FACTORS CONTRIBUTING TO LOW UPTAKE OF CERVICAL CANCER SCREENING AMONG WOMEN LIVING WITH HUMAN IMMUNODEFICIENCY VIRUS AT QUEEN ELIZABETH II HOSPITAL, LESOTHO

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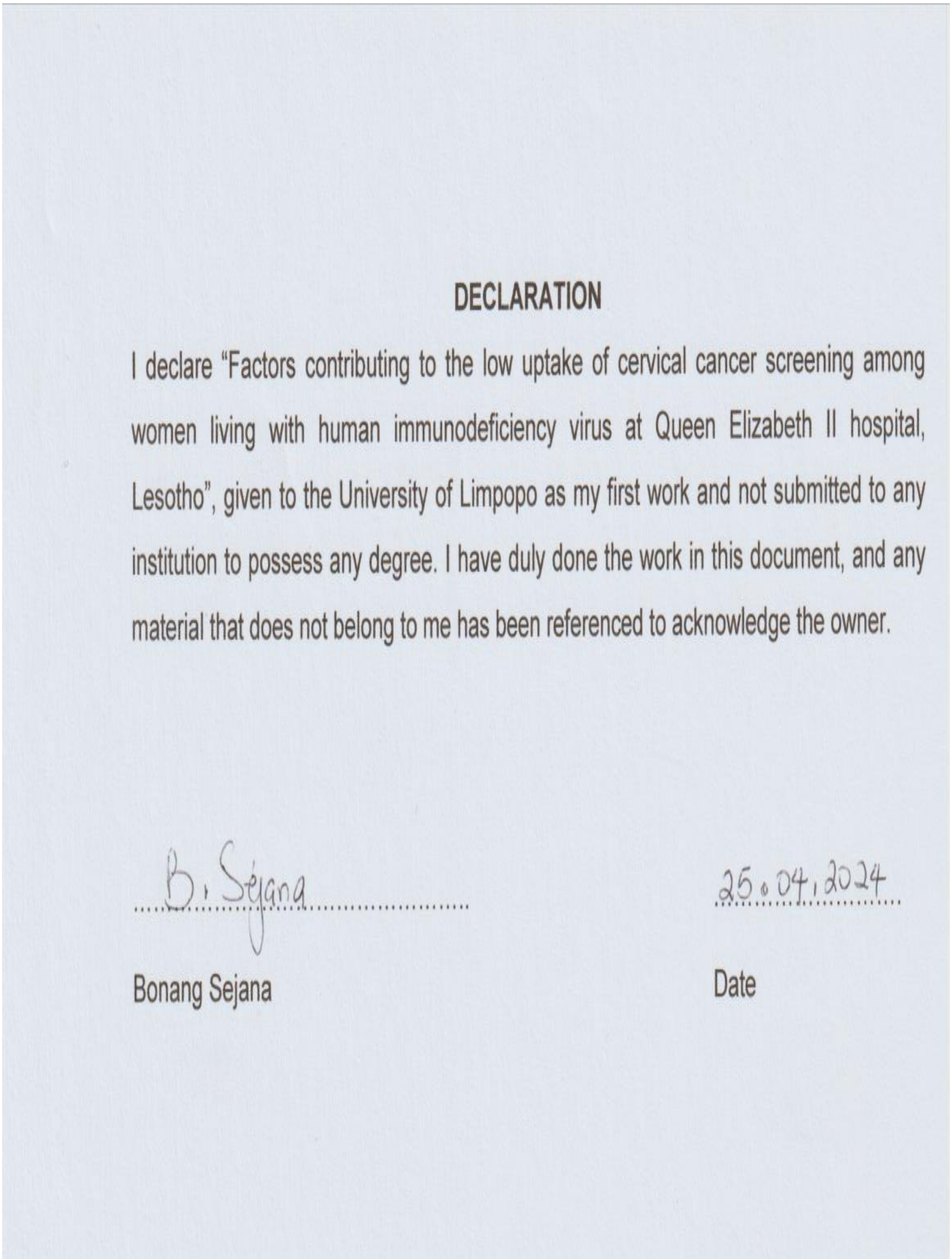

DECLARATION

I declare “Factors contributing to the low uptake of cervical cancer screening among women living with human immunodeficiency virus at Queen Elizabeth II hospital, Lesotho”, given to the University of Limpopo as my first work and not submitted to any institution to possess any degree. I have duly done the work in this document, and any material that does not belong to me has been referenced to acknowledge the owner.

