV through persons with HIV's early enrolment in treatment.

> "HIV self-testing strategy is one of the promising strategies when it comes to reaching the high- risk unreachable population." (P01)

> "Self-testing as a strategy for me to reach high risk population. This strategy is very reliable." (P02)

> "Lastly as a national strategy of meeting the 95-95-95 targets which the country is trying to meet, the country can't meet the first 95 if we leave out these populations so the self-test is a right tool to use to reach these populations." (P07)

Even though HIV counsellors felt HIV self-testing is effective in reaching the targeted populations, participants shared that HIV self-testing is currently accessed by some ineligible populations. The screening tool was viewed as subjective, and ineligible clients could easily manipulate their responses to ensure they access HIV self-testing services if that is what they prefer at any point in time. Blood-based HIV tests require needle-pricking, which some clients are uncomfortable with, and many people might therefore prefer the HIV self-test. Clients who test for HIV regularly were cited as possible screening tool manipulators as they can easily master the screening tool questions to fit their preferences.

> "I feel like people who have mastered the screening tool, are able to manipulate their responses to fit their need at that particular time including accessing HIV self-testing services." (P09)

> "With the screening because it is only subjective, I think there are some concepts which are left behind, the client is the one who tells you, if they are sexually active or not. I think there is a need to modify it. Actually, I feel like really there is no need for the screening process in HIV self-testing such that every client should use it as long as the client has never tested HIV positive before because we depend on what the clients are saying." (P11)

> "We give high risk unreachable clients the HIV self-test, bearing in mind that the screening tool is subjective thus clients responses are the only basis for the screening which at times might not be true due to fear of stigma." (P12)

3.2.2.2.2 Subtheme 2.2: The target population's acceptability of HIV self-testing

This subtheme offers insights into participants' perceptions of the target population's feelings towards HIV self-testing. The participants reported that the target population regard HIV self-testing as acceptable because the risks for stigma are limited since the test is confidential. Additionally, the HIV self-test is convenient since it is flexible in terms of when and where it can be performed. Acceptability is a key concept in the development of innovations in the healthcare sector and, in this instance, encompasses clients' perceptions towards HIV self-testing's appropriateness in addressing their needs. Targeted populations face barriers in accessing HIV testing services and required

services that suit their lifestyles and are convenient and effective in managing their challenge of being high-risk yet unreachable with available HIV testing services.

> "This screening approach overcomes the initial stigma of HIV testing by promoting privacy and security. On top of it, it is regarded as convenient, confidential and reassuring." (P01)

> "HIV self-test provides flexibility and autonomy. It has attracted those previously unreached clients; they are now able to access HIV services." (P03)

> "HIV self-testing offers privacy, reduces stigma and discrimination as with the HIV self- testing kit the patient or the client is able to take the test at her or his comfortable space including at home." (P08)

Participants felt that although HIV self-testing is fairly new in the country's national HIV testing algorithm, acceptability is high, extending to ineligible populations who also want to experience this new HIV test. Healthcare workers also preferred HIV self-testing since stigma exists in accessing HIV testing services, resulting in HIV test stock losses attributed to theft in some settings. Moreover, although anonymous access to HIV self-testing is allowed, it is discouraged in areas with stock storages as it raises accountability issues.

> "Although it is a new strategy, most people want to explore using it even if they know their HIV status and some of them you will find that they are already on treatment." (P10)

> "It has been noted that in our setting you find HIV self-tests missing and you wonder who took the HIV self-tests because it's only the health care workers who get to access stock spaces. So, you can tell that they do need the HIV self-test and they are afraid to come out and say can I have a self-test." (P11)

3.2.2.2.3 Subtheme 2.3: Accessibility to HIV services

Accessibility to HIV services through HIV self-testing refers to the strategy's ability to ensure high-risk, unreachable populations have easy access to all HIV services after the initial HIV self-test. The participants regarded the HIV self-test as a gateway to other HIV

services, including treatment and prevention services. However, they also felt accessibility was somewhat compromised since individuals still need to have contact with a healthcare provider to receive the self-test; they recommended that HIV self-tests should be as easily accessible as condoms.

Access to referral services for HIV treatment and prevention is the desired end goal for these clients (UNAIDS 2020:3). The HIV service linkages participants listed included antiretroviral treatment for HIV-positive clients, while HIV-negative clients gain access to prevention services, including PrEP, PEP and VMMC.

> "When a client has screened positive, I confirm the results using the rapid tests and link client to relevant HIV services, for example HIV treatment. I link clients to prevention services which is PrEP, and condoms." (P01)

> "HIV self-test creates demand for other HIV services, which are the treatment and HIV prevention methods for those who tested negative." (P03)

> "The HIV self-testing strategy in general invite people to HIV testing services. HIV self- test enables people to test themselves at their comfort and at the right time they feel like they are ready to deal with the results." (P09)

The targeted population's knowledge of their HIV status was considered a motivator to access further HIV prevention services if they tested HIV negative and access HIV treatment if they tested HIV positive. Participants viewed HIV self-testing as creating demand for other HIV services that targeted clients may need after the screening test. Pre- and post-exposure prophylaxis, as well as medical male circumcision for high-risk HIV-negative populations, were listed as some of the HIV services clients were informed about by HIV counsellors post-testing.

> "It also creates demand for HIV prevention services because once a person uses the HIV self-test and find that he is not HIV positive, they are now more likely to access HIV preventive services which include, pre-exposure prophylaxis, voluntary medical male circumcision and post-exposure prophylaxis." (P04)

> "And for an individual who test HIV negative using the HIV self-test kits it becomes a great motivation for the client to enrol for HIV prevention services like pre-exposure prophylaxis." (P10)

Despite participants viewing HIV self-testing as creating demand for HIV services, they expressed that the accessibility of HIV self-testing among targeted populations is currently compromised. HIV counsellors mentioned HIV self-testing should not be confined to the healthcare setting (as it is currently) but should be made available to anyone who feels the need to use it. Since HIV self-testing is a self-care model, participants felt that it should be treated like condoms, which are free for all to access. Consequently, HIV self-tests should be as accessible as condoms, without limits.

Some participants viewed the screening tool as a barrier due to its subjective nature. Participants mentioned clients may fear stigma and discrimination during the screening session and give incorrect responses to behavioural questions to fulfil societal expectations.

> "I feel like it should be available to anyone who sees or perceive themselves at risk, because sometimes there are many factors that can contribute answering screening questions correctly to get portrayed as low risk including fear to be judged." (P09)

> "HIV self-test should be accessed like condoms including public toilets. So, we need to adopt the condom distribution strategy, whereby you can have a free self-test everywhere possible as long as there are people using that space be it for entertainment or whatever. The clients have 100% access to condoms so the clients should have 100% access to HIV self-test as well." (P11)

> "For now, I think it is reaching some targeted populations but not effectively because you have to access it at certain spaces but not everywhere, you need to access it in health facilities so I think in that way it is not reaching everyone as intended." (P13)

Some eligible populations continued limited access to HIV self-testing emerged from the narratives since self-testing still requires an encounter with healthcare personnel to access the service. Participants felt HIV self-testing has not yet reached its maximum

potential of reaching targeted populations due to reduced accessibility strategies that need to be improved.

3.2.2.2.4 Subtheme 2.4: Reduction of HIV counsellors' workload

The workload among healthcare workers in healthcare settings continues to increase drastically, compromising the quality of care. The WHO introduced task-shifting in healthcare settings to ensure a reasonable amount of work is assigned to each healthcare worker and nurses are left with only clinical duties while HIV counsellors perform client support duties, including HIV testing (WHO 2019:2). Participants mentioned that they experienced an increased workload, but that HIV self-testing has relieved some of their workload without compromising targeted populations' inclusion. Added duties that participants discussed included TB and COVID-19 screening duties, which were not part of their initial daily tasks.

The fact that HIV self-testing can be performed at clients' convenience and in a private space, away from the HIV testing site, was viewed as reducing HIV counsellors' workload, which has increased with the surge in the disease burden landscape.

> "HIV self-test relieves counsellors from the workload since clients are able to test themselves and come for confirmation if a need arises." (P01)

> "As I have mentioned before, our facility is one of the high-volume facilities in the country so HIV self-test help us to reach more, without HIV counsellors getting exhausted." (P03)

> "As you know, as I do the other duties which is screening for Covid-19 and TB screening, with the availability of HIV self-test my work is not affected and I am able to reach more clients who I could have missed if we only had the rapid diagnostic test." (P05)

Participants expressed some relief in performing added tasks since HIV self-testing ensures their main duty of providing HIV testing is not compromised, and no clients are overlooked in accessing HIV testing services. HIV counsellors viewed HIV self-testing as closing the gap in any missed opportunities for HIV testing.

> “It also helps me to perform the HIV activities like an octopus, you know. I am able to as one person able to have many hands doing HIV testing through HIV self-testing thus closing gaps of missed opportunities.’’ (P09)

> “I can give to even a hundred people thus testing many people at the same time.” (P09)

Participants expressed some relief in their workload as HIV self-testing gives clients the autonomy to perform these tests when and where they are comfortable, thus allowing HIV counsellors to perform other duties.

3.2.2.3 Theme 3: Proposed improvements for HIV self-testing provision as a targeted HIV service

Participants shared their perceptions of areas that needed support to improve targeted HIV self-testing services. HIV self-testing was described as a necessary innovation. However, additional measures are required to get more value for money, as outlined in the following subthemes. Participants indicated that although HIV self-testing is provided in a targeted manner currently, they also recommended areas for improving HIV self-testing beyond targeting, including (1) client involvement, (2) building HIV counsellors’ HIV self-testing capacity, and (3) government support.

3.2.2.3.1 Subtheme 3.1: Client involvement

Client involvement is necessary to ensure HIV self-testing meets clients’ expectations and is provided as per the client’s expressed needs and preferences. Clients’ feedback on a service is shaped by their experiences. Most participants recommended a feedback mechanism for providers and clients to improve the quality of the HIV self-testing service. Participants mentioned a client engagement platform, which can provide support and receive recommendations from targeted populations. This could enhance the targeting of HIV self-testing as a means to reach high-risk, unreachable populations.

> “We need to provide a reliable platform that would operate 24 hours in order for users to ask questions and make more recommendations regarding the kit and be a reliable follow-up support line.” (P01)

> "… I also recommend that if we can create a platform whereby you can get feedback from the high-risk population groups on how they want us to offer the services and how to pack the HIV self-test so that they can feel free and flexible to use it." (P04)

> "I think we should provide reliable contact support lines, to enable clients to feel free to ask questions and make any recommendations regarding the kit or even ask where they can access the kit themselves." (P12)

Since HIV self-testing was introduced and later scaled up around 2018 in Eswatini (Eswatini Ministry of Health 2019b:2), participants felt it is a relatively new strategy in the HIV testing landscape that some eligible populations may still not be fully aware of. Therefore, there is a need to raise awareness among the targeted population, which, in turn, might lead to the eligible group reaching out for HIV self-testing. Physical and virtual strategies were also suggested by participants to reach the targeted populations with health education. This included targeted campaigns and promotions in social spaces as well as social media platforms.

> "There is need for the continuation of implementing health education, promotions and offering HIV self-test at multiple targeted areas." (P01)

> "Campaigns and promotions should be conducted time and again to the targeted populations, for awareness of the commodity because some high-risk populations may be unaware of the test and its use in general." (P02)

> "Availability of HIV self-testing information to target populations is critical, I think high risk population like the adolescent girls and young women, they use the media platform like Facebook and Tick tock a lot, I think if HIV self-testing information can be disseminated on those platforms it can be very helpful." (P03)

> "… to have the clients educated more on the screening process on who is eligible for an HIV self-test, through the public platforms, the radio, social media, to avoid wastage and feeling side-lined from the service." (P06)

3.2.2.3.2 Subtheme 3.2: Building HIV counsellors' HIV self-testing capacity

HIV counsellors' capacity to provide HIV testing services is increased through training, refresher courses and continuous mentorships (Eswatini Ministry of Health 2019a:73). Although some participants were satisfied with their capacity to provide HIV self-testing as part of targeted HIV services, a number of participants expressed the need for continuous capacity-building for HIV counsellors to deliver the expected results. They consequently expressed the need to ensure all HIV counsellors who provide HIV self-testing are at the same level of competency to ensure quality service provision and the responsible use of available resources. At the time of the study, HIV counsellors received refresher training once per year, as stipulated by the national HIV testing guidelines (Eswatini Ministry of Health 2019a:165).

> "The refresher and ongoing trainings will also help us to capacitate each other to avoid wasting the HIV test-kits, it is expensive." (P03)

> "Refresher trainings on how to provide HIV self-testing is necessary. At the moment we do receive trainings once or twice a year, so I feel like if the trainings can be frequent, maybe every quarter, to review our targeted testing strategy. Also, the refresher trainings will help in ensuring that HIV counsellors are at the same level." (P10)

> "I think there is a need for more trainings, you know that the health sector is very dynamic, so we need to have frequent trainings, we have updates on the strategy, on HIV self-test strategy like on how far have we achieved." (P11)

Participants indicated that the high-risk, unreachable populations might differ from site to site, reflecting the need to develop site-specific mentorship guides to ensure appropriate targeting by HIV counsellors. In various health facilities, diverse target populations are served, encompassing tertiary institutions, industrial establishments, military encampments, and locales frequented by sex workers. Consequently, it is imperative for HIV counsellors to possess comprehensive awareness regarding the specific population groups catered to by each health facility. This awareness is essential to prevent oversight and ensure the inclusion of these populations in HIV testing services. HIV counsellors' vigilance in discerning the unique characteristics and dynamics of the targeted groups within each facility is crucial for the effective implementation of HIV testing initiatives.

> "… when one moves from site to site, you will find that the population are not the same, you might have different populations in the communities. The communities are not the same as key populations' composition. So, in that way I think there is a need for continuous mentoring and capacity building at site level." (P04)

> "… if we can have the site-specific orientation on the high-risk population of the site of that particular site …" (P08)

3.2.2.3.5 Subtheme 3.3: Government support

Government support is important in healthcare programs as it ensures accountability and the sustainability of services. Furthermore, governments should support the prioritisation of healthcare delivery to address the increasing burden of diseases, such as HIV, AIDS, TB and other emerging illnesses.

The outpatient department where the study was conducted is government-owned and operated. Participants therefore indicated several areas where government support was required. The lack of a consistent supply of HIV self-testing kits was perceived as a main contributor to the lack of maximum reach. A constant supply of HIV self-testing kits was recommended so HIV counsellors are able to provide uninterrupted targeted HIV self-test services. Stock availability is ultimately associated with higher use of healthcare services (Kuwawenaruwa, Wyss, Wiedenmayer, Metta & Tediosi 2020:6).

> "We know that in the past we had a shortages of HIV self-tests so if government can improve on that, I think it can be much better." (P07)

> "I think the stock should be always available, it should not dry out so that we make sure that every time the clients need the self-testing it is available." (P08)

Some participants believed that the current strategy does not reach all targeted populations, especially healthcare workers, indicating the need for the government to accommodate them in a new strategy. The disappearance of HIV self-testing kits within the healthcare setting (possibly to maintain test-takers' anonymity) was cited by participants as a possible indicator of the need to reach healthcare workers differently to offer them HIV self-testing services.

> "There is a need for government to identify on how to reach health care workers with HIV self-testing. One can tell that there is a need to reach health care workers themselves, so I think the government need to take responsibility in designing such a strategy." (P07)

> "… support from the government to create demand and visit hot spots that have people who are at high risk of getting HIV…" (P04)

> "There is a need for government to identify a strategy on how to reach health-care workers with HIV self-testing." (P11)

All participants knew HIV self-testing is a screening tool, and confirmatory tests by a trained provider are required for a positive result. Participants felt that the screening process on its own might be creating doubt among the targeted population about HIV self-testing's importance in their healthcare plan. Participants recommended that HIV self-tests be approved as a conclusive stand-alone test, especially for negative tests. This approach might increase clients' trust in the product, thus promoting access and use among targeted populations. HIV self-testing is currently a screening test that requires confirmation with two other tests if the screening test is positive. Additionally, a confirmatory test is required if the test is negative and individuals want to access linkage services like PrEP and PEP (Eswatini Ministry of Health 2022:8).

> "I can recommend that HIV self-testing be approved or recognised as a test to reduce the time used for HIV testing as well specially to access prevention services like PrEP" (P08)

> "For PrEP refills, I think there is totally no need for the client to queue for a rapid test confirming negative status, these clients are coming for refills, he has been taking PrEP for the past six months and then you say the client needs to do a rapid test, why? Can't we just use a HIV self-test?" (P11)

> "For a client who fear the pricks with rapid testing, you will find that the client eventually does not access any HIV service yet have been on PrEP for two years but because is required to go via the rapid testing each time for refills. So, if we can have self-test as enough test for PrEP refills, that I think that will be much easier and then it allows linkages to be much easier." (P13)

Even though HIV self-testing directly involves HIV counsellors and targeted populations, HIV counsellors understood that the government is a key stakeholder and has a bigger role to play in ensuring appropriate and targeted HIV self-testing is implemented in the country. Increased involvement will ensure the government designs policies that promote efficiencies, including accessibility and further approvals of the test to avoid duplicating roles from the previously available tests.

3.3 SUMMARY

Chapter 3 presented the background information of all participants, including their demographic data, educational capacity, and experience in the provision of HIV self-testing. The interview findings were categorised into three themes and nine subthemes that were defined and described. Chapter 4 presents the researcher's analysis of the findings and the literature control.

CHAPTER 4

DISCUSSION OF THE FINDINGS AND INTEGRATION OF LITERATURE

4.1 INTRODUCTION

In this chapter, the researcher discusses the findings of the study and integrates them with relevant literature on HIV counsellors' knowledge and attitudes towards the provision of HIV self-testing as part of targeted HIV services in Eswatini. The findings are contextualised in the existing body of knowledge where gaps were identified, indicating the need for future studies on HIV self-testing.