B. Sejana .... 25.04.2024 ....

Bonang Sejana Date

DEDICATION

This research is devoted to all women who died because of cervical cancer. So, I wish measures were taken to save those lives. Likewise, I devote this writing to my two sons (Katleho and Atlehang Sejana), who motivated me to complete this work on their behalf.

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ABSTRACT

BACKGROUND

Cervical cancer is a public health concern as a vast number of women are dying of it in Southern Africa. The study embarked on factors related to the low numbers of women screening for cervical cancer among women living with HIV as they are at increased risk of developing it. The utilisation of services seems low, although diagnosis and mortality rate continue to be high.

METHOD

A quantitative cross-sectional study was conducted at Queen Elizabeth II Hospital in Maseru, Lesotho. Though cross-sectional studies are valuable for identifying potential relationships between variables, it's important to note that they cannot establish causality. Correlation does not imply causation, and other factors or variables not accounted for in the study may influence the observed relationships. A questionnaire was administered to 346 women living with HIV impending for their clinical services at Queen Elizabeth II Hospital were enrolled in the study. Data was analysed using SPSS V22. The following analyses were employed, descriptive, inferential statistics and logistic regression.

RESULTS

Sociodemographic data shows majority of study participants were between 30 and 34 years old, married, and had attained secondary qualifications. In addition, the data shows that women were cognisant of screening services for cervical cancer at Queen Elizabeth II Hospital. The chi-square test indicates a significant association between married participants and cervical cancer awareness (p-value < 0.001). The odds of being aware of cervical cancer are 1.43 times higher for individuals who are married compared to those who are not married.

CONCLUSION

A high percentage of knowledge on screening for cervical cancer among women taking ART in this facility might be credited to the fact that the screening has been integrated into routine ART services. Furthermore, marital status, age and living in urban areas are sociodemographic variables linked to knowledge or awareness of cervical cancer screening services. Therefore, more emphasis and exploration can be placed on rural areas to strengthen and cascade knowledge and awareness among populations.

KEY WORDS

Low uptake, Cervical cancer screening, women living with HIV, Lesotho

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DEFINITION OF TERMS

Cervical cancer screening (CCS) is a Human Papilloma Virus test done on the cervix to spot pre-cancerous and cancerous cells, followed by suitable treatment**.** Testing is done for women without symptoms who may feel healthy (World Health Organization, 2022). For this study, cervical cancer screening is checking of abnormal cells on the cervix amongst women living with HIV at Queen Elizabeth Hospital, Lesotho.

Contributing factors are partly responsible for a development or phenomenon (George, 2021). In this study, contributing factors will be the reason that women living with Human Immune Deficiency Virus did not use cervical cancer screening services, though they are at their disposal.

District hospital is a public or private hospital that receives transfers from and offers generalised care to clinics and health centres, with health treatment managed by general healthcare physicians or primary healthcare nurses and offering internal medicine, obstetrics and gynaecology, paediatrics and general surgery services (Allwood, O'Brien & Glue, 2019). In this study, a district hospital is a facility that offers a range of preventive and curative services, including cervical cancer screening and treatment for those with positive screening.

Low uptake is defined as the less use of something available (Talama, Shaw, Maloya, Chihana, Nazimera, Wroe & Kachimanga, 2020). In this study, low uptake refers to the suboptimal use of cervical cancer screening by women taking ART at Queen Elizabeth II Hospital, Lesotho.

ABBREVIATIONS

AIDS:	Acquired Immunodeficiency Syndrome
ART:	Anti-retroviral Therapy
CC:	Cervical cancer
CCS:	Cervical Cancer Screening
HPV:	Human Papilloma Virus
HIV:	Human Immunodeficiency Virus
LEEP:	Loop Electrosurgical Excision Procedure
MCH:	Maternal and Child Health
MOH:	Ministry of Health
PLWHIV:	People Living with Human Immune Deficiency Virus
SDG:	Sustainable development goals
SPSS:	Statistical Package for Social Sciences
TREC:	Turfloop Research Ethics Committee
VIA:	Visual Inspection with Acetic Acid
WHO:	World Health Organization
WLWHIV:	Women Living with Human Immune Deficiency Virus

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

The cervix is the gateway to the uterus, a portion that connects the vagina and the uterus; therefore, cancer that affects the gateway is called cervical cancer (Perkins, Guido, Castle, Sawaya, Wentzensen & Schiffman, 2020). The World Health Organization (2021) reports that cervical cancer (CC) is a global public health problem, mainly affecting Sub-Saharan Africa, South America and South Asia. In 2020, about 604,000 females were identified with CC, and of those, 342,000 died globally. In Africa, CC affects approximately 30.3% of females, and 15.9% reside in South Africa (Ducray, Kell, Basdav & Haffejee, 2021). Furthermore, Lesotho is the second highest-burdened country with Human Immunodeficiency Virus (HIV) in the world, meaning a significant proportion of women are at risk of developing CC (Nichols, Cele, Lekodeba, Tukei, Ngorima-Mabhena, Chasela, Rosen & Fatt, 2021). It is estimated that 324,000 people are living with HIV (PLWHIV), 29.3% of which are females aged between 15-59 years in Lesotho (International Centre for AIDS Care and Treatment Program (ICAP), 2020).

Cervical cancer screening (CCS) is one innovative strategy deployed for early identification of CC and treatment (Isabirye, 2022). Globally, it is estimated that 370 million (36%) females aged 30-49 years have been screened for CC in their life period. In comparison, 160 million (15%) had received their screening within the past year (Bruni, Serrano, Roura, Alemany, Cowan & Herrero, 2022). Moreover, looking at CCS by continent, Europe and North America were at 88%, ever screened for CC; Latin America and the Caribbean were at 73%, ever-screened for CC; while Australia and New Zealand were at 95%, ever-screened for CC, and it was the one with highest offered screening coverage estimates and that implied countries in these continents are moving towards the eradication of CC (Bruni *et al*., 2022). For developing countries, screening remains at 44%, and the lowest in sub-Saharan Africa at 16.9%, while there was 17% ever screened for CC in Lesotho (World Health Organization, 2021; Wilailak, Kengsakul & Kehoe, 2021).

The World Health Organization (2021) reports that 70% of CC cases are caused by persistently high-risk Human papillomavirus (HPV) that invades the cervix. A person is considered to be at risk of acquiring HPV if she engages in sexual encounters at a younger age (>16 years), has multiple sexual partners and or is immune suppressed

(Anjum, Fatima, Zohaib & Jamal, 2020*).* The Ministry of Health Lesotho (2020) showed that CC is a slow-progressing disease, and if identified early, it can be treated, and lives could be saved. Furthermore, CC is 3-4 times more prevalent in women living with HIV (WLWHIV) compared to HIV-negative women (Ministry of Health Lesotho, 2020). The World Health Organization (WHO) end Cervical Cancer Strategy introduced two methods, the test and treat method and the test, triage and treat method (World Health Organization, 2021). In the test-and-treat method, the principle is that if the primary test is positive, treatment is initiated immediately. This method is recommended for low-income countries. With the test, triage, and treatment method, if the primary test is positive, it is followed by another test, the 'triage', and if it is positive, treatment will be initiated. The method is recommended for developed countries (World Health Organization, 2021).Despite all efforts made, there has been persistent low uptake of CCS among women in low socio-economic countries; those include the absence of policies, lack of trained healthcare workers, inaccessible services, stigma and discrimination (Binka, Nyarko, Awusabo-Asare & Doku, 2019). The Ministry of Health Lesotho (2020) is congruent with Binka et al. (2019), who state that CCS should be prioritised like other HIV prevention, care, and treatment services. These help in decreasing HPV and HIV progression among WLWHIV taking Anti-Retroviral Therapy (ART). In addition, Ducray *et al*. (2021) indicated that health education should be integrated into all services as it plays a vital role in promoting services across all health sectors. Cervical cancer remains a public health concern and a call for action by the WHO to eliminate CC (Gultekin, Ramirez, Broutet & Hutubessy, 2020).