Various databases were accessed while conducting literature searches, including Google Scholar, EBSCOhost, PubMed, SAGE Journal Online and ResearchGate Online Journals. Phrases and keywords were entered into the search fields to enhance the literature search. Examples of phrases used include "HIV counsellors' knowledge on HIV self-testing", "knowledge and attitudes on HIV self-testing", "HIV self-testing", "targeted HIV services", "HIV testing services in Eswatini", "targeted HIV testing services", "HIV self-testing target populations", "channels of HIV self-testing", "providers knowledge and attitudes on HIV self-testing" and "Schwartz' Knowledge-Attitudes-Practice model".

The KAP model by Schwartz (1976) guided the discussion of the research findings. This framework emphasises consciousness in delivering a health service based on knowledge and attitude, which guides and influences the actual service delivery practice. The researcher partially used the model as the study focused on exploring and describing knowledge and attitudes in providing HIV self-testing. The practices included in the KAP model were beyond the scope of this study.

The model describes knowledge as the foundation of behaviour and attitudes as the driving force of behaviour (Tukiman et al 2021:885). The KAP model is relevant to this study as it is widely used in nursing and public health to explore people's health behaviours. In this study, it is explained using three elements, namely (1) knowledge of targeted HIV self-testing, (2) attitude towards HIV self-testing, and (3) the provision of targeted HIV services (adopted behaviour).

4.2 DISCUSSION OF FINDINGS

Inadequate knowledge and negative attitudes among HIV counsellors can directly influence practice and lead to a lack of diagnosis and treatment, which, in turn, may result in the delayed control of the HIV epidemic (Maurya, Upadhyaya, Dubey, Shukla & Chaturvedi 2022:3). Therefore, the study's findings contributed to exploring and describing HIV counsellors' knowledge and attitudes in offering HIV self-testing as a strategy to enhance targeted HIV services in Eswatini based on three themes and nine subthemes that emerged during participant interviews. Areas of improvement for the provision of HIV self-testing as part of targeted HIV services are also discussed in the chapter.

4.3 KNOWLEDGE ENABLING HIV COUNSELLORS TO CONDUCT HIV SELF-TESTING AS A TARGETED STRATEGY

The first theme relates to HIV counsellors' knowledge, enabling the provision of HIV self-testing as a targeted HIV service. Knowledge influences attitudes towards that subject and thus influences behaviour or practice (Bakanauskas et al 2020:4). Knowledge is acquired through training and experience. All participants had more than two years' experience in providing HIV self-testing, and ten participants had four years' experience. HIV counsellors' knowledge of their roles and responsibilities and understanding of how to optimise targeting is important to ensure an optimum reach of targeted populations through HIV self-testing.

4.3.1 Knowledge of HIV counsellors' roles and responsibilities

The current study revealed that HIV counsellors had adequate knowledge of their roles and responsibilities in the provision of HIV self-testing as part of targeted HIV services. The findings suggest that although not all HIV counsellors received training on HIV self-testing provision as part of their initial HTS training, they know how to screen clients for HIV self-testing eligibility, educate clients on how to perform an HIV self-test, confirm positive screening results, and link patients to treatment and HIV prevention services. Annual in-service refresher training conducted after certification and routine mentorship sessions play a critical role in ensuring HIV counsellors have relevant and updated knowledge and skills to deliver high-quality HIV self-testing services. The WHO also

recommends in-service training and mentorship to ensure the delivery of high-quality HIV services (WHO 2019:5). Training develops theoretical knowledge, and practice develops practical knowledge and skills.

The current job description of HIV counsellors has evolved from universally testing everyone who attends HIV services to targeted HIV services (Eswatini Ministry of Health 2022:3). Key competencies required of HIV counsellors in Eswatini include the use of HIV self-testing and index testing, linkages to further HIV services after an HIV test, the provision of quality counselling and health education to targeted populations, and the use of a variety of mobilisation strategies to reach targeted populations with HIV testing services (Eswatini Ministry of Health 2019a:2). This job description is consistent with other countries' requirements of HIV counsellors. According to Cihebkenya Recruitment (2023), in Kenya, HIV counsellors' job descriptions include duties to optimise testing for all eligible clients at the facility level and ensure testing efficiency, conduct risk screening, provide prevention services for HIV-negative clients and referrals for HIV-positive patients. Similarly, in South Africa, HIV counsellors are required to raise awareness of HIV testing, provide enhanced treatment adherence counselling and referrals to other prevention and care services, and implement high-yield HTS modalities, including all entry-point testing, index case contact testing, and partner notification (Mokhele, Sineke, Vujovic, Ruiter & Onoya 2023:3). HIV counsellors in the study displayed adequate knowledge of their roles in the provision of HIV self-testing.

With regard to eligibility screening, HIV counsellors need to be skilled in identifying and offering HIV self-testing to eligible populations to avoid missing entitled populations and wasting HIV self-testing kits (WHO 2020:3). Healthcare workers' knowledge of their roles and responsibilities in healthcare delivery is important to ensure quality and patient-oriented health care (Martin, Nalukenge, Lazarus, Birungi & Seeley 2020:3). Offering HIV self-testing to ineligible populations could make the service inaccessible to targeted populations as wastages may results in stock depletion, thus limiting targeted populations' access.

In the current study, it was perceived that the use of a risk assessment tool to screen for HIV self-testing eligibility reduced wastage as HIV self-testing stock is limited. Donors support HIV self-testing, and supply is thus based on donor priorities; the Eswatini Ministry of Health currently receives financial support from donors, including UNITAID

and President's Emergency Plan for AIDS Relief (PEPFAR), for the provision of HIV self-testing.

While the screening tool aids in controlling stock wastage, some participants viewed it as a barrier for high-risk populations who value privacy. Privacy is key among some targeted populations, like MSM, as they fear stigma and discrimination, as well as population groups that practise socially unacceptable sexual behaviours, some of which are currently illegal in Eswatini, including sex work. In addition to the risk of missing some populations, the reliability of the screening tool was questioned since responses to the questionnaire could be subjective, resulting in eligible populations being categorised as ineligible. These inaccuracies could cause delayed reach of the targeted population. Therefore, although eligibility screening was regarded as important, participants preferred that HIV self-testing should be offered to all clients who perceive themselves at high risk of contracting HIV.

The current findings on the risk assessment tool are supported by Leung Soo, Bhatnagar, Bartlett, Esmail, Dheda and Pant Pai (2023:3), who introduced a digital HIV risk assessment tool for South African township populations. Their study concluded that a digital HIV risk assessment tool was preferred over in-person risk assessment as it offers a non-judgmental strategy to increase HIV testing uptake in high-prevalence areas by empowering individuals to assess their own need for testing and raise awareness of HIV risk factors. The screening tool consists of behavioural questions, including sexual and drug use practices, which the targeted population may not be comfortable sharing with HIV counsellors as some of the high-risk behaviours are illegal in Eswatini.

Another important role of HIV counsellors is to educate clients on how to use the HIV self-test. This education is provided in person or virtually delivered through a phone call. This support is an addition to user guides that accompany each test, written in both English and local languages, which are preferred by some targeted populations who may prefer an unassisted model of HIV self-testing. Educating clients on how to perform the HIV self-test is important to ensure accurate results and avoid wastage, as fewer HIV testing kits will be discarded due to damage or improper use.

Education on the kit's storage is also important. Although HIV self-testing is a self-care product, certain storage considerations must be followed to avoid compromising the test,

which may lead to unreliable results and wastage. Temperatures between 2 to 30°C and protection against humidity and direct sunlight are recommended storage conditions that must be maintained at all times. The United Nations International Children's Emergency Fund (UNICEF) (2022:1) emphasises the need to strictly follow the manufacturer's instructions for use during the test procedure, especially adherence to the reading time for interpretation. Education on how to correctly perform an HIV test, either physically or virtually, was thus cited as a necessity to improve HIV self-testing accuracy, particularly among men having sex with men (Shrestha, Alias, Wong, Frederick, Altice & Lim 2020:7). Mshweshwe-Pakela, Mabuto, Shankland, Fischer, Tsukudu and Hoffmann (2022:2) similarly found education on how to use HIV self-testing was one of the key roles of HIV counsellors. Youth clients also overwhelmingly prefer provider-delivered onsite HIV self-testing over off-site testing, citing storage issues and the inability to correctly perform the test (Mavodza et al 2021:4). In summary, these results show that knowledge on how to correctly store and perform HIV self-testing is important in ensuring quality testing among targeted populations, and this knowledge is vital among HIV counsellors as main providers of HIV self-testing services.

HIV counsellors know one of their key responsibilities is to confirm positive HIV self-test screening results to ensure correct results are communicated and understood by clients. The HIV self-test is 99.9% accurate for negative screening results but does not provide a definite positive diagnosis (CDC 2022:2). According to the national HIV testing algorithm, a positive screening result requires confirmation with further tests to be deemed positive (Eswatini Ministry of Health 2022:35). The turn-around time for confirmation of a positive result is important to the client, and prompt confirmation of a positive result can lead to prompt referral. Therefore, youth specifically preferred onsite HIV testing as off-site presented a longer route to support in terms of confirmation of positive screenings (Mavodza et al 2021:4). Youths also described a positive screening that is unconfirmed increases their anxiety, and they emphasised the importance of a swift and clear mechanism to confirm their positive self-test results. This view is further confirmed by Shrestha et al (2020:7), who reported on MSM's individual preferences for HIV self-testing delivery. Both HIV self-testing providers and users regard confirmation of a positive self-test as important to ensure the continuation of the service delivery cascade, including linkage services.

The current study showed that HIV counsellors regard linkages to HIV treatment and care as a critical part of their roles and responsibilities in the HIV self-testing cascade. Linkages to treatment and HIV prevention services are valuable for both HIV-negative and HIV-positive test results, including self-testing results. Sithole, Koole, Sausi, Krows, Schaafsma, Van Heerden, Shahmanes, Van Rooyen, Celum, Barnabas and Shapiro (2022:20) found that two-thirds of men, as one of the targeted populations who were reached through HIV self-testing, were linked to treatment. HIV self-testing provision is ultimately an initial step for high-risk, unreachable populations to access all relevant HIV services. HIV counsellors' roles and responsibilities thus play a critical role in ensuring targeted populations access this service to curb the spread of HIV. Therefore, additional strategies are required since one-third of targeted populations remained unlinked due to non-viable contacts for tracing. Community-based ART initiation services were suggested as clinic operating hours coupled with transport costs to health facilities presented barriers to confirmation and ART initiation for positive HIV self-test screenings.

The nature of HIV counsellors' knowledge about their roles and responsibilities in the provision of HIV self-testing is relevant to ensure targeted HIV testing. HIV self-testing is a self-care intervention that empowers one to make the right choices after a test, but HIV counsellors remain critical in ensuring facilitated testing and linkages to relevant HIV services.

4.3.2 Knowledge to optimise targeting

Knowledge of the value of HIV self-testing as a targeted strategy includes HIV counsellors' understanding of the characteristics of eligible populations for self-testing. Understanding the behaviours and demographic features that make these populations at high risk of contracting HIV is critical. Extra efforts are thus made by HIV counsellors to ensure HIV self-testing reaches targeted populations. They often execute their duties outside the normal routine and focus on targeted times and spaces to reach high-risk, unreachable populations, which has not been the case with the previously available HIV testing modalities.

HIV counsellors know that prisoners, those in the armed forces, adolescent girls and young women, men, transgender individuals, MSM and female sex workers are populations targeted with HIV self-testing. The present findings seem to be consistent

with Family Health International's (2019:4) list of populations to be prioritised for HIV self-testing, with a strong emphasis on the marginalised key populations. Sex work and MSM are not legal in Eswatini; thus, the emphasis on targeting these individuals and ensuring they are reached with this private and discreet way of HIV testing is critical. A lack of engagement with health services among these high-risk populations makes them a priority for HIV self-testing (Gupta-Wright et al 2021:2; WHO 2019:30). It is clear from all the mentioned literature that HIV counsellors understand who the targeted populations are and the unique characteristics that make them high-risk and unreachable using previously available HIV testing services.

HIV counsellors have insights into the best times and spaces to target populations for HIV self-testing to ensure an increased reach of high-risk, unreachable populations. Participants in the current study displayed knowledge of the targeted places where high-risk, unreachable populations spend most of their time and can access HIV self-testing. Outreach settings, such as bus ranks, were suggested as one the most efficient modes of delivering HIV self-testing services at targeted times when most priority populations could be reached. Workplaces, including farms, social venues, taxi ranks and homesteads were also listed as hotspots to be targeted for HIV self-testing (Sithole et al 2022:3). This view is further emphasised by the WHO (2019:30), which mentions social spaces and pharmacies, retail outlets and social media space as suitable for HIV self-test provision among high-risk, unreachable populations. The Eswatini Ministry of Health (2021:4), through the Swaziland HIV Incidence Measurement Survey Three (SHIMS 3), revealed that about 94% of Eswatini's 15 and older population is living with HIV and aware of their HIV-positive status. Reaching the remaining 6% is challenging, and innovations are thus needed to reach them where they are.

Flexible time schedules were regarded as ideal for offering HIV self-testing to ensure targeting. HIV counsellors in this study acknowledged the need for flexibility around working hours when providing HIV self-testing as it aims to reach previously unreached populations, thus requiring a shift from normal clinical settings to outreach settings that are comfortable and accessible to the targeted populations. Participants listed evening hours as ideal for targeting specific populations with HIV self-testing.

HIV self-testing's potential should not be limited to identifying HIV-positive individuals and facilitating linkages to treatment but should also capitalise on its unique characteristics

(mobile and private) that support health systems and improve mental health outcomes (Ortblad & Stekler 2020:3). The value of HIV self-testing is further evident in the different ways in which self-testing occurs, promoting flexibility and reaching targeted populations. The current study revealed that HIV counsellors had sufficient knowledge about different ways of providing HIV self-testing to add value in reaching the targeted populations. Different strategies for providing HIV self-testing included assisted and unassisted models, with a majority of HIV counsellors preferring the assisted model; control over the quality of the results was cited as a reason for their preference.

HIV self-testing is also provided either in a primary mode or secondary mode. The primary provision of HIV self-testing involves clients accessing the service from the service delivery point. In contrast, the secondary delivery mode involves a primary client willingly being used as a conduit to reach another individual in attaining an HIV self-testing kit (CDC 2022:3). The varied strategies of providing HIV self-testing places the power to decide and act on the client, thus promoting empowered self-care (UNITAID 2020:3).

HIV counsellors cited a lack of follow-up resources as a reason for clients' preference for onsite HIV self-testing over off-site testing. This view is supported by studies conducted among high-risk populations, including youths and MSM (Mavodza et al 2021:1; Shrestha et al 2020:2). However, off-site access to the assisted mode is preferred for privacy, especially among population groups engaging in illegal sexual practices in some countries (Shrestha et al 2020:2).

It was evident from the current study that HIV counsellors went the extra mile in delivering HIV self-testing services to overcome barriers that prevented targeted populations from accessing testing services. Their unique insight and experiences of the context can lead to innovations that optimise targeting by ensuring barriers for targeted populations are eliminated and they gain access to HIV testing services. This finding aligns with the Normalisation Process Theory, which explains that sense-making leads to a commitment to using an intervention, as evidenced by the HIV counsellors' commitment to work and take extraordinary measures to reach the targeted populations (May, Albers, Bracher, Finch, Gilbert, Girling, Greenwood, MacFarlane, Mair, May, Murray, Potthoff & Rapley 2022:2).

4.4 VIEWS ON HIV SELF-TESTING

HIV counsellors' attitudes in the provision of HIV self-testing are important as they determine how the service is ultimately delivered. Attitudes are the reason for behaviour, and behaviour is the expression of attitudes (Narang 2020:2). The attitudes identified in the study displayed participants' positive views about HIV self-testing as a needed strategy for targeted HIV services. For this study, HIV counsellors' attitudes towards HIV self-testing refer to the HIV counsellors' cognitive reaction towards the current provision of HIV self-testing, including their thoughts, beliefs, opinions, feelings and ideas about self-testing. Since attitudes are linked and formed through knowledge and personal experience, and range from positive to negative, HIV counsellors' attitudes need to be explored and described to assist in improving HIV self-testing practices in Eswatini. Participants' attitudes about HIV self-testing included their views about self-testing's effectiveness as a targeted strategy, views on the target population's acceptability of the HIV self-test, accessibility to HIV services, and reducing HIV counsellors' workload. HIV counsellors' attitudes about the provision of HIV self-testing as part of targeted HIV services were important to understand their decision-making process in providing HIV self-testing.

4.4.1 Effectiveness of HIV self-testing as a targeted strategy

HIV self-testing's effectiveness as a targeted strategy relates to the extent to which the goal of reaching high-risk, unreachable populations is achieved by HIV counsellors. It is important that HIV counsellors, as providers of HIV self-testing, have a positive attitude towards self-testing being an effective strategy in reaching targeted populations. Although Eswatini has made significant strides towards achieving the UNAIDS 95-95-95 targets set for 2025, subpopulation gaps vary, and most lagging population groups are currently part of HIV self-testing targeted populations.

The Eswatini Ministry of Health (2022:2) conducted the SHIMS 3 (a population-based HIV impact assessment) among adults (defined as those aged 15 years and older) to measure the impact of the country's national HIV response. Findings from the study revealed that 93.7% of adults 15 years and older living with HIV were aware of their status, 97.3% of those aware of their status were on antiretroviral therapy (ART), and 96.2% of those on ART had achieved viral suppression (Eswatini Ministry of Health

2022:1). However, further analysis of HIV data shows that there are sub-population differences, and key populations, men, adolescent girls and young women are among those lagging in accessing HIV testing services. The survey results indicated that 25% of men between 25 and 34 years and 16% of women between 15 and 24 years were unaware of their HIV status at the time of the survey. These populations' delayed access to HIV testing services poses a risk of continued transmission of HIV and an increase in new infections, thus reversing the gains achieved towards epidemic control so far.

The current study revealed that HIV counsellors were confident in the effectiveness of HIV self-testing as a strategy to reach the targeted populations. Participants believed in the screening and testing processes targeting high-risk, hard-to-reach populations. This view is similar to those from Bahia, Northeast Brazil, where healthcare providers from specialised HIV/AIDS care services portrayed a positive attitude and confidence in the provision of HIV self-testing (Jordão, Magno, Pereira, Rossi, Silva, Figueiredo, Lima Prado, Dos Santos, Cangussu & Dourado 2022:5). Trust in the effectiveness of HIV self-testing is also displayed by providers' supportiveness and willingness to make an extra effort in ensuring services are youth-friendly (Mavodza et al 2021:3). Further benefits of HIV self-testing include reducing space and human resource demands as it allows flexibility on when and where it can be performed, thus building confidence on its effectiveness among HIV counsellors.