The global sustainable development goal (SDG) three, good health and well-being is about commitment to providing universal health coverage with safe and affordable medicines and vaccines (United Nations, 2015). This is in line with the WHO strategy to end cervical cancer in 2030, but looking at the rate at which countries like Lesotho are implementing cervical cancer screening programs, they are unlikely to hit the target and the women's health and well-being will be deprived (World Health Organization,2021). Moreover, if cervical cancer continues to be rated high in mortality and countries continue to implement interventions targeted to reduce incidence and mortality, but those do not relate to what is expected, studies like this one are needed to identify barriers to screening then recommend facilitators so that

SDG 3 can be achieved (Ministry of Health, 2020). Hence, conducting this study was vital to scaling up CCS and possibly achieving set targets by 2030

1.2 RESEARCH PROBLEM

Despite concerted efforts globally and within Lesotho to increase cervical cancer screening (CCS) rates, the prevalence of CCS remains low, particularly among women living with HIV (WLWHIV). The Global statistics show that 67% of females have not screened for CC, and 90% not screened are from developing countries (Bruni *et al*., 2022). In Lesotho, only 17% of females have been screened for CC in their lifetime (World Health Organization, 2021). Furthermore, recent quarterly data from the District Health Information Systems Lesotho II (DHIS II) program reveals that merely 15% of WLWHIV were screened for cervical cancer in the year 2021. This rate falls significantly below the global target of screening between 70% and 80% of the eligible population.(Baharum, Arrif, Isa & Tin, 2020).

Previous interventions in Lesotho, including mass media campaigns and capacity building among healthcare workers regarding CCS skills and screening commodities, have not yielded substantial improvements in CCS rates. The persistently low rates of CCS among WLWHIV is not addressed it may pose a significant threat, as lack of screening can lead to increased mortality rates among this vulnerable population.

It is from this perspective that the researcher developed an interest to conduct this study to investigate the factors contributing to the low acceptance of CCS among WLWHIV in Lesotho. There is an urgent need to identify these factors promptly and propose innovative strategies to enhance CCS uptake in this vulnerable population. Addressing the root causes of low CCS acceptance is important to achieving the global target and mitigating mortality rates among WLWHIV in Lesotho.

1.3 RESEARCH AIM

The study aims to investigate factors contributing to the low uptake of cervical cancer screening among women living with HIV at Queen Elizabeth II Hospital in Lesotho.

1.4 RESEARCH OBJECTIVES

- To determine demographic, social and clinical factors associated with cervical cancer screening among women living with HIV at Queen Elizabeth II Hospital.

- To determine knowledge on cervical cancer screening amongst women living with HIV at Queen Elizabeth II Hospital.
- To determine awareness of cervical cancer screening services among women living with HIV at Queen Elizabeth II Hospital.

1.5 RESEARCH QUESTION

What are the factors contributing to the low uptake of cervical cancer screening among women living with HIV at Queen Elizabeth II Hospital in Lesotho?

1.6 SIGNIFICANCE OF THE STUDY

Public Health Impact: Understanding the factors influencing CCS acceptance among WLWHIV can lead to interventions aimed at increasing screening rates. This, in turn, can improve early detection of cervical cancer, reduce morbidity and mortality rates, and enhance overall public health outcomes.

Equity and Access: By identifying barriers to CCS acceptance, the study can inform policies and programs aimed at reducing disparities in access to healthcare services among vulnerable populations, such as WLWHIV. This contributes to efforts to promote health equity and ensure that all individuals have equal opportunities for preventive care.

Clinical Practice: The findings can inform healthcare providers about the specific challenges faced by WLWHIV in accessing and accepting CCS. This can lead to the development of tailored interventions and strategies to improve communication, education, and support for screening uptake within clinical settings.

Research Knowledge: The study adds to the body of knowledge on cervical cancer screening among WLWHIV, particularly in the context of Lesotho. By identifying factors that have not been previously explored or understood, the research contributes to advancing scientific understanding and informing future research directions in this area.

1.7. OUTLINE OF CHAPTERS

Chapter 1: The chapter briefly discusses the overview of the study, the research problem, a summary of the literature, the aim and objectives of the study, the research question, the research methodology and the significance of the study

Chapter 2: A literature review is an academic piece of writing that showcases comprehension and familiarity with scholarly literature on a particular subject (Inouye & McAlpine, 2019). This study's literature review was conducted about study objectives, further articulating the identification of study methods. A full review of the literature is elaborated on in depth in Chapter 2.