Although HIV counsellors in the current study were confident about HIV self-testing's ability to reach targeted populations, they also shared some concerns that ineligible populations access the service. Some participants even regarded the eligibility screening tool as unnecessary and subjective. Regular testers were regarded as major manipulators of the screening responses to access HIV self-testing since it is an innovation everyone wants to try and eliminates the fear of needle pricks. This manipulation indicates that HIV self-testing is a preferred method and could be made available to more than just the unreached populations. However, free access for all can be a problem since the number of self-testing kits is limited in Eswatini. This view is supported by Gupta-Wright et al (2021:3), who describe HIV self-testing as cost-effective in reaching priority populations, and they recommend further cost-effectiveness studies on non-priority populations. The Eswatini Ministry of Health (2020:4) further agrees that the initial "spray and pray" method of providing HIV self-testing to everyone without risk profile screening did not produce desirable results because many ineligible populations

accessed the service, resulting in a change in the delivery strategy to more targeted approaches.

4.4.2 The target population's acceptability of HIV self-testing

According to the HIV counsellors, the targeted populations were very accepting of HIV self-testing as an option for them to attain HIV services. Even persons who had some doubt about the test's accuracy embraced HIV self-testing as it enabled them to access testing services in a flexible manner. The high-risk, unreachable populations accepted HIV self-testing more than the previous tests available as it reached them wherever they were.

A KwaZulu-Natal acceptability study found that both men and women displayed a high acceptance of HIV self-testing. Men preferred HIV self-testing due to its convenience and efficiency, while women cited autonomy and empowerment as their reason for the preference (Harichud, Moshabela, Kunene & Abdool Karim 2019:2). Acceptability among men is of great importance since it has been found that men are lagging behind in accessing HIV testing services in Eswatini (Eswatini Ministry of Health 2022:4). Women, including female sex workers, also found HIV self-testing highly acceptable despite only 6.9% being aware of HIV self-testing, according to a study conducted by Boisvert Moreau, Kintin, Atchekpe, Batona, Béhanzin, Guédou, Gagnon and Alary (2022:4). In that study, even the boyfriends of female sex workers showed an interest in using HIV self-testing, confirming the high acceptability rate among high-risk populations.

In all the studies, autonomy, privacy, accessibility, time saving, and the fact that it is a painless test were factors that promoted acceptability among the targeted populations. The high acceptability rate was also seen among non-eligible clients; participants mentioned clients who are already on HIV treatment also have an interest in using the test despite their ineligibility, thus the need to improve eligibility education on HIV self-testing to promote programme efficiencies. Similarly, Hacking, Cassidy, Ellman, Steele, Moore, Bermudez-Aza, Nxiba, Sopili and Duran (2022:1) found that HIV self-testing was preferred among previously diagnosed HIV-positive individuals in Khayelitsha, South Africa. Their study found that 11% of those who accessed HIV self-testing were previously diagnosed as HIV positive, resulting in wastage. Therefore, this study's findings and literature show an opportunity to promote engagement among previously

diagnosed HIV-positive clients with HIV care and treatment referrals. There is also an opportunity for clients to re-confirm their serostatus and subsequently link or re-link them to care and prevention strategies (Nangendo, Katahoire, Karamagi, Obeng-Amoako, Muwema, Okiring, Kabami, Semitala, Kalyango, Wanyenze & Kamya 2023:1).

4.4.3 Accessibility to HIV services

HIV self-testing is the gateway to further services, including HIV prevention and treatment services, based on the test outcomes. Moreover, the availability of HIV self-testing in locations and times that target eligible populations is critical in ensuring HIV self-testing efficiency, as this strategy was introduced to overcome the lack of access to HIV testing services among these targeted populations.

The current study found that when a client knows their HIV status, they are motivated to further access other HIV services after the test. The findings corroborate statements that HIV self-testing can increase access to extension, prevention and treatment services to priority populations (Clinton Health Access Initiative [CHAI] 2022:1). The findings of the current study are consistent with those of Adeagbo, Seeley, Gumede, Xulu, Dlamini, Luthuli, Dreyer, Herbst, Cowan, Chimbindi, Hatzold, Okesola, Johnson, Harling, Subedar, Sherr, McGrath, Corbett and Shahmanesh (2022:3), who used a peer-to-peer model of HIV self- testing to reach young women in KwaZulu-Natal, South Africa. In that study, some participants initiated PrEP because of their perceived risks and to ensure that their HIV status remains negative after the HIV self-test screening. The study further highlighted that previous limited information about PrEP and other HIV prevention and treatment measures in the community caused misconceptions, especially among young women; thus, HIV self-testing provides an opportunity for them to engage with an HIV counsellor and learn about other available HIV services.

Since HIV testing is a gateway to HIV services, such a service must always be available, especially to high-risk, unreachable populations who have a greater potential to acquire and transmit HIV unknowingly. The flexibility of HIV testing provision was cited as a motivator for targeted populations to access the service as well as linkage services thereafter (Harichund, Kunene, Simelane, Abdool Karim & Moshabela 2019:2). The study's findings showed a gap remains in the accessibility of HIV self-testing for some targeted populations, including healthcare workers and those engaging in illegal sexual

behaviours, like MSM and female sex workers, reflecting the need to continue improving HIV self-testing services.

HIV self-testing's availability through health facilities and at a community level through healthcare service outreach programmes by healthcare providers still confines the service to healthcare providers. Facility and community models are the approved channels of HIV self-testing in Eswatini (Eswatini Ministry of Health 2019b:15). However, the current strategy of having contact with a healthcare provider to access HIV self-testing could compromise targeted clients' autonomy and privacy. Shrestha et al (2020:6) argue that anonymous access to HIV self-testing provides an added layer of protection and addresses stigma among targeted populations. HIV self-testing has the potential to eliminate priority populations' forced engagement with healthcare settings, which is a current barrier to the services' accessibility (Ortblad & Stekler 2020:2). In the current study, HIV counsellors suggested modes that will reinforce clients' anonymity to promote a greater reach of the targeted populations. Alternative spaces, such as bus ranks, bars and taverns were cited as ideal to target priority populations with HIV testing.

In Uganda, HIV self-testing is provided at selected public health facilities, with the support of HIV implementing partners (Nangendo et al 2023:1). This approach is similar to the one adopted in Eswatini, reflecting the need to efficiently deliver the service. However, the WHO (2023:1) also calls for countries to expand their use of HIV self-testing to ensure initiation, continuation and adherence to PrEP, and promote testing through sexual and social networks. This approach could increase testing coverage and strengthen the uptake of HIV prevention and treatment services among the general population in high-burden settings, thus increasing access to HIV self-testing even among the general population. Free access would be feasible only if there is reliable and consistent domestic financing of the programme to promote sustainability, which is currently a challenge.

4.4.4 Reduction of HIV counsellors' workload

HIV counsellors in the study regarded HIV self-testing as relieving some of the workload involved in HIV testing. This is because HIV self-testing allows the client to perform the test alone. The study's findings revealed that HIV counsellors were burdened with screening duties for more ailments besides HIV, including TB and COVID-19, and any

other health threats at any given point in time; thus, their roles have stretched beyond HIV testing. The availability of self-testing reassured HIV counsellors that eligible populations are not overlooked in receiving HIV testing services. Mokhele et al (2023:3) found that 60% of HIV counsellors were overwhelmed with their work. HIV counsellors practising in primary healthcare clinics in Gauteng, South Africa, when asked about their current work situation, said that as the services become targeted to certain populations, they encounter patients who may be less receptive about starting ART immediately, requiring more of their time yet they are also occupied with additional duties.

Initial HIV counsellor duties were centred around ensuring all eligible clients are tested for HIV, and linkages and referrals are provided for clients needing attention (Eswatini Ministry of Health 2019a:7). This has changed as disease patterns change from time to time, with the same level of human resources. Specific tasks, especially initial screening tasks for illnesses, have thus been moved from clinicians to HIV counsellors so clinicians can concentrate on clinical duties. Van Schalkwyk, Bourek, Kringos, Siciliani, Barry, De Maeseneer and McKee (2020:2) describe task-shifting does not always improve efficiencies but may lead to substandard quality of care. This is different from the European Commission, Directorate-General for Health and Food Safety (2019:2) view of task-shifting as empowering staff, providing improved access to quality care, and increasing resilience among health systems. None of the studies have examined the effect of task-shifting on HIV counsellors, especially when they receive added tasks. This can be an area of further research where HIV counsellors are concerned to understand their experiences with added tasks in addition to their primary HIV testing role in the healthcare setting.

Njau, Lisasi, Damian, Mushi, Boulle and Mathews (2020:1) found that HIV experts, HTS counsellors, community leaders and clinicians had a positive attitude towards HIV self-testing and deemed it feasible in northern Tanzania as they anticipated positive consequences associated with HIV self-testing, including reduced counsellor workload. Employee workload balance is very important because of the consequences of an excessive workload on employees' attitudes towards the work, performance, health and psychology, and this is also relevant to HIV self-testing, as narrated by HIV counsellors (Inegbedion, Inegbedion, Peter & Harry 2020:4). HIV counsellors' attitudes towards HIV self-testing in relation to its effectiveness, acceptability, accessibility and relief of workload influence the current practice of HIV self-testing. All participants displayed a

positive attitude towards HIV self-testing as part of targeted HIV services. They regarded HIV self-testing as a needed service among high-risk, unreachable populations. This was evident in their recommendations suggesting areas of improvement, and none of the participants opposed HIV self-testing in Eswatini. HIV counsellors have been shown to provide HIV self-testing in a targeted manner despite barriers that limit their reach currently.

4.5 PROPOSED IMPROVEMENTS FOR HIV SELF-TESTING PROVISION AS A TARGETED HIV SERVICE

The current study revealed that HIV counsellors had adequate knowledge and a positive attitude towards the provision of HIV self-testing as part of targeted HIV services. However, they mentioned areas that need improvement and support to increase the efficiency of HIV self-testing provision in Eswatini. A strengthened and more targeted approach to HIV self-testing was cited as necessary to positively impact the quality of nursing care provided to clients accessing HIV care and treatment. Nursing care entails timely, efficient patient care, including the use of self-care as well as other point-of-care testing interventions to ensure timeous nursing interventions to manage diseases (Griffiths, Adenwalla & Davies 2019:1). Participants' recommendations include those related to client involvement, continued building of HIV counsellors' HIV self-testing capacity, and areas that require government support.

4.5.1 Client involvement

Targeted populations need to be involved in programme design and their feedback should be considered if HIV self-testing is to reach all hard-to-reach populations. General client feedback mechanisms are available in healthcare settings and are used to improve programme delivery, though they are not linked to HIV self-testing. Participants recommended suggestion boxes and telephone lines used by clients to give feedback to healthcare providers. This study also showed the need for mechanisms that are specifically designed to receive feedback from the targeted populations to improve HIV self-testing provision. The participants suggested 24/7 or reliable contact support lines that will specifically receive feedback from users to improve HIV self-testing services. Callers can offer recommendations on how they would like the service to be offered, for example, how they would prefer it to be packaged; the packaging of health commodities

can present a barrier to service uptake. Youths cited packaging, which was viewed as similar to HIV treatment, as a reason for not taking up PrEP; thus, the Ministry of Health is working on improving PrEP packaging. In the United States of America, key population groups, including prisoners, sex workers, transgender individuals, gays, bisexuals and MSM, and Black and Latina MSM specified how they wanted HIV self-testing to be delivered to them, and they emphasised convenience, particular types of tests, and recommended costs (Hawk, Chung, Creasy & Egan 2020:6). This information assists in designing client-centred HIV self-testing programmes.

Feedback on clients' preferences with HIV self-testing was found to offer insight that may be used to optimise products and services during a systematic review of 318 full texts, of which 17% were on HIV self-testing (Beckham, Crossnohere, Gross & Bridges 2021:2). That study concluded that patient-centred preference elicitation methods can gather information about product and service characteristics that may then be used to influence uptake of HIV prevention methods. The characteristics most HIV self-testing users commented on were location, type of test, willingness to pay for services, and the kind of support they preferred. Such feedback from clients was believed to improve future programme designs. The Integrated HIV Management Guidelines indicate that people-centred care should be "focused and organized around the health needs, preferences and expectations of people and communities, upholding individual dignity and respect, especially for vulnerable populations, and engage and support people and families to play an active role in their care by informed decision-making" (Eswatini Ministry of Health 2022:2).

Education and demand-creation programmes (activities that increase knowledge and awareness) on HIV self-testing were deemed necessary in the study. This strategy could ensure the high-risk, unreachable population is aware of the HIV self-testing service that has been introduced specifically for them. Moreover, ineligible populations may become aware of the eligibility criteria and not attempt to unnecessarily access HIV self-testing if information on eligibility is widely available. HIV counsellors in the current study recommended that clients be educated on the screening process and who is eligible for an HIV self-test through public platforms, the radio, and social media. Also, campaigns and promotions were proposed for the targeted populations to create awareness of HIV self-testing since some high-risk populations may still be unaware of the test and its use in general.

4.5.2 Building HIV counsellors' HIV self-testing capacity

Continuous training for HIV counsellors on targeted HIV self-testing provision was emphasised in the current study to ensure HIV counsellors are up to date with HIV self-testing information. HIV testing, in general, has evolved over the years, and new models are frequently introduced, requiring a continuous capacity-building mechanism for service providers.

Some participants were trained before and some after the introduction of HIV self-testing in the country; thus, their level of knowledge and capacity to provide targeted HIV services (including HIV self-testing) might differ. Continuous training for staff in healthcare engrains necessary skills and knowledge and fosters appropriate attitudes in providing high-quality service delivery (WHO 2019:4). Although no recent studies could be identified that focused on HIV counsellors and training, previous studies revealed training as a cornerstone for skills development. Training among HIV counsellors should be an efficient, timely action to increase HIV services by building competencies that address emerging challenges and issues that require immediate action in HIV services provision (Uganda Ministry of Health 2007:5).

HIV self-testing training during the initial HTS training may not be sufficient to ensure competency in providing targeted HIV self-testing services. Malema, Malaka and Mothiba (2010:15) conducted a study on lay counsellors' experiences in providing HIV voluntary counselling and testing services to pregnant women and found that the initial training for lay counsellors was adequate for them to start working as a lay counsellor. HIV counsellors cited limited time to comprehend all the content as one of the challenges they faced during training, which may have affected the performance of their duties (Malema et al 2010:20). A recommendation for ongoing in-service training and support was made to ensure lay counsellors' knowledge levels were adequate at all times.

The current study similarly revealed the need for more training to equip HIV counsellors with the necessary knowledge and skills to provide appropriate HIV self-testing services. Although the HTS training curriculum has recently incorporated HIV self-testing and targeted HIV testing as part of the curriculum, the Eswatini Ministry of Health (2019:40) stipulates annual refresher training for HIV counsellors as a requirement for continuous

quality improvement. However, the current study showed the need to increase the refresher training sessions to more than once per year to adapt to the rapidly changing landscape of HIV services. For example, five African countries' (including Eswatini, Lesotho, Malawi, Zambia, and Zimbabwe) move towards epidemic control while having some subpopulations lagging behind requires different innovative strategies to reach the remaining unreached populations (Icap Global Health 2023:4). The positive developments towards epidemic control as well as other emerging health threats in these countries and globally have created shifts in funding priorities, thus requiring efficient strategies to be implemented if targeted populations are still to be reached to break the chain of HIV transmission and reduce new infections (Nguyen Thu, Nguyen Quynh, Khuat Hai, Le Thi Thanh & Nguyen Thanh 2022:1).

There was a need for training on high-risk populations in the specific areas where HIV self-testing is provided. The current study showed that targeted populations may differ as client demographics vary with each area. Some areas have more adolescent girls and young women, including tertiary institutions and factories, yet others may have more men, for example, in the armed forces. This requires HIV counsellors to be conscious of the demographics of the population around each testing site to ensure none of the targeted populations is missed. This study's population comprised armed forces personnel, sex workers, and tertiary students, and HIV counsellors need to be aware of these demographics as they provide HIV self-testing in the outpatient department.

4.5.3 Government support

Stock availability, flexible times and a wide range of comfortable settings to reach targeted populations need to be improved to increase the reach of HIV self-testing. The study revealed the need to have HIV self-testing approved as a conclusive test to increase clients' confidence in the test. This will reduce waiting times for those who want to access HIV prevention services like PrEP. Currently, another rapid test is required after HIV self-testing to access PrEP services, thus rendering HIV self-testing possibly redundant and unnecessary for these clients. This recommendation is in line with the WHO's (2023:1) recent suggestion that countries expand the use of HIV self-testing for the initiation, continuation and re-starting of PrEP, and to promote testing through sexual and social networks. Eswatini had not yet adopted the recommendation at the time the data were collected.

Currently, HIV self-testing availability varies among health facilities, and stockouts are sometimes experienced. The current study revealed that HIV self-testing is available through support from donors who have changing and competing priorities that shift from time to time. Stock interruptions may also cause distrust in the service among clients (Hwang, Shroufi, Gils, Steele, Grimsrud, Boule, Yawa, Stevenson, Jankelowitz, Versteeg-Mojanaga, Govender, Stephens, Hill, Duncan & Van Cutsem 2019:2).

Even though the previously utilised venue-based HIV self-testing model had some successes, studies suggest an exploration of home delivery-based models among targeted populations to increase reach as well as ensure privacy (Shrestha et al 2020:8). In this study, MSM preferred accessing HIV self-testing through individual home deliveries based on high stigma levels among sexual minorities who are also the target population for HIV self-testing. HIV self-testing might not currently be reaching sexual minority populations because of concerns about stigma, discrimination and possible criminalisation in Eswatini. HIV counsellors cited a lack of resources like transport to hard-to-reach community areas as a hindrance in making the service more flexible and accessible for targeted populations, an area government can support to improve HIV self-testing provision.

4.6 SUMMARY

Chapter 4 discussed HIV counsellors' knowledge and attitudes in providing HIV self-testing as part of targeted HIV services in Eswatini. Themes and subthemes that emerged from the data were clustered under three themes and subthemes that described HIV counsellors' knowledge, attitudes, as well as recommendations in providing HIV self-testing as part of targeted HIV services. In Chapter 5, the conclusions, recommendations and limitations of the study are described.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

5.1 INTRODUCTION

In Chapter 4, the researcher discussed the study's findings and integrated them with the literature. The researcher concludes the study in this chapter by addressing the study's purpose and objectives.

The study's purpose was to determine HIV counsellors' knowledge and attitudes in offering HIV self-testing as a strategy to enhance targeted HIV services in Eswatini. The researcher used a qualitative, exploratory-descriptive design to reach the study's objectives. In this study, the participants were HIV counsellors aged 18 to 60 years, working at the selected hospital's outpatient department, providing HIV self-testing as part of HIV testing services. Data were collected through semi-structured, face-to-face interviews with 13 participants, conducted over six months. Data were analysed using Braun and Clarke's six-step coding framework for thematic analysis. Three themes and nine subthemes emerged from the data, and these findings were integrated into the existing body of knowledge to contextualise it. Thereafter, conclusions were drawn, and recommendations were made for policies, practice and further research areas. The study's limitations are discussed in this chapter.

5.2 CONCLUSIONS ABOUT THE STUDY'S OBJECTIVES

This section summarises the participants' demographic characteristics and conclusions drawn on each objective of the study.

5.3.1 Summary of the participants' demographic characteristics

Participants' demographic data were collected prior to each of the 13 interviews, analysed and incorporated into the study's findings. Nine female and four male HIV counsellors participated in the study. The participants' ages ranged between 25 and 40 years. All

participants were trained HIV counsellors and had between two to five years' experience in the provision of HIV self-testing.

5.3.2 Conclusions on HIV counsellors' knowledge of HIV self-testing in Eswatini

Adequate knowledge is required to provide efficient HIV self-testing. The first objective was therefore to determine HIV counsellors' knowledge of HIV self-testing in Eswatini. One theme and its two subthemes addressed this objective.

The findings showed that HIV counsellors had theoretical and practical knowledge of how to provide HIV self-testing in a targeted manner. They knew their roles and responsibilities and how to optimise HIV self-testing as a targeted strategy. In light of the shift from universal HIV testing to a targeted HIV testing model, HIV counsellors are expected to know their unique roles in HIV self-testing as a targeted strategy. A targeted strategy is important because it ensures targeted populations (who might contribute to new HIV infections in the future as they are high-risk and unreachable) receive HIV services. According to the *Times of Eswatini's* (2023:6) comments and analysis weekly feature, providing HIV self-testing services as intended can overcome current inefficiencies in HIV service delivery in Eswatini.

The key roles of HIV counsellors entail screening clients for eligibility to conduct an HIV self-test, offering education on how to perform the HIV self-test, confirming a positive self-test result, and referring clients to treatment and HIV prevention services. The fact that HIV counsellors know their roles and responsibilities can help them to be more committed to providing targeted HIV self-testing services and avoiding role confusion.

The findings reflected HIV counsellors had adequate knowledge to ensure eligible populations receive HIV self-testing services. The HIV counsellors also understood the importance of following the screening process to ensure targeting. Although they felt HIV self-testing is currently targeted, a more inclusive approach without the screening tool's use was viewed as necessary in the future to remove possible stigma and discrimination barriers that the screening process is imposing on some populations. Moreover, stockouts of HIV self-testing kits were cited as needing attention to make HIV self-testing service universally accessible to whoever perceives themselves in need of HIV testing, should resources allow.

Participants acknowledged that HIV self-testing was a relatively new strategy, thus the need to educate eligible clients on how to perform the test, interpret the results, and store the test kit. Although participants acknowledged that HIV self-testing provides flexibility and autonomy by allowing clients to access the service in an unassisted model, they emphasised the need to avail themselves should a client need help. Some preferred assisted self-testing to ensure that the test is performed accurately and avoid wasting the limited number of available self-tests. Confirming positive screening results and offering linkages to treatment and prevention services were considered an important part of HIV self-testing services because additional confirmation is a standard prescribed in the policy. Countries ultimately need to adopt linkages to ART and prevention services to promote programme effectiveness and impact (Choko, Jamil, MacPherson, Corbett, Chitembo, Ingold, d'Elbee, DiCarlo, Majam, Schewchuk, Wong, Baggaley & Johnson 2020:1). Linkages to other HIV services is a strategic priority for epidemic control, reflecting the need to ensure service delivery is targeted at high-risk, unreachable populations so that they can be referred to the required health services for comprehensive care.

In addition to understanding their roles, HIV counsellors showed knowledge and insight into the optimisation of HIV self-testing services as a targeted strategy. This knowledge came from experience in the provision of HIV services and self-testing services. They knew which targeted populations were previously unreachable with HIV self-testing, including sex workers, those in the armed forces, MSM, men and adolescent girls, and young women. They also had insight into the best times and places to target the most unreached populations, for example, late evening hours.

The HIV counsellors' knowledge of their roles and responsibilities and their insight to optimise HIV self-testing convinced the researcher that HIV counsellors are well positioned to provide HIV self-testing in a targeted manner. Aligned with the KAP model (Tukiman et al 2021:885), the nature of HIV counsellors' knowledge emanating from training and experience provides a strong foundation for their positive attitudes and practices.

5.2.3 Conclusions on HIV counsellors' attitudes towards HIV self-testing in Eswatini

The second objective aimed to determine HIV counsellors' attitudes in offering HIV self-testing in Eswatini. HIV counsellors' knowledge is linked to their attitude and eventually to the manner in which they provide HIV self-testing (Tukiman et al 2021:885).

Attitudes towards HIV self-testing among HIV counsellors could either promote or become barriers to reaching targeted populations. Their attitudes could be based on the knowledge they acquired and experience in providing HIV self-testing services. In this study, HIV counsellors displayed a positive attitude towards HIV self-testing. They viewed this approach as effective and highly accepted in reaching the targeted populations due to its flexibility in when and where one can test, overcoming stigma-related challenges. HIV self-testing was described as creating greater demand for HIV services among previously unreached high-risk populations and motivating those who become aware of their status to seek preventive care or treatment. Furthermore, participants described HIV self-testing as relieving some of their workload.

Despite the positive views HIV counsellors displayed towards HIV self-testing, they felt that access was too controlled as one still needs to have an encounter with a health worker to access the service, thus compromising the autonomy that HIV self-testing promises. The current HIV self-testing strategy can also be perceived as going against client autonomy and could deter HIV self-testing among some targeted populations valuing privacy and autonomy.

Many other populations also prefer an HIV self-test, as evidenced by their manipulation of the eligibility screening test, the preference of the healthcare workers themselves, and several studies in various countries. If resource limitations do not prevail, open access to HIV self-tests will create a greater opportunity to reach targeted populations who still feel the current strategy is not private enough for them to access the service.

5.2.4 Conclusions on HIV counsellors' proposed improvements on HIV self-testing in Eswatini

The third objective was to propose improvements for HIV self-testing that will enhance targeted HIV services in Eswatini. The end-users or clients, providers and government have a role in ensuring HIV self-testing services are efficient. The study identified that targeted populations need to be co-designers of their programmes to incorporate their preferences and promote acceptability for increased service utilisation. The co-design approach aligns with the UNICEF (2022:2) agenda for client-centred healthcare services. HIV counsellors perceived that the targeted populations wanted convenient times and methods to conduct HIV self-testing that would not compromise their autonomy and privacy. However, although the target population valued privacy and autonomy, HIV counsellors perceived that they wanted access to self-testing support; therefore, an assisted model and referral to the required treatment and preventive services are needed.

Wastages were partly caused by a lack of relevant information for clients as they might not be fully aware of the eligibility criteria. Information dissemination activities were proposed to inform the targeted population. Both physical and virtual platforms, including social media, can be explored to increase HIV self-testing awareness. In addition to awareness raising among clients, continuous capacity-building among HIV counsellors as primary providers of HIV self-testing was recommended to ensure efficient targeting. Building HIV counsellors' capacity involves developing their skills and knowledge to improve health outcomes and better equip counsellors to handle new challenges and adapt to changes in the healthcare landscape. As mentioned, co-designing the HIV self-testing programme with clients was identified as one strategy for improving targeted services. Suggestions also included 24-hour operated support feedback platforms, where clients can voice their preferences for the service; this strategy should be considered and incorporated during implementation. These platforms could also serve as feedback and insight-gathering spaces to improve HIV self-testing.

It is the government's responsibility to support high-quality health service provision to its citizens, that are accessible and affordable to all who need them, including HIV self-testing. Governments are also responsible for ensuring policies, frameworks, and standards for health and well-being are in place and implemented (WHO 2022:1). HIV counsellors recommended increased accessibility to HIV self-testing through policies.

Governments ultimately guarantee quality healthcare services through healthcare policies that foster transparency and accountability for quality health services to be provided to citizens.

5.3 LIMITATIONS OF THE STUDY

Limitations in research represent weaknesses within a research design that may influence the outcomes and conclusions of the research (Ross & Bibler Zaidi 2019:1). Due to service responsibilities, some participants could not attend the interviews on the planned dates. Participants were informed of an option to reschedule an interview should a need arise, and this ensured interviews were conducted as intended.

Potential limitations for transferability may be related to the specific context of the study. In the particular study's setting, HIV self-testing kits are scarce, which affects the services rendered. This scarcity may not be a problem in similar settings in Eswatini.

5.4 RECOMMENDATIONS

The following recommendations are based on the study's findings and include recommendations for practice, policy, and further research. Recommendations are aligned with the findings since HIV counsellors identified areas that needed improvement for targeted HIV services.

5.4.1 Recommendations for nursing practice

Nurses should be fully aware of HIV counsellors' capabilities to provide HIV testing in a targeted manner. This understanding could have a major effect on the nursing care a client receives after testing. Therefore, nurses remain accountable for the healthcare provided to each client as they are the ones who continue service delivery after HIV testing and play a supervisory role for HIV counsellors.

Therefore, the following are recommended:

- Nursing managers should serve as advocates for HIV counsellors to continually

build their capacity, both cognitively and behaviourally, to ensure continued targeted self-testing. This may include pairing HIV counsellors in different HIV testing sites for benchmarking and exposure purposes to provide HIV self-testing in different targeted settings. Site-specific training could assist in ensuring HIV counsellors have knowledge of the specific high-risk population profile at the site and ensure efficient identification and reach of these populations.

- Refresher training could be offered more frequently than once per year to ensure new HIV counsellors have the same capacity as the rest of the team in understanding the rapidly changing HIV landscape.
- Nurse managers should actively seek permission from responsible stakeholders, like municipal councils on behalf of HIV counsellors, to set up HIV self-testing outreach programmes in spaces and at times preferred by targeted populations, for example, during sex workers' trading hours, at night. Such permission could make the service more flexible and attract more targeted individuals.
- Nurses could assist HIV counsellors in routinely reviewing patient care outcomes, from HIV testing to linkages to HIV services, to ensure targeting is maintained throughout the patient care continuum.

5.4.2 Recommendations for health-related policy

- Since knowledge affects how HIV self-testing is provided, a policy on training should include more frequent and monitored training to ensure all HIV counsellors understand the latest HIV evidence-based guidelines.
- HIV counsellors' self-testing skills should be routinely assessed as part of the observed practice assessments performed for HIV counsellors on other HIV rapid tests.
- HIV self-testing should be approved as a test in the national HIV testing algorithm that needs no further confirmation, especially for HIV-negative clients who require prevention services since Eswatini has not yet adopted the WHO's (2023:1) recommendation that countries should expand on the use of HIV self-testing for treatment initiation, continuation and re-starting PrEP.
- HIV self-testing that is free for all should be the long-term goal in a country such as Eswatini with a large high-risk population. This recommendation would require extensive resources and may not be achievable in the short term.

5.4.3 Recommendations for further research

- Similar studies should be conducted among nurses to understand their capacity to supervise and support HIV counsellors to provide HIV self-testing in Eswatini.
- Further studies should be conducted to identify the impact of task-shifting on HIV counsellors to ascertain if they receive adequate support and guidance from nurses to perform their daily duties.
- Prevalence studies could be conducted to determine the prevalence of targeted population reach per region to ensure a sufficient supply of HIV self-test kits based on demand, avoiding wastage.
- An in-depth exploration of high-risk populations in Eswatini's preferences for the HIV self-test could be done.
- Studies on the targeted populations who are currently practising socially unacceptable sexual behaviours (some of which are currently illegal in Eswatini, including sex work and MSM) could be conducted to understand how the current provision of HIV self- testing can further reach them without compromising their privacy.

5.5 CONTRIBUTIONS OF THE STUDY

The in-depth description of HIV counsellors' knowledge and attitudes showed their capacity to provide HIV self-testing in a targeted manner. This study identified areas for improvement and support required among HIV counsellors to deliver targeted HIV self-testing services in Manzini, Eswatini. Increasing knowledge and maintaining a positive attitude can lead to more efficient HIV self-testing, which could further lead to cost-savings as HIV- positive clients could be diagnosed timely and treatment commenced to prevent deaths and the further spread of HIV. Ensuring a targeted approach to the HIV self-testing innovation can contribute towards achieving the 2030 Sustainable Development Goals, especially goal number three, which seeks to promote efficient healthcare for everyone.

5.6 CONCLUSION

In the 1800s, Florence Nightingale said, “let us not consider ourselves finished, nurses. We must be learning all our lives.” (Prasetyo 2022:4). Nurses need to acquire new knowledge on an ongoing basis to provide quality nursing care and capacitate HIV counsellors, who form part of the multidisciplinary team, in line with the ever-changing disease landscape. HIV counsellors follow policies on HIV self-testing based on the knowledge they acquired, and their attitudes guide their decisions in practice. Witnessing the added value of HIV self-testing propelled HIV counsellors to make recommendations towards improving its provision to reach more people at risk of contracting HIV. The targeted populations similarly need to accept and optimally use HIV self-testing.

LIST OF REFERENCES

Adeagbo, OA, Seeley, J, Gumede, D, Xulu, S, Dlamini, N, Luthuli, M, Dreyer, J, Herbst, C, Cowan, F, Chimbindi, N, Hatzold, K, Okesola, N, Johnson, C, Harling, G, Subedar, H, Sherr, L, McGrath, N, Corbett, L & Shahmanesh, M. 2022. Process evaluation of peer-to-peer delivery of HIV self-testing and sexual health information to support HIV prevention among youth in rural KwaZulu-Natal, South Africa: qualitative analysis*. BMJ Open* 12(2):3.
From: https://doi.org/10.1136/bmjopen-2021-048780 (accessed 03 November 2023).

Alexander, TS. 2016. Human immunodeficiency virus diagnostic testing: 30 years of evolution. *Clinical and Vaccine Immunology 23*(4):249-253.
From: https://doi.org/10.1128/CVI.00053-16 (accessed 20 March 2022).

Anglewicz, P, VanLandingham, M, Manda-Taylor, L & Kohler, HP. 2016. Migration and HIV infection in Malawi. *AIDS* 30(13):1-2.
From: https://doi.org/10.1097/QAD.0000000000001150 (accessed 10 March 2020).

Arullapan, N, Chersich, MF, Mashabane, N, Richter, M, Geffen, N, Vearey, J, Jankelowitz, L, Scorgie, F and Venter, WDF. 2018. Quality of counselling and support provided by the South African National AIDS Helpline. Content analysis of mystery client interviews. *SAMJ Research* 108(7):1-2. 10.7196/SAMJ. 2018.v108i7.12543.

Bakanauskas, A, Kondrotienė, E & Puksas A. 2020. The theoretical aspects of attitude formation factors and their impact on health behaviour. *Management of Organizations: Systematic Research* 83(1):1-16.
From: https://doi.org/10.1515/mosr-2020-0002 (accessed 10 July 2022).

Beckham, SW, Crossnohere, NL, Gross, M & Bridges, JFP. 2021. Eliciting preferences for HIV prevention technologies: a systematic review. *Patient* 14(2):1-4.
From: https://doi.org/10.1007/s40271-020-00486-9 (accessed 10 March 2022).

Belle, JA & Gamedze, NN. 2019. Behavioural factors contributing to the transmission of HIV and AIDS amongst young women of Mbabane in Swaziland. *African Journals Online* 19(3):1-2.
From: https://www.ajol.info/index.php/ahs/article/view/190710 (accessed 04 September 2021).

Boisvert Moreau, M, Kintin, FD, Atchekpe, S, Batona, G, Béhanzin, L, Guédou, FA, Gagnon, MP, & Alary, M. 2022. HIV self-testing implementation, distribution and use among female sex workers in Cotonou, Benin: a qualitative evaluation of acceptability and feasibility. *BMC Public Health 22*(1):589.
From: https://doi.org/10.1186/s12889-022-12917-3 (accessed 01 July 2023).

Braun, V & Clarke, V. 2019. Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health* 11(4):1-2.
From: https://doi.org/10.1080/2159676X.2019.1628806 (accessed March 2023).

Braun, V & Clarke, V. 2022. Toward good practice in thematic analysis: Avoiding common problems and be(com)ing a *knowing* researcher. *International Journal of Transgender Health* 24(1):1-6. 10.1080/26895269.2022.2129597.

Brink, H, Van der Walt, C & Van Rensburg, G. 2018. *Fundamentals of research methodology for health care professionals*. 4th edition. Cape Town: Juta.

Budu, HI, Abalo, EM, Bam, VB, Agyemang, DO, Noi, S, Budu, FA, & Peprah, P. 2019. "I prefer a male nurse to a female nurse": patients' preference for, and satisfaction with nursing care provided by male nurses at the Komfo Anokye teaching hospital. *BMC Nursing* 18(47):1.
From: https://doi.org/10.1186/s12912-019-0369-4 (accessed 13 April 2022).

Burke, VM, Nakyanjo, N, Ddaaki, W, Payne, C, Hutchinson, N, Wawer, MJ, Nalugoda, F & Kennedy, CE. 2017. HIV self-testing values and preferences among sex workers, fishermen, and mainland community members in Rakai, Uganda: A qualitative study. *PLOS ONE* 12(8):1-2.
From: https://doi.org/10.1371/journal.pone.0183280 (accessed 20 November 2022).

CDC see Centers of Disease Control and Prevention.

Centers of Disease Control and Prevention. 2022. *HIV testing*. Division of HIV Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention.
From: https://www.cdc.gov/hiv/testing/index.html (accessed 20 November 2022).

Chippindale, S & French, L. 2001. HIV counselling and the psychosocial management of patients with HIV or AIDS. *BMJ (Clinical research ed.)* 322(7301):1-2.
From: https://doi.org/10.1136/bmj.322.7301.1533 (accessed 03 November 2023).

Choko, AT, Jamil, SM, MacPherson, P, Corbett, E, Chitembo, L, Ingold, H, Aza, BE, d'Elbee, M, DiCarlo, M, Majam, M, Schewchuk, T, Wong, V, Baggaley, R & Johnson, C. 2020. Measuring linkage to HIV treatment services following HIV self-testing in low-income settings. *Journal of the international AIDS Society*:1.
From: https://doi.org/10.1002/jia2.25548 (accessed 20 May 2023).

Choongwa, GH. 2018. *Fundamentals of applied research methodology*. 1st edition. Mbabane: Webster Print.

Cihebkenya Recruitment. 2023. 16 May, Nairobi.

Clinton Health Access Initiative (CHAI). 2022.*5 things you should know about HIV self-testing.*
From: https://medaccess.org/5-things-you-should-know-about-hiv-self-testing/
(accessed 31 July 2023).

ENHI see Eswatini Nazarene Health Institution.

Eswatini Ministry of Health. 2017. *Eswatini population-based HIV impact assessment 2 (SHIMS2 2017): Final Report*. Mbabane.

Eswatini Ministry of Health. 2018. *Swaziland integrated HIV management guidelines.* Mbabane. Webster Printer.

Eswatini Ministry of Health. 2019a*. Client initiated HIV testing and counselling: a training manual for health care workers providing HIV Testing and Counselling in the Kingdom of Eswatini*. Mbabane. Webster Printer.

Eswatini Ministry of Health. 2019b*. HIV self-testing standard operating procedure for the delivery of HIV self-testing in Swaziland*. Mbabane. Webster Printer.

Eswatini Ministry of Health. 2020. *HIV Testing*. *Standard operating procedure for the delivery of HIV self-testing services in Swaziland*. Mbabane. Webster Printer.

Eswatini Ministry of Health. 2021. *Eswatini population-based HIV impact assessment 3 (SHIMS3 2021): Final Report.* Mbabane.

Eswatini Ministry of Health. 2022. *Eswatini integrated HIV management guidelines*. Mbabane. Webster Printer.

Eswatini Nazarene Health Institution (ENHI). 2022.
From: https://www.enhicare.com/pages/ (accessed 03 May 2023).

European Commission, Directorate-General for Health and Food Safety. 2019. *Task shifting and health system design – opinion by the expert panel on effective ways of investing in Health (EXPH)*.
From: https://data.europa.eu/doi/10.2875/4555 (accessed 24 November 2021).

Family Health International. 2019. *HIV self-testing quick reference guide*.
From: https://www.fhi360.org/sites/default/files/media/documents/epic-hiv-self-test-reference-guide.pdf (accessed 20 August 2022).

Fan, Y, Zhang, S, Li, Y, Li, Y, Zhang, T, Liu, W & Jiang, H. 2018. Development and psychometric testing of the knowledge, attitudes and practices (KAP) questionnaire among student tuberculosis (TB) patients (STBP-KAPQ) in China. *BMC Infectious Diseases* 18(1):1-2.
From: https://doi.org/10.1186/s12879-018-3122-9 (accessed 10 May 2021).

Faust, L, & Yaya, S. 2018. The effect of HIV educational interventions on HIV-related knowledge, condom use, and HIV incidence in sub-Saharan Africa: a systematic review and meta-analysis. *BMC Public Health* 18(1):1-2.
From: https://doi.org/10.1186/s12889-018-6178-y (accessed 16 October 2021).

Fischer, AE, Abrahams, M, Shankland, L, Lalla-Edward, ST, Edward, VA & De Wit, J. 2023. The evolution of HIV self-testing and the introduction of digital interventions to improve HIV self-testing. *Frontiers in Reproductive Health* 5:1.
From: https://doi.org/10.3389/frph.2023.1121478 (accessed 10 December 2023).

Griffiths, B, Adenwalla, F & Davies, A. 2019. Providing safe and timely patient-centred care. *Future Healthcare Journal* 6(1):1.
From: https://doi.org/10.7861/futurehosp.6-1-s2 (accessed 17 February 2023).

Guba, E & Lincoln, YS. 1989. *Fourth generation evaluation*. London: Sage.

Gupta-Wright, A, Barnabas, RV, Ingold, H, Duneton, P & Abubakar, I. 2021. HIV self-testing: lessons learnt and priorities for adaptation in a shifting landscape. *BMJ Global Health* 6(4):1-3.
From: https://doi.org/10.1136/bmjgh-2020-004418 (accessed 14 November 2022).

Hacking, D, Cassidy, T, Ellman, T, Steele, SJ, Moore, HA, Bermudez-Aza, E, Nxiba, X, Sopili, E & Duran, LT. 2022. HIV Self-testing among previously diagnosed HIV-positive people in Khayelitsha, South Africa: no evidence of harm but may facilitate re-engagement in ART care. *AIDS and Behaviour* 26(9):1-6.
From: https://doi.org/10.1007/s10461-022-03586-9 (accessed 23 March 2023).

Harichund, C, Kunene, P, Simelane, S, Abdool Karim, QA & Moshabela, M. 2019. Repeat HIV testing practices in the era of HIV self-testing among adults in KwaZulu-Natal, South Africa. *PLoS ONE* 14(2):2.
From: https://doi.org/10.1371/journal.pone.0212343 (accessed 03 June 2022).

Hawk, ME, Chung, A, Creasy, SL & Egan, JE. 2020. A Scoping Review of Patient Preferences for HIV Self-Testing Services in the United States: Implications for Harm Reduction. *Dovepress* 14:1-10.
From: https://doi.org/10.2147/PPA.S251677 (accessed 20 April 2023).

Hiew, CC, Chin, YS, Chan, YM & Mohd Nasir, MT. 2015. Development and validation of knowledge, attitude and practice on healthy lifestyle questionnaire (KAP-HLQ) for Malaysian adolescents. *Journal of Nutrition and Nutrition Health Sciences* 2(4):2.
From: 0.15744/2393-9060.2.407 (accessed 10 June 2020).

Hwang, B, Shroufi, A, Gils, T, Steele, SJ, Grimsrud, A, Boulle, A, Yawa, A, Stevenson, S, Jankelowitz, L, Versteeg-Mojanaga, M, Govender, I, Stephens, Hill, J, Duncan, J & Van Cutsem, G. 2019. Stock-outs of antiretroviral and tuberculosis medicines in South Africa: a national cross-sectional survey. PLoS ONE 14(3):2.
From: https://doi.org/10.1371/journal.pone.0212405 (accessed 07 July 2021).

Icap Global Health. 2023.
From: https://icap.columbia.edu/news-events/national-survey- in-eswatini-demonstrates-historic-reduction-in-new-infections/ (accessed 02 November 2023).

Inegbedion, H, Inegbedion, E, Peter, A & Harry, L. 2020. Perception of workload balance and employee job satisfaction in work organisations. *Heliyon* 6(1):1-4.
From: https://doi.org/10.1016/j.heliyon.2020.e03160 (accessed10 November 2022).

Islam, MR. 2019. *Social research methodology and new techniques in analysis, interpretation and writing*. Malaysia: SAGE.

Joint United Nations Programme on HIV/AIDS (UNAIDS). 2019. UNAIDS data 2019.
From: https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf (accessed 03 May 2023).

Joint United Nations Programme on HIV/AIDS (UNAIDS). 2020*. Country progress report – Eswatini Global AIDS Monitoring. 2020.*
From: https://www.unaids.org/sites/default/files/country/documents/SWZ_2020_countryreport.pdf (accessed 10 October 2023).

Jolley, J.2020. Introducing research and evidence-based practice for nursing and healthcare professionals. 3rd edition. London: Routledge.
From: https://doi.org/10.4324/9780429329456 (accessed 05 June 2022).

Jordão, T, Magno, L, Pereira, Rossi, TRA, Silva, PA, Figueiredo, AA, Lima Prado, Dos Santos, NM, Cangussu, MC & Dourado, I. 2022. Willingness of health care providers to offer HIV self-testing from specialized HIV care services in the northeast of Brazil. *BMC Health Services Research* 22:5.
From: https://doi.org/10.1186/s12913-022-08091-2 (accessed 20 April 2023).

Kaliyaperumal, K. 2004. *Guideline for conducting a knowledge, attitude and practice*.
From:
https://www.researchgate.net/publication/285908075_Guideline_for_conducting_a_knowledge_attitude_and_practice_KAP_study (accessed 10 October 2022).

Kuwawenaruwa, A, Wyss, K, Wiedenmayer, K, Metta, E & Tediosi, F. 2020. The effects of medicines availability and stock-outs on household's utilization of healthcare services in Dodoma region, Tanzania. *Health Policy and Planning 35*(3):6-10.
From: https://doi.org/10.1093/heapol/czz173 (accessed 17 August 2021).

Kwak, C, Seo, YJ, Park, KH, & Han, W. 2022. Analysis of the Knowledge, Attitudes, and Practice Model of Healthcare Professionals on Hearing Loss at Elderly Dementia Residences in Korea. *Healthcare* 10(5):1.
From: https://doi.org/10.3390/ healthcare10050792 (accessed January 2022).

Leedy, PD & Ormrod, JE. 2019. *Practical research planning and design*.12th edition. United States of America: Pearson.

Leung Soo, C, Bhatnagar, Bartlett, SJ, Esmail, A, Dheda, K, & Pant Pai, N. 2023. Development and evaluation of a digital HIV risk assessment tool incorporated within an app-based self-testing program. *Journal of Acquired Immune Deficiency Syndromes* 93(5):3-7.
From: https://doi.org/10.1097/QAI.00000 00000003210 (accessed 02 October 2023).

Liu, Y, Lu, L, Wang, YY, Wilkinson, MR, Ren, YM, Wang, CC, Zhang, FB, Gao, J & Liu, S. 2020. Effects of health education on HIV/AIDS related knowledge among first year university students in China. *African health sciences 20*(4):187.
From: https://doi.org/10.4314/ahs.v20i4.10 (accessed 20 October 2022).

Maguire, M & Delahunt, B. 2017. Doing a thematic analysis*:* a practical, step-by-step guide for learning and teaching scholars. *All Ireland Journal of Higher Education* (3):4-8.
From: https://ojs.aishe.org/index.php/aishe-j/article/view/335 (accessed 10 October 2020).

Malema, RN, Malaka, DW & Mothiba, TM. 2010. Experiences of lay counsellors who provide VCT for PMTCT of HIV and AIDS in the Capricorn District, Limpopo Province. *Curationis* 33(3):15-23.
From: https://doi.org/10.4102/curationis.v33i3.3 (accessed 10 May 2020).

Manika, D, Papagiannidis, S, Bourlakis, M & Clarke, R. 2021. Drawing on subjective knowledge and information receptivity to examine an environmental sustainability policy: insights from the UK's bag charge policy. *European Management Review, The Journal of The European Academy of Management* 18(3):3-7.
From: https://doi.org/10.1111/emre.12453 (accessed 28 August 2022).

Martin, F, Nalukenge, W, Lazarus, O, Birungi, J & Seeley J. 2020. "Vital": HIV counselling and testing staff's views of addressing mental health with HIV in Uganda. *BMC Health Services Research* 20:3.
From: https://doi.org/10.1186/s12913-020-05881-4 (accessed 10 May 2023).

Maurya, VK, Upadhyay, V, Dubey, P, Shukla, S, & Chaturvedi, A. 2022. Assessment of front-line healthcare workers' Knowledge, Attitude and Practice after several months of COVID-19 pandemic. *Journal of healthcare quality research 37*(1):3-7.
From: https://doi.org/10.1016/j.jhqr.2021.07.004 (accessed 05 May 2023).

Mavodza, CV, Mackworth-Young, CRS, Bandason, T, Dauya, E, Chikwari, CD, Tembo, M, Apollo, T, Ncube, G, Kranzer, K, Ferrand, RA, & Bernays, S. 2021. When healthcare providers are supportive, 'I'd rather not test alone': Exploring uptake and acceptability of HIV self-testing for youth in Zimbabwe: a mixed method study. *Journal of the International AIDS Society* 24(9):1-4.
From: https://doi.org/10.1002/jia2.25815 (accessed 02 October 2022).

May, CR, Albers, B, Bracher, M, Finch, TL, Gilbert, A, Girling, M, Greenwood, K, MacFarlane, A, Mair, FS, May, CM, Murray, E, Potthoff, S & Rapley, T. 2022. Translational framework for implementation evaluation and research: a normalisation process theory coding manual for qualitative research and instrument development. *Implementation Science* 17(1):2.
From: https://doi.org/10.1186/s13012- 022-01191-x (accessed 10 November 2023).

McCombes, S. 2020. Descriptive research. Scribbr.
From: https://www.scribbr.com/ methodology/descriptive-research (accessed 10 April 2021).

McLaughlin, K, Muldoon, OT & Moutray, M. 2010. Gender, gender roles and completion of nursing education: a longitudinal study. *Nurse Education Today* 30(4):2-3.
From: https://doi.org/10.1016/j.nedt.2009.08.005 (accessed 16 August 2023).

Miles, G. 2023. Targeted HIV Testing: What's Important to Know? Health Scientist. Division of HIV/AIDS Prevention. *The Centers for Disease Control and Prevention.*
From: https://www.cdc.gov/hiv/pdf/funding/announcements/ps21-2102/cdc-hiv-pS21-2102-CBBTesting-PreApp.pdf (accessed 10 May 2022).

Minnery, M, Mathabela, N, Shubber, Z, Mabuza, K, Gorgens, M, Cheikh, N, Wilson, DP & Kelly, SL. 2020. Opportunities for improved HIV prevention and treatment through budget optimization in Eswatini*. PLoS ONE* 15(7):1.
From: https://doi.org/10.1371/journal.pone.0235664 (accessed 13 November 2023).

Mokhele, I, Sineke, T, Vujovic, M & Ruiter, RAC & Onoya, D. 2023. Who is providing HIV testing services? The profile of lay counsellors providing HIV testing services in South Africa in the treat-all era. *ResearchGate*:3.
From: 10.21203/rs.3.rs-2880863/v1 (accessed 10 November 2023).

Moser, A, & Korstjens, I. 2018. Series: practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *The European Journal of General Practice* 24(1):4-5.
From: https://doi.org/10.1080/13814788.2017.1375091 (accessed 03 November 2022).

Mshweshwe-Pakela, NT, Mabuto, T, Shankland, L, Fischer, A, Tsukudu, D & Hoffmann, CJ. 2022. Digitally supported HIV self-testing increases facility-based HIV testing capacity in Ekurhuleni, South Africa. *Southern African Journal of HIV Medicine.* 23(1):2.
From: https://doi.org/10.4102/sajhivmed.v23i1.1352 (accessed 22 December 2023).

Mwisongo, A, Mehlomakhulu, V, Mohlabane, N, Peltzer, K, Mthembu, J & Van Rooyen, H. 2015. Evaluation of the HIV lay counselling and testing profession in South Africa. *BMC Health Services Research* 15(278):1-7.
From: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-015-0940-y#citeas (accessed 24 November 2020).

Nangendo, J, Katahoire, AR, Karamagi, CA, Obeng-Amoako, GO, Muwema, M, Okiring, J, Kabami, J, Semitala, CS, Kalyango, JN, Wanyenze, RK & Kamya, MR. 2023. Uptake and perceptions of oral HIV self-testing delivered by village health teams among men in Central Uganda: A concurrent parallel mixed methods analysis. *PLOS Global Public Health* 3(6):1-4.
From: https://doi.org/10.1371/journal.pgph.0002019 (accessed 10 December 2023).

Narang, S. 2020. *Attitude and behavior in psychology and design*.
From: https://sumitnarangin.medium.com/attitude-and-behavior-in-psychology-and-design-92a322537fb0 (accessed 18 July 2022).

Njau, B, Covin, C, Lisasi, E, Damian, DJ, Mushi, DL, Boulle, A & Mathews, C. 2019. A systematic review of qualitative evidence on factors enabling and deterring uptake of HIV self-testing in Africa. *BMC Health Services Research* 19(1289):11-15.
From: https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-7685-1 (accessed 18 March 2021).

Njau, B, Lisasi, E, Damian, DJ, Mushi, DL, Boulle, A, & Mathews, C. 2020. Feasibility of an HIV self-testing intervention: a formative qualitative study among individuals, community leaders, and HIV testing experts in northern Tanzania. *BMC Public Health*, *20*(1):1-11.
From: https://doi.org/10.1186/s12889-020-08651-3 (accessed 10 May 2022).

Nguyen Thu, H., Nguyen Quynh, A., Khuat Hai, O, Le Thi Thanh, H & Nguyen Thanh, H. 2022. Impact of the COVID-19 pandemic on provision of HIV/AIDS services for key populations. *The International Journal of Health Planning and Management 37*(5):1.
From: https://doi.org/10.1002/hpm.3508 (accessed 20 November 2023).

Ortblad, KF & Stekler, JD. 2020. HIV self-testing: finding its way in the prevention tool box. *BMC Medicine*.18:2-3.
From: https://doi.org/10.1186/s12916-020-01852-y (accessed 03 March 2022).

Otto, D. 2021. Driven by emotions! The effect of attitudes on intention and behaviour regarding open educational resources. driven by emotions! The effect of attitudes on intention and behaviour regarding open educational resources (OER). *Journal of Interactive Media in Education*:5.
From: 10.5334/jime.606 (accessed 12 February 2022).

Pasipamire, L, Nesbitt, RC, Dube, L, Mabena, E, Nzima, M, Dlamini, M, Rugongo, N, Maphalala, N, Obulutsa, TA, Ciglenecki, I & Kerschberger, B. 2020. Implementation of community and facility-based HIV self-testing under routine conditions in southern Eswatini. *Tropical Medicine and International Health* 25(6):1-9.
From: https://doi.org/10.1111/tmi.13396 (accessed 23 October 2021).

Polit, DF & Beck, CT. 2017. *Nursing research: generating and assessing evidence for nursing practice*. 8th edition. New York: Lippincott.

Polit, DF & Beck, CT. 2018. *Nursing research: generating and assessing evidence for nursing practice*. 9th edition. New York: Lippincott.

Polit, DF & Beck, CT. 2021. *Nursing research: generating and assessing evidence for nursing practic*e. 10th edition. Chicago: Wolters Kluwer.

Prasetyo, YA. 2022. Digital competence: What makes nurses a 'big gun' in the future health industry. *Belitung Nursing Journal* 8(5):4.
From: https://doi.org/10.33546/bnj.2165 (accessed 28 December 2023).

Ross, PT & Bibler Zaidi, NL. 2019. Limited by our limitations*. Perspectives on Medical Education.* 8(4):1.
From: https://pmejournal.org/articles/10.1007/S40037-019-00530-X (accessed 23 May 2023).

Sanjana, P, Torpey, K, Schwarzwalder, A, Simumba, C, Kasonde, P, Nyirenda, L, Kapanda, P, Kakungu-Simpungwe, M, Kabaso, M & Thompson, C. 2009. Task- shifting HIV counselling and testing services in Zambia: the role of lay counsellors*. Human Resources Health* 7:1-4.
From: https://doi.org/10.1186/1478-4491-7-44 (accessed 25 April 2021).

Shrestha, R, Alias, H, Wong, LP, Frederick, Altice, FL & Lim, SH. 2020. Using individual stated-preferences to optimize HIV self-testing service delivery among men who have sex with men (MSM) in Malaysia: results from a conjoint-based analysis. *BMC Public Health* 20:1-11.
From: https://doi.org/10.1186/s12889-020-09832-w (accessed 17 July 2022).

Sileyew, JK. 2019. Research Design and Methodology. *Intechopen*.
From: https://www.intechopen.com/chapters/68505 (accessed 15 July 2021).

Sithole, N, Koole, O, Sausi, K, Krows, M, Schaafsma, T, Van Heerden, A, Shahmanes, M, Van Rooyen, H, Celum, C, Barnabas, RV & Shapiro, AE. 2022. Secondary Distribution of HIV Self-Testing Kits to Social and Sexual Networks of PLWH in KwaZulu-Natal, South Africa. A Brief Report. *Frontiers in Public Health* 10:3-20. From: https://doi.org/10.3389/fpubh.2022.855625 (accessed 10 March 2023).

Tegan, G. 2021. Exploratory research | definition, guide and examples. *Scribbr.* From: https://www.scribbr.com/methodology/exploratory-research/ (11 September 2022).

UNAIDS see Joint United Nations Programme on HIV/AIDS.

UNICEF see United Nations International Children's Emergency Fund.

United Nations International Children's Emergency Fund (UNICEF). 2022. Human centred design implementation case study Nepal. From: https://www.unicef.org/media/140066/file/Human-Centred-Design-Implementation-Case-Study-in-Nepal-2023.pdf (accessed 10 December 2023).

Times of Eswatini. 2023. Comments and analysis. 28 June 2023.

Tukiman, NFI, Abu Seman, NA & Mustaffa, SA. 2021. A Study of e-waste disposal management awareness among local community based on KAP model. *Research in Management of Technology and Business* 2(2):881-892. From: https://publisher.uthm.edu.my/periodicals/index.php/rmtb/article/view/4906 (accessed 04 September 2022).

Uganda Ministry of Health. 2007. *HIV counselling supervision trainers' manual*. Kampala.

UNITAID. 2020. *Market and technology landscape. HIV rapid diagnostic tests for HIV self-testing*. From: https://unitaid.org/assets/Unitaid-WHO-HIVST-landscape-report-2020.pdf (accessed 01 May 2021).

United States Agency for International Development (USAID). 2021. *Eswatini country operational plan (COP/ROP) 2020 strategic direction summary*.

Van Schalkwyk, MC, Bourek, A, Kringos, DS, Sicilian, L, Barry, M, De Maeseneer, J & McKee, M. 2020. *The best person (or machine) for the job: rethinking task shifting in healthcare, health policy.*
From: https://doi.org/10.1016/j.healthpol.2020.08.008 (accessed 28 January 2022).

WHO see World Health Organization.

World Health Organization. 2008. *Task shifting: rational redistribution of tasks among health workforce teams: global recommendations and guidelines*. Geneva, Switzerland.
From: http://apps.who.int/iris/bitstream/10665/43821/1/9789241596312_eng.pd
(accessed 03 August 2021).

World Health Organization. 2015. *Use of high burden country lists for TB by WHO in the post-2015 era*. Geneva. World Health Organization.
From: https://www.who.int/publications/m/item/who-htm-tb-2015-29 (accessed 28 July 2020).

World Health Organization. 2018*. HIV self-testing strategic framework: a guide for planning, introducing and scaling up*.
From: https://www.afro.who.int/publications/hiv-self-testing-strategic-framework-guide-planning-introducing-and-scaling (accessed 17 September 2020).

World Health Organization. 2019. *World health statistics 2019: monitoring health for the SDGs, sustainable development goals*.
From: https://www.who.int/publications/i/item/9789241565707 (accessed 14 February 2021).

World Health Organization. 2020. *HIV testing services. World Health Organization.*
From: https://www.who.int/health-topics/hiv-aids#tab=tab_1 (accessed 05 May 2022).

World Health Organization. 2022. *The role of government in supporting health*. Geneva. From: https://www.who.int/tools/your-life-your-health/a-healthy-world/people-s- roles/the-role-of-government-in-supporting-health#:~:text=Updated%3A%2030%20September%202022&text=It%20is%20the%20role%20of,to%20all%20who%20need%20them (accessed 30 September 2022).

World Health Organization. 2023. *WHO recommends optimizing HIV testing services. 12th International IAS conference on HIV science.* From: https://www.who.int/news/item/22-07-2023-who-recommends-optimizing-hiv-testing-services#:~:text=%22Countries%20are%20encouraged%20to%20expand,stigma%2C%20awareness%20or%20affordability.%E2%80%9D (accessed 01 November 2023).

World Health Organization (WHO) and International Labour Organization. 2022*. HIV self-testing at workplaces: approaches to implementation and sustainable financing*. From: https://www.who.int/publications/i/item/9789240040632 (accessed 04 March 2023).

Zachariah, R, Ford, N, Philips, M, Lynch, S, Massaquoi, M, Janssens, V, & Harries, AD. 2009. Task shifting in HIV/AIDS: opportunities, challenges and proposed actions for sub-Saharan Africa. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 103(6):1. From: https://doi.org/10.1016/j.trstmh.2008.09.019 (accessed 14 May 2020).

ANNEXURES

ANNEXURE 1: Ethical clearance from the University of South Africa

UNISA university of south africa

COLLEGE OF HUMAN SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

29 November 2021

Dear Dlamini Celiwe Zakhona; Miss

Decision:
Ethics Approval from 29 November 2021 to 29 November 2024

NHREC Registration # :
Rec-240816-052
CREC Reference # :
46609571_CREC_CHS_2021

Researcher(s): Name: Ms Dlamini Celiwe Zakhona
Contact details: 46609571@mylife.unisa.ac.za
Supervisor(s): Name: Ms GC Boersema
Contact details: eboergc@unisa.ac.za
Name: Prof GH Van Rensburg
Contact details: 012 429 6514

Title: Knowledge and attitudes of HIV counsellors on HIV self-testing in Eswatini.

Degree Purpose: MA

Thank you for the application for research ethics clearance by the Unisa College of Human Science Ethics Committee. Ethics approval is granted for three years.

The ***low risk application*** *was reviewed by* College of Human Sciences Research Ethics Committee, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions 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 should be communicated in writing to the College Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. 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. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No fieldwork activities may continue after the expiry date **(29 November 2024).** Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **46609571_CREC_CHS_2021** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

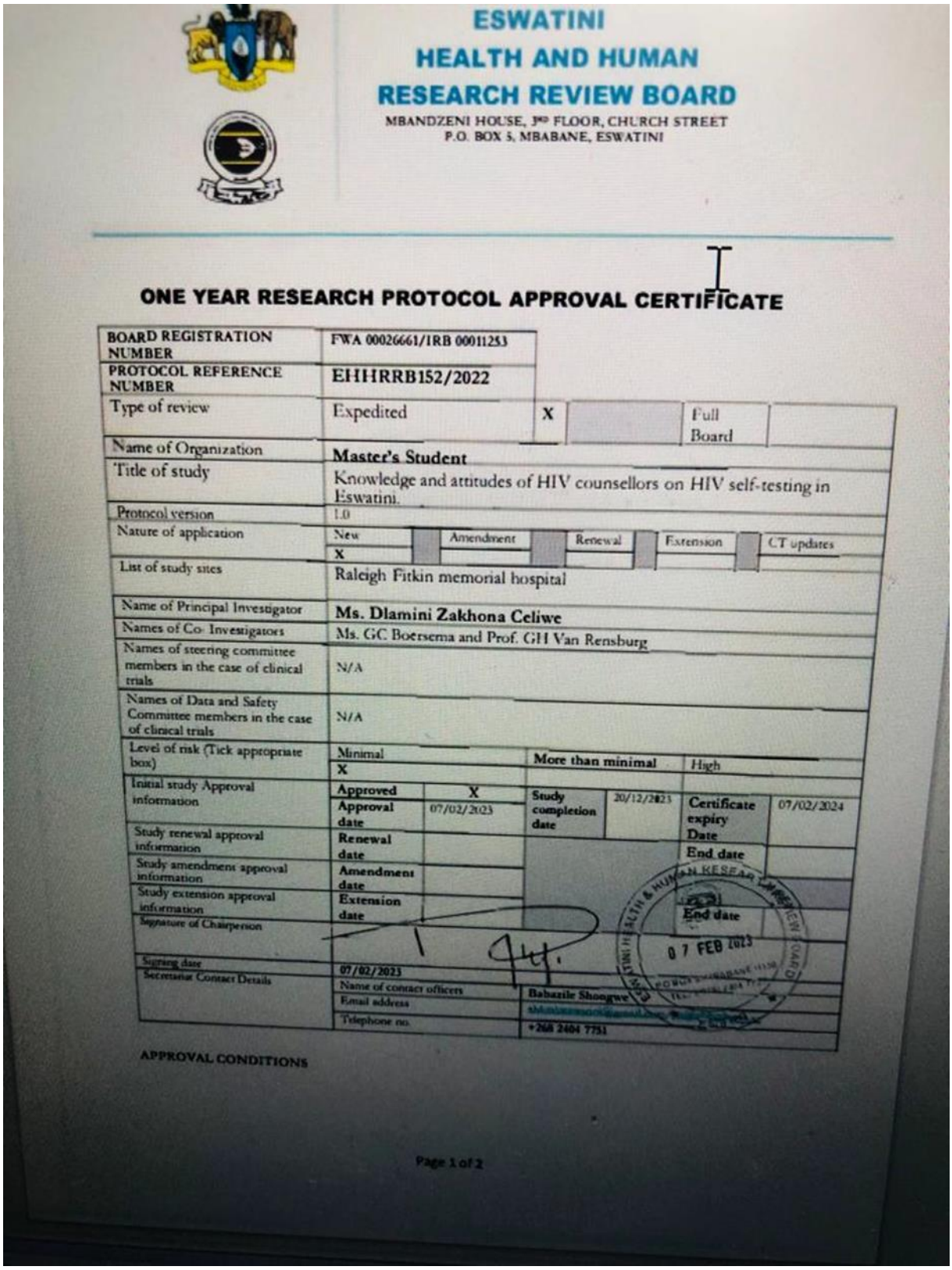
Signature: pp

Prof. KB Khan
CHS Research Ethics Committee Chairperson
Email: khankb@unisa.ac.za
Tel: (012) 429 8210

Signature: PP

Prof K. Masemola
Executive Dean: CHS
E-mail: masemk@unisa.ac.za
Tel: (012) 429 2298

ANNEXURE 2: Ethical clearance certificate from ESWATINI Health and Human Research Review Board



ESWATINI
HEALTH AND HUMAN
RESEARCH REVIEW BOARD
MBANDZENI HOUSE, 3RD FLOOR, CHURCH STREET
P.O. BOX 5, MBABANE, ESWATINI

ONE YEAR RESEARCH PROTOCOL APPROVAL CERTIFICATE

BOARD REGISTRATION NUMBER	FWA 00026661/IRB 00011253						
PROTOCOL REFERENCE NUMBER	EHHRRB152/2022						
Type of review	Expedited	X		Full Board			
Name of Organization	Master's Student						
Title of study	Knowledge and attitudes of HIV counsellors on HIV self-testing in Eswatini.						
Protocol version	1.0						
Nature of application	New	Amendment		Renewal		Extension	CT updates
	X						
List of study sites	Raleigh Fitkin memorial hospital						
Name of Principal Investigator	Ms. Dlamini Zakhona Celiwe						
Names of Co- Investigators	Ms. GC Boersema and Prof. GH Van Rensburg						
Names of steering committee members in the case of clinical trials	N/A						
Names of Data and Safety Committee members in the case of clinical trials	N/A						
Level of risk (Tick appropriate box)	Minimal		More than minimal		High		
	X						
Initial study Approval information	Approved	X	Study completion date	20/12/2023	Certificate expiry Date	07/02/2024	
	Approval date	07/02/2023					
Study renewal approval information	Renewal date				End date		
Study amendment approval information	Amendment date						
Study extension approval information	Extension date				End date		
Signature of Chairperson							
Signing date	07/02/2023						
Secretariat Contact Details	Name of contact officers		Babazile Shongwe				
	Email address						
	Telephone no.		+268 2404 7751				

07 FEB 2023

APPROVAL CONDITIONS

Page 1 of 2

Ref.	Conditions	Indication of conditions (tick appropriate box)				
1	Implementation of approved version of protocol					
2	Provide a specific insurance cover certificate in respect of this particular study within 14 days of receiving this Ethics Clearance certificate					
3	Update information on adverse events both on the addendum and the informed consent form to include measures for addressing life threatening adverse events that occur at home.					
4	Reporting of adverse events within 5 days of occurrence					
5	Submission of progress reporting for multi-year studies	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
6	Submission of end of project report (Hard copy)	✓				
7	Submission of end of project report (Soft copy)	✓				
	Submission of data sets	✓				

List of reviewed documents

Ref.	Documents	Reviewed documents (tick appropriate box)
1	Completed application form	✓
2	Cover letters	✓
3	Evidence of administrative permission to conduct the research by involved institutions/sites (where applicable)	
4	Detailed current resume or curriculum vitae of Principal Investigator/s including Principal investigators declaration	✓
5	Summary resume or biography for other investigator(s)	✓
6	Evidence of approval/rejection by other Ethics Committees, including comments and requested alterations to the protocol, where appropriate.	✓
7	Research protocol (see outline in Annex 1)	✓
8	Questionnaires and interview guides (with back-translated versions where applicable)	✓
9	Case report forms (CRFs), abstraction forms and other data collection tools	
10	Participant/subjects Information Statement(s) (where applicable)	✓
11	Informed consent form(s) including photographic and electronic media consent statements.	✓
12	Advertisements relevant to the study (where applicable)	
13	Source of funding and detailed budget breakdown including material and incentives to participants if applicable	✓
14	Notification form for adverse effects/events.	
15	Proof of payment	✓
16	Proof of insurance cover for research subjects in clinical trials or where applicable	
17	Any other special requirements should be stated, if applicable	N/A

ANNEXURE 3: Letter of application to conduct research at the research site

Miss C Z Dlamini
P O BOX C1894
HUB MANZINI
M223
Eswatini

THE HOSPITAL ADMINISTRATOR
[redacted]

PO Box 14
MANZINI

Dear Sir

REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT[redacted]

My name is Celiwe Dlamini, a Masters' Degree student at the Department of Health Studies at the University of South Africa. In fulfilment of the requirements for the Masters' Degree, I have to undertake a research project and I have consequently decided to focus on the following research topic: Knowledge and attitudes of HIV counsellors on HIV self-testing in Eswatini.

The research project originated because of an identified gap in the knowledge and practice in the use of the HIV Testing screening tool for HIV self-testing services. The study aims to determine the knowledge and attitudes of HIV counsellors on HIV self- testing services in Eswatini.

In view of the fact that HIV counsellors who provide most HIV testing services including HIV self-testing at [redacted], which is under your leadership, I kindly request permission to conduct face to face interviews with HIV counsellors from the Outpatient department.

The information gathered from this study will provide insight into the knowledge and attitudes of HIV counsellors in offering HIV self-testing in Eswatini as part of targeted HIV services. The study will be conducted through face-to-face interviews, which will last about 45-60 minutes. As part of my ethical responsibility, I am obliged to treat participants with respect, not inflict any form of harm on them, and give full information on the practical details of the study and to treat all information provided to me by them as confidential. I have obtained ethical clearance for the study from the Research Ethics Committee of the College of Human Sciences (CREC) of the

University of South Africa and Scientific Ethics Committee of the Eswatini Ministry of Health (To provide ethics clearance number once proposal is approved).

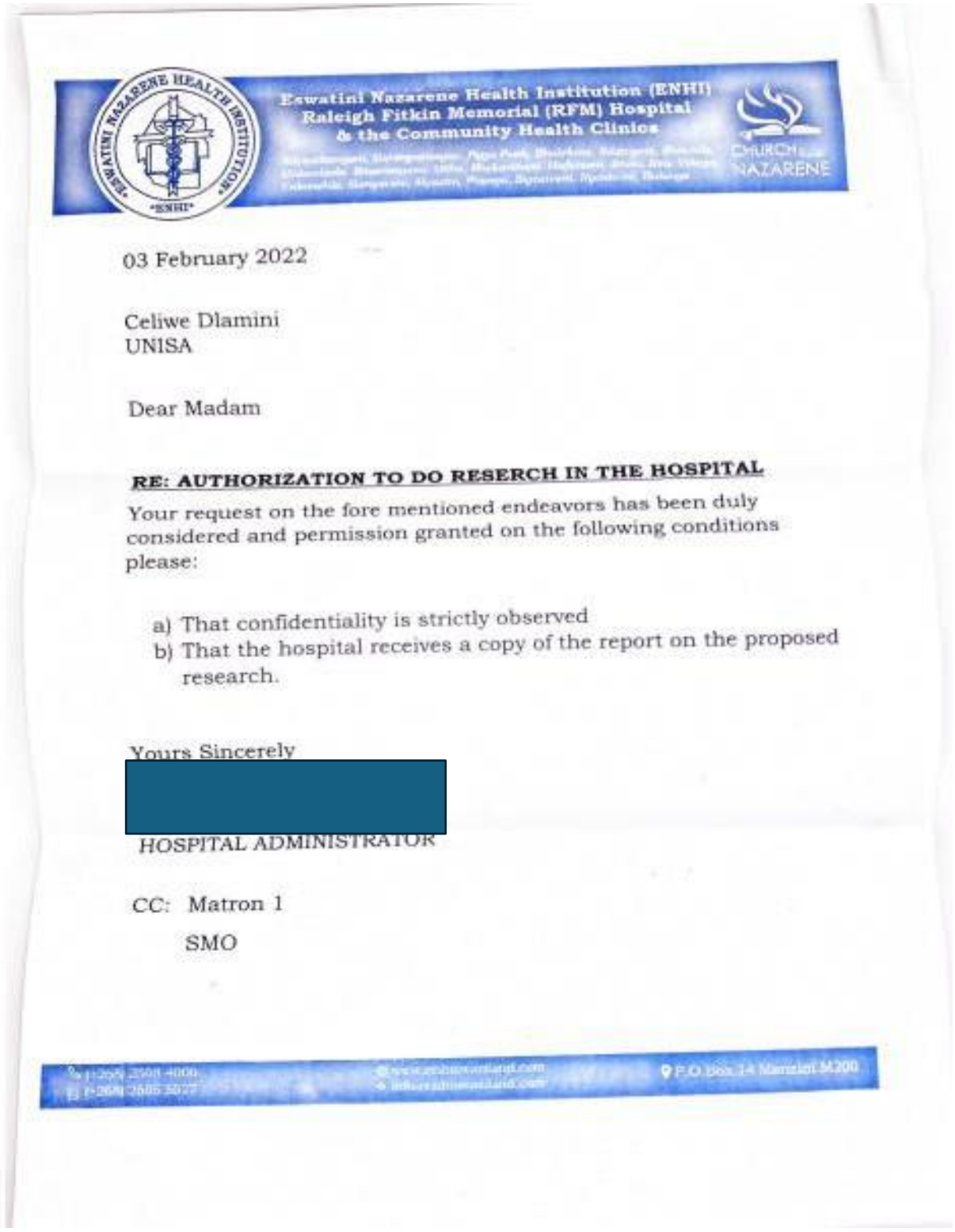
Any questions or concerns that may arise regarding my request can be forwarded to the research supervisors; Ms G C Boersema, [redacted] and Prof GH Van Rensburg at [redacted] and for any questions that may arise concerning the study. The Scientific Ethics committee of the College of Human Sciences of the University of South Africa can also be contacted as well on matters concerning the study through the chairperson, Dr K J Malesa at: [redacted]

In honouring the ethical obligation, participants will be asked to sign a consent form through which they will be informed about the study details and which will bind me as a researcher to abide by ethical principles at all times. Granting me permission to conduct this study will therefore contribute towards bridging the gap of knowledge and practice of these HIV counsellors when proving HIV self-testing by sensitising programmes on their challenges.

Your response to the request will be highly appreciated.

Celiwe Dlamini
Principal Researcher
[redacted]

ANNEXURE 4: Institutional permission granted to conduct the study



Eswatini Nazarene Health Institution (ENHI)
Raleigh Fitkin Memorial (RFM) Hospital
& the Community Health Clinics

CHURCH OF THE NAZARENE

03 February 2022

Celiwe Dlamini
UNISA

Dear Madam

RE: AUTHORIZATION TO DO RESERCH IN THE HOSPITAL

Your request on the fore mentioned endeavors has been duly considered and permission granted on the following conditions please:

a) That confidentiality is strictly observed
b) That the hospital receives a copy of the report on the proposed research.

Yours Sincerely

[redacted]

HOSPITAL ADMINISTRATOR

CC: Matron 1
SMO

P.O. Box 14 Manzini M200

ANNEXURE 5: Participant information letter

UNISA university of south africa

REQUEST TO PARTICIPATE IN THE STUDY

Ethics clearance reference number: 466

Research permission reference number: [redacted]

Title: Knowledge and attitudes of HIV counsellors on HIV self-testing in Eswatini.

Dear Prospective Participant

My name is Celiwe Dlamini and I am doing research with Ms G C Boersema, a lecturer in the Department of Health Studies together with Professor G H Van Rensburg, a professor in the Department of Health Studies towards a Master of Arts in Nursing Science Degree at the University of South Africa. We are inviting you to participate in a study entitled: Knowledge and attitudes of HIV counsellors on HIV self-testing in Eswatini.

WHAT IS THE PURPOSE OF THE STUDY?

I am conducting this research to find out the knowledge and attitudes of HIV counsellors on HIV self-testing services in Eswatini.

WHY AM I BEING INVITED TO PARTICIPATE?

You have been selected to take part in the study because of the following reasons:

-You are an HIV counsellors of ages 18 years to 60 years and working at the selected hospital's outpatient department providing HIV self-testing as part of HIV testing services.

-You have received certification with the Eswatini Ministry of Health on HIV testing and have been providing HIV services for more than 12 months.

I have obtained your contacts through a gatekeeper (one of the HIV counsellors) at the Outpatient department. The approximate number of participants required for the study is 10 HIV counsellors. Your actual role will be to have an in-depth face-to-face interview which will be conducted by the researcher and will be audio- recorded. The interview is expected to take 45 minutes – 60 minutes of your time.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

University of South Af
Preller Street, Muckleneuk Ridge, City of Tshw
PO Box 392 UNISA 0003 South A
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4
www.unisa.a

The study involves data collection through in-depth face-to-face interview which will be conducted by the researcher and will be audio- recorded. The interview is expected to take 45 minutes – 60 minutes of your time.

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

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 time and without giving a reason

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

There are no immediate benefits for you if you participate in the study. The proposed study intends to explore and describe your knowledge and attitudes in offering HIV self-testing in Eswatini. The outcome will assist in identifying areas that need improvement and support and thereafter propose ways of support for HIV counsellors in the provision of targeted HIV self-testing in Eswatini.

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

Negative consequences for participating in the proposed study are not anticipated as it carries minimal risks. However, you may be uncomfortable with sharing some sensitive information regarding your knowledge and attitudes regarding the provision of HIV self-testing. You may withdraw from the study if you feel uncomfortable; even if it is in the middle of the interview and there will be no penalty for doing so. Debriefing sessions will be arranged as well with the facility's counsellor free of charge should such negative consequences arise.

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

Your name will not be recorded anywhere and no one will be able to connect you to the answers you give. 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.

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

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.

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

Hard copies of your answers will be stored by the researcher for a minimum period of five years in a locked cupboard/filing cabinet at her home for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval. When necessary hard copies will be shredded and 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?

No financial costs will be incurred by the potential participants. The researcher will not offer any incentives to participants for the proposed study.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee of the college of Human Sciences, Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

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 Celiwe Dlamini on [redacted]

Should you require any further information or want to contact the researcher about any aspect of this study, please contact [redacted]

Should you have concerns about the way in which the research has been conducted, you may contact Ms G C Boersema at [redacted]

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Van Rensburg at [redacted] Contact the research ethics chairperson of the [redacted] if you have any ethical concerns.

Thank you for taking time to read this information sheet. If you are willing to participate in this study, kindly complete the consent form below.

Kind regards

Celiwe Dlamini

[redacted]

Researcher

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEXURE 6: Participant consent form

UNISA university of south africa

Appendix 6

CONSENT TO PARTICIPATE IN THE STUDY

I, [redacted] (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 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.

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 face-to-face interviews.

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

Participant Name & Surname. [redacted] (please print)

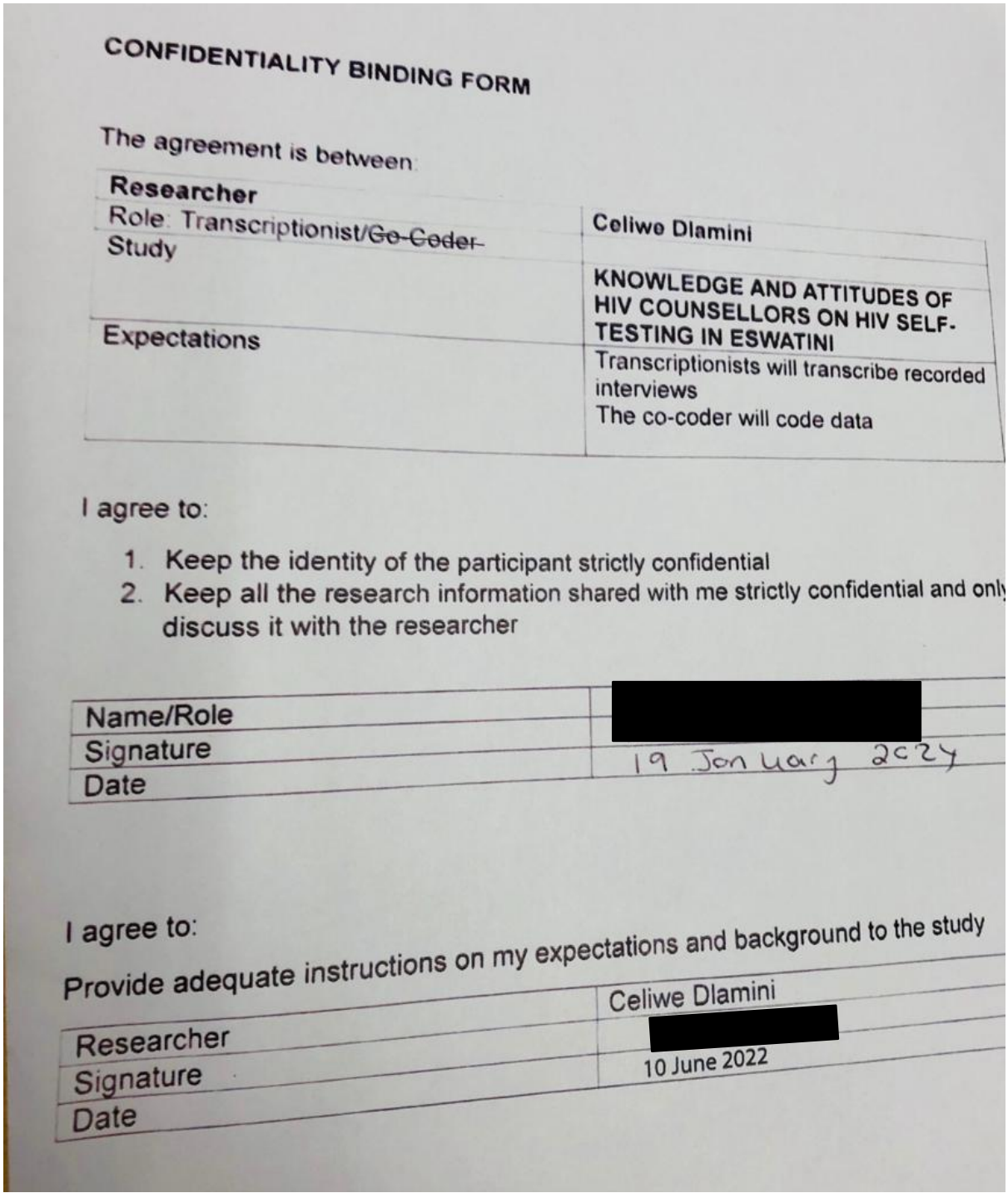
Participant Signature.. [redacted] .....Date. 06/08/22

Researcher's Name & Surname. [redacted] Please print)

Researcher's signature..... [redacted] .....Date. 06/08/22

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEXURE 7: Confidentiality binding form



CONFIDENTIALITY BINDING FORM

The agreement is between:

Researcher	
Role: Transcriptionist/~~Co-Coder~~	Celiwe Dlamini
Study	**KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN ESWATINI**
Expectations	Transcriptionists will transcribe recorded interviews The co-coder will code data

I agree to:

1. Keep the identity of the participant strictly confidential
2. Keep all the research information shared with me strictly confidential and only discuss it with the researcher

Name/Role	[redacted]
Signature	
Date	19 January 2024

I agree to:

Provide adequate instructions on my expectations and background to the study

Researcher	Celiwe Dlamini
Signature	[redacted]
Date	10 June 2022

CONFIDENTIALITY BINDING FORM

The agreement is between:

Researcher	**Celiwe Dlamini**
Role: Transcriptionist/Co-Coder X	
Study	**KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN ESWATINI**
Expectations	Transcriptionists will transcribe recorded interviews The co-coder will code data

I agree to:

1. Keep the identity of the participant strictly confidential
2. Keep all the research information shared with me strictly confidential and only discuss it with the researcher

Name/Role	Dr Bonisile S. Nsibandze
Signature	[redacted]
Date	19th April, 2023

I agree to:

Provide adequate instructions on my expectations and background to the study

Researcher	Celiwe Dlamini
Signature	[redacted]
Date	19th April, 2023

ANNEXURE 8: Demographic data questionnaire

The following demographic information will be asked.

Please circle the most applicable response for each question below:

1. Gender:

Male

Female

2. Age in years: _____

3. Can you please state your highest educational qualification?

Grade 12

Certificate

Diploma

Bachelor's Degree

Other

4. Did you have formal training and certification on HIV Testing Services from Eswatini Ministry of Health accredited institution?

Yes

No

5. IF YES, when did you qualify? Year of qualification:

6. If yes to number 5, was HIV self- testing part of your HTS training?

Yes

No

7. For how long have you been providing HIV self-testing (in years)?

_____

ANNEXURE 9: Interview guide

Participant code: _____

Date and time of interview: _____

STUDY TITLE: KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN MANZINI, ESWATINI

Study purpose

The purpose of the study is to explore and describe the knowledge and attitudes of HIV counsellors on HIV self-testing as a strategy for targeted HIV services in Eswatini.
All information will be treated with strict confidentiality.

The following questions will be asked. Depending on the discussion, relevant probing questions shall follow to explore the meaning:

1 What is your role in this health facility in as far as HIV testing services are concerned with a special focus on HIV self-testing. Can you please explain the process you follow to provide HIV self-testing as part of your day-to day HIV testing services provision?

Possible probing questions

- Can you please elaborate on how you screen for eligibility for HIV self-testing?

2 What do you understand by HIV self-testing as a strategy to reach the high-risk population?

Possible probing questions

- Who do you consider as the high-risk populations that can benefit from HIV self- testing services?

3 What are your thoughts and feelings regarding the current HIV self-testing strategy in reaching the high-risk unreachable population?

Possible probing questions

- Please tell me more about your thoughts and feelings on the current reach of HIV self-testing on high-risk population groups.
- Please share your thoughts and feelings on the screening process to reach high risk population groups.
- Please share your thoughts and feelings on the testing process in ensuring HIV self-testing reaches high risk population groups.

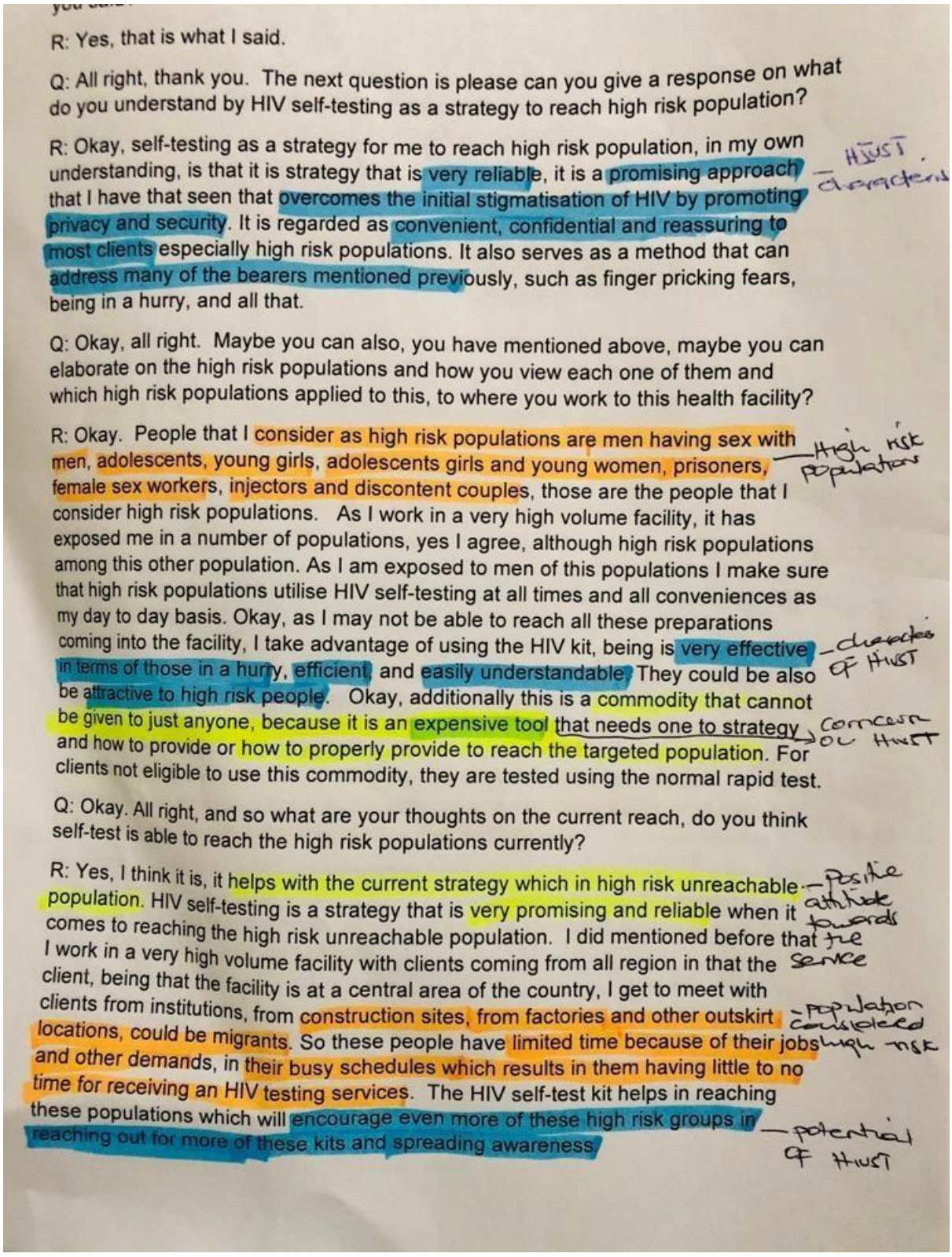
4 Please share your recommendations on how HIV self-testing provision can be improved to reach the targeted population.

Possible probing questions

- What support do you think HIV counsellors need in the provision of HIV self-testing services as part of targeted HIV testing services?

Is there anything else you would like to share about HIV self-testing as part of targeted HIV services?

ANNEXURE 10: Extract of transcript with manual coding



R: Yes, that is what I said.

Q: All right, thank you. The next question is please can you give a response on what do you understand by HIV self-testing as a strategy to reach high risk population?

R: Okay, self-testing as a strategy for me to reach high risk population, in my own understanding, is that it is strategy that is very reliable, it is a promising approach that I have that seen that overcomes the initial stigmatisation of HIV by promoting privacy and security. It is regarded as convenient, confidential and reassuring to most clients especially high risk populations. It also serves as a method that can address many of the bearers mentioned previously, such as finger pricking fears, being in a hurry, and all that.

Q: Okay, all right. Maybe you can also, you have mentioned above, maybe you can elaborate on the high risk populations and how you view each one of them and which high risk populations applied to this, to where you work to this health facility?

R: Okay. People that I consider as high risk populations are men having sex with men, adolescents, young girls, adolescents girls and young women, prisoners, female sex workers, injectors and discontent couples, those are the people that I consider high risk populations. As I work in a very high volume facility, it has exposed me in a number of populations, yes I agree, although high risk populations among this other population. As I am exposed to men of this populations I make sure that high risk populations utilise HIV self-testing at all times and all conveniences as my day to day basis. Okay, as I may not be able to reach all these preparations coming into the facility, I take advantage of using the HIV kit, being is very effective in terms of those in a hurry, efficient, and easily understandable. They could be also be attractive to high risk people. Okay, additionally this is a commodity that cannot be given to just anyone, because it is an expensive tool that needs one to strategy and how to provide or how to properly provide to reach the targeted population. For clients not eligible to use this commodity, they are tested using the normal rapid test.

Q: Okay. All right, and so what are your thoughts on the current reach, do you think self-test is able to reach the high risk populations currently?

R: Yes, I think it is, it helps with the current strategy which in high risk unreachable population. HIV self-testing is a strategy that is very promising and reliable when it comes to reaching the high risk unreachable population. I did mentioned before that I work in a very high volume facility with clients coming from all region in that the client, being that the facility is at a central area of the country, I get to meet with clients from institutions, from construction sites, from factories and other outskirt locations, could be migrants. So these people have limited time because of their jobs and other demands, in their busy schedules which results in them having little to no time for receiving an HIV testing services. The HIV self-test kit helps in reaching these populations which will encourage even more of these high risk groups in reaching out for more of these kits and spreading awareness.

ANNEXURE 11: Common patterns identified

Initial codes	Initial themes
○ I educate on HIV self-testing ○ I give more information on how to use HIVST ○ A positive HIV self-test screening requires information on the next steps ○ Make follow-ups on HIV self-test use ○ Address any questions that may arise ○ I make sure that I refer and link client to prevention services ○ Refer and link for antiretroviral therapy ○ Assess clients' knowledge ○ I give them education and how to read the results ○ I educate about storage ○ I provide pre-test and post-test counselling ○ I confirm positive results with another rapid test	HIV counsellor's roles and responsibilities in HIV self-testing
○ Screening for eligibility ○ Perform a risk assessment ○ Ask sexual behavioural questions to ascertain possible HIV exposure ○ Create trust with clients first ○ Targeting evening hours ○ Working in outreaches and flexible hours	Steps in ensuring targeting on HIV self-test provision
○ Toll free number to ask questions on any misunderstanding ○ Offer virtual assistance when needed ○ Provide support	Support offered by HIV counsellors

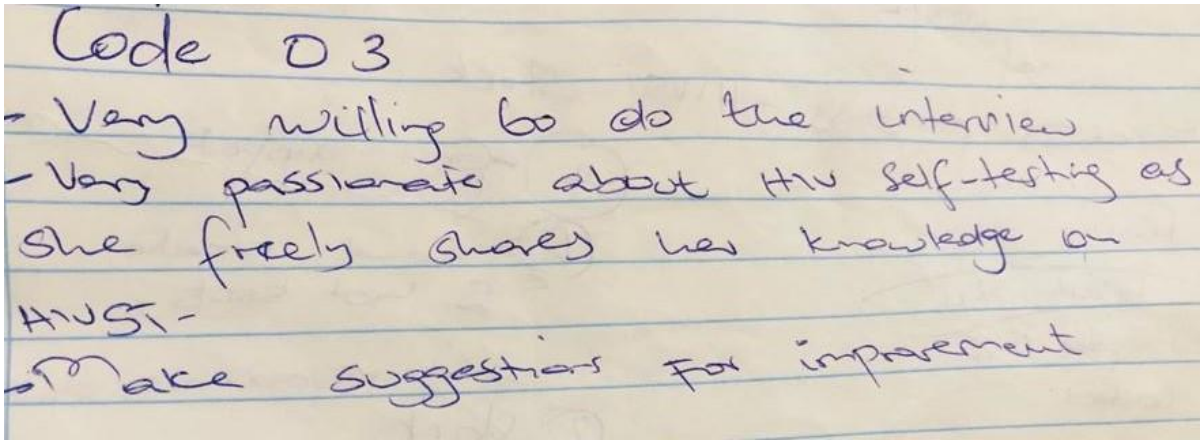
Initial codes	Initial themes
○ I don't have enough time ○ I am rushing ○ Opting out of HIV testing services ○ Afraid of pricks ○ I am afraid of seeing my blood ○ I am in a hurry ○ Afraid of stigma and discrimination ○ Clients who are not able to wait 30- 40 minutes ○ Limited time to spend at facility due to their businesses or jobs ○ Prefer to stay with unknown status than to be pricked	State of clients at HIV testing points may
○ Additional test on existing rapid tests ○ Screening test ○ Decentralises services ○ Accessible although limited ○ Testing using saliva ○ Self-care method ○ Leads to increased uptake of HIV testing services ○ Innovative way to provide HIV testing ○ Limits time spent at health facility ○ Autonomous ○ Discreet ○ Done at home /Private space ○ Pain free ○ Perform test at comfort zone ○ Perform test at own spare time ○ Self-care method ○ Test HIV using oral fluids ○ Give clients freedom ○ Relieves HIV counsellors	Characteristics of HIV self-testing

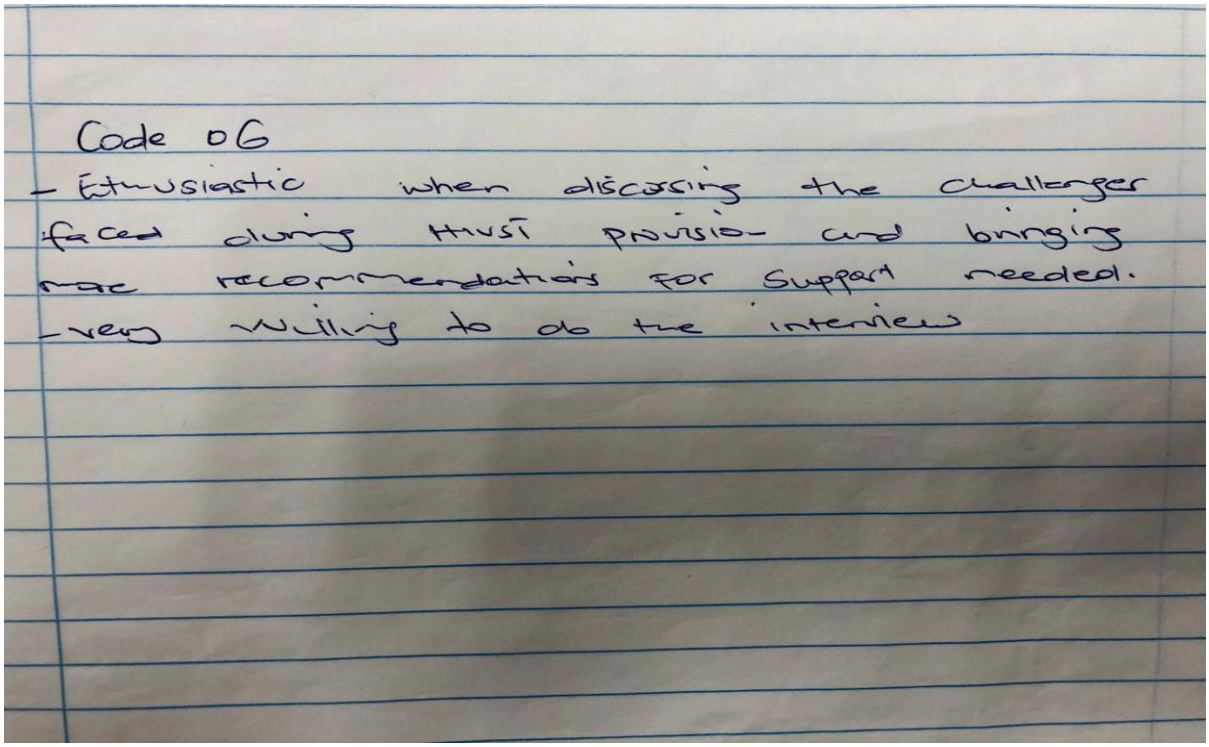
Initial codes	Initial themes
○ Non-social confirming sexual behaviour ○ High risk, illegal businesses in Eswatini e.g. sex work, ○ Intergenerational sexual relations of adolescent girls and young women with older men ○ Non affordability to access HIV services at health facilities due to low economic status	Client vulnerability status of getting HIV and be inaccessible with existing HIV testing strategies
○ Adolescent girls and young women ○ Young women ○ Sero-discordant couples ○ Armed forces ○ Drug injecting users ○ Female sex workers ○ Men having sex with men ○ Transgender women ○ Transport operators ○ High risk, unreachable ○ High risk, hard to reach ○ Populations who may not want to be I touch with health facilities ○ Having had sexually transmitted infections in the last 6 months	Population groups targeted with HIV self-testing
○ Training institutions- adolescent girls and young women and men ○ Timber industries-Men ○ Construction sites ○ White collar jobs ○ Transport businesses ○ Uniformed forces	Workplaces to target
○ HIV self-testing does reach the targeted population ○ Overcome the barriers to HIV testing	

Initial codes	Initial themes
○ Very brilliant strategy ○ Plays a vital role in HIV testing services uptake ○ Maximizes reach to high-risk populations ○ Highly acceptable across diverse populations ○ Empowering ○ More interesting to tap in populations who may not want to be in touch with facilities ○ I believe it is reaching the intended population groups ○ HIVST is reliable for us as HIV counsellors ○ Relieves us HIV testing workload ○ Very easy to use ○ I am very glad that HIV self-testing is really reaching the high-risk populations	Positive attitude by HIV counsellors towards HIV self-testing
○ Storage of HIV self -test kits when taken offsite ○ Inaccurate reading of results ○ Delay of linking to HIV services ○ Absence of professional help at testing point ○ Expensive ○ Donor funded ○ Not yet fully value for money results ○ Probing skills of HIV counsellors to avoid wastage ○ How to reach health care workers as need is seen through disappearing stock at testing points with no one to account for ○ Correct reading of results unguaranteed with off-site testing ○ Follow-up support resources e.g. communication resources	Concerns by HIV counsellor about current provision HIV sf-testing

Initial codes	Initial themes
○ We want high impact results towards reaching high risk populations ○ Less control over who eventually uses kit when used at private space ○ Screening tool is subjective thus relying on clients' responses for eligibility ○ No control over secondary distribution so targeting cannot be guaranteed with such	
○ Reliable client support platform for virtual support and suggestion sharing space for users ○ Promotions at hot spot areas of high- risk populations ○ Using social network to reach more high-risk unreachable population ○ Campaigns in bus ranks, schools ○ Government having HIV self-test approved as a test to avoid doing the other rapid test from scratch to be able to access prevention and treatment services	Recommendations for the HIV programme
○ Site specific trainings ○ HIV self-testing engagement platform ○ Best practices /experience sharing space ○ Avail stock at all times ○ Other cadre inclusion in HIVST trainings e.g. doctors and nurses ○ Continuous mentoring ○ Stock management support ○ Individualised periodic reviewing of possible HIV self-testing in each site as such may change from time to time e.g. seasonal workers ○ Increase appropriate testing booths for on-site testing	Recommended support for HIV counsellors

ANNEXURE 12: Example of field notes


Code 03
- Very willing to do the interview
- Very passionate about HIV self-testing as she freely shares her knowledge on HIVST-
- Make suggestions for improvement


Code 06
- Enthusiastic when discussing the challenges faced during HIVST provision and bringing out recommendations for support needed.
- very willing to do the interview

ANNEXURE 13: Letter from the language editor

Between the lines editing

Leatitia Romero
Professional Copy Editor and Proofreader
(BA HONS)

Cell: 083 236 4536
leatitiaromero@gmail.com
www.betweenthelinesediting.co.za

21 February 2024

To whom it may concern:

I hereby confirm that I edited the dissertation titled: "KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN ESWATINI". Any amendments introduced by the author hereafter are not covered by this confirmation. Participants' verbatim quotes were not edited. The author ultimately decided whether to accept or decline any recommendations I made, and it remains the author's responsibility at all times to confirm the accuracy and originality of the completed work. The author is responsible for ensuring the accuracy of the references and its consistency based on the department's style guidelines.

Leatitia Romero

Affiliations

PEG: Professional Editors Group (ROM001) – Accredited Text Editor
SATI: South African Translators' Institute (1003002)
REASA: Research Ethics Committee Association of Southern Africa (104)

ANNEXURE 14: Letter from the technical editor

158 Mount Augusta Drive
Midlands
MIDSTREAM
10 June 2024

e-mail: piet.rinacoetzer@gmail.com

TO WHOM IT MAY CONCERN

STUDENT: **CELIWE ZAKHONA DLAMINI**
STUDENT NUMBER: **46609571**

MASTER OF ARTS

TITLE: **KNOWLEDGE AND ATTITUDES OF HIV COUNSELLORS ON HIV SELF-TESTING IN MANZINI, ESWATINI**

This is to certify that the above dissertation has been technically edited according to Tutorial Letter MNUALLL/301/0/2023 of the Department of Health Studies, Unisa.

Mrs EC Coetzer

ANNEXURE 15: Originality turnitin report

Turnitin Originality Report

Processed on: 23-Feb-2024 11:39 SAST
ID: 2302345737
Word Count: 32773
Submitted: 1

Knowledge and attitudes of HIV counsellors on HIV self-testing in Eswatini By Celiwe Zakhona Dlamini

Similarity Index	Similarity by Source
27%	Internet Sources: 24% Publications: 18% Student Papers: 13%

1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/29243/dissertation_marais_n.pdf?isAllowed=y&sequence=1

1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/26581/dissertation_lekwadu_mi.pdf?isAllowed=y&sequence=1

1% match ()
Barker, Joseph L. "Effective Public Health Strategies to Optimize HIV Testing Services Among Men Ages 15 Years and Older in Kenya", University of North Carolina at Chapel Hill Graduate School, 2023

< 1% match (Internet from 14-Oct-2022)
https://Uir.unisa.ac.za/bitstream/handle/10500/29317/dissertation_dlamini_ys.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 11-Apr-2023)
https://Uir.unisa.ac.za/bitstream/handle/10500/29866/thesis_poto-rapudi_m.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 08-Sep-2017)
http://uir.unisa.ac.za/bitstream/handle/10500/22264/dissertation_cunze_mj.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 25-Dec-2019)
http://uir.unisa.ac.za/bitstream/handle/10500/26209/dissertation_koekemoer_a.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 23-Jan-2024)
https://uir.unisa.ac.za/bitstream/handle/10500/30225/dissertation_mhlungu_dt.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 25-Apr-2016)
http://uir.unisa.ac.za/bitstream/handle/10500/13104/dissertation_banyini_nc.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/23290/dissertation_moller_y.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 12-Aug-2019)
http://uir.unisa.ac.za/bitstream/handle/10500/25635/dissertation_mojapelo_mr.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 16-Oct-2021)
https://uir.unisa.ac.za/bitstream/handle/10500/27934/thesis_moloko_sm.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 19-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/10396/thesis_tugli_ak.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/28102/thesis_malaza_mm.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/25482/dissertation_gysman_lc.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 23-Sep-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/27909/dissertation_naicker_l.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 19-Oct-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/29241/thesis_befekadu_elfiyos_dekita.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 20-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/18842/disssertation_mavanyisi_rd.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/25718/dissertation_mafunzwaini_mm.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 03-Sep-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/28587/dissertation_mokoena_r.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/23589/dissertation_pillay_z.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 19-Oct-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/22535/dissertation_lebona_ma.pdf?sequence=1

< 1% match (Internet from 25-Feb-2023)
https://uir.unisa.ac.za/bitstream/handle/10500/29605/dissertation_imenda_ms.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 22-Nov-2022)
https://uir.unisa.ac.za/bitstream/handle/10500/26197/thesis_magagula_n.pdf?isAllowed=y&sequence=1

< 1% match (Internet from 17-Aug-2023)