Chapter 3: The chapter covers the research methodology which includes the research approach, research design, study site, study population, sampling method and sampling size, inclusion and exclusion criteria, data collection, data analysis, reliability and validity, bias and ethical considerations.

Chapter 4: The chapter discusses the results, it focuses on the presentation and interpretation of findings

Chapter 5: The chapter provides a summary of results, limitations, recommendations, and conclusions in the context of the aims and objectives of the study.

1.8 CONCLUSION

Chapter 1 provides a summary of the study. The chapter illustrates what triggered the researcher to be interested in conducting the survey, having looked into the nature of CC programmes in Lesotho. A comprehensive reading was done, which moulded this chapter into a background, research problem, research question, study aims, objectives, research methodology, and study significance. The upcoming chapters will elaborate more on this foundation.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

Chapter one introduced the study that included the research problem looking intensively at the CCS program globally and in Lesotho with relevant statistics. The research aim and objectives were covered together with the research question. Lastly, the study's significance was covered by looking at how the study will benefit the clinical aspect and future research not leaving how the study may help address CC as a public health concern. Chapter two will be on the Literature review and the focus will be on what other researchers have done and the gaps they have not addressed.

A narrative review was used to conduct a literature review for this study. The narrative review is the method used by researcher to identify previously published articles, books and manuscripts using a topic of interest from a liable academic search engine (Sukhera, 2022). The narrative review assisted the researcher in identifying articles, books and manuscripts previously published on cervical cancer screening where the introduction, methods, results and discussion were key in identifying literature to be used. Inclusion and exclusion of articles, books and manuscripts were based on small sample size, key population and where the outcomes of the study were unclear. The use of the keyword cervical cancer screening facilitated the researcher to filter and refine the search which was then confined to publications made from 2020-2024. The identified abstracts, manuscripts and books were then read through for relevance and if they had relevant information they were considered. The same literature was scanned on the references to identify articles that might be relevant and utilised. As the researcher reviewed the literature, notes were taken recognising themes, debates, contradictions and gaps to connect different sources with similar findings which made it easy to organise the literature using thematic key areas. A total of 124 articles, manuscripts and books were identified to be relevant and read but only 77 of them had relevant information to the topic of interest.

As mentioned in Chapter 1, a literature review was done which is a complete evaluation of other researchers' work concerning the study topic (Spoorthy, 2020). A broad review was conducted through scholarly books, journals and articles. Those were found through Google Scholar, PubMed, Research Gate, ScienceDirect and Science.gov. Keywords of the research topic were typed into these sites, and they gave out relevant books, journals, and articles, the most recent of which were considered. They were then analysed to explore relationships and gaps in their studies that need more investigation and for the researcher to develop research themes. Lastly, the literature review helped identify the research method to address the objectives.

Cervical cancer is a global public health problem despite being a preventable and curable disease (Ciceron, MonroeClausen, Magnus & Diasy, 2022). International estimates for new cases of CC in 2020 were 604,000, with 342,000 deceased (World Health Organization, 2021). The same disease in Sub-Saharan Africa was ranked as the number two common cancer and the number one cause of death among women (UNAIDS & World Health Organization, 2021). African estimates 2020 showed new cases of CC were 119,284, while 81 687 died yearly (Mohamed, Amare, Getahum, Negussie & Gurara, 2023). Singh, Vignat, Basu, Bray and Vaccarella (2022) show that the incidence of CC in Eastern Africa is the highest, with new cases of 40 per 100,000 females per year, followed by Southern Africa at 36.4 new cases per 100,000 females per year and middle Africa at 31.6 new cases per 100,000 females per year. In Lesotho, CC incidence is 49.9 per 100,000 females yearly (World Health Organization, 2021). Lastly, the magnitude will increase as estimates project that there will be 50% deaths between 2020 and 2040 if HPV screening and CCS are not scaled up (UNAIDS & World Health Organization, 2021).

Human Papilloma Virus 16 and 18 are the major causes of CC. Over 40% of women diagnosed with CC are living with HIV in Southern Africa (World Health Organization, 2021). The link between HIV and HPV places women at a higher risk of HPV invading their cervix and causing cancer, especially those with a high HIV viral load that causes suppression of their immune system (Lumban, Tobing, Hutapea & Nadeak, 2022). However, CCS remains low in Sub-Saharan Africa despite the WHO’s 90%, 70%, and 90% targets to eradicate CC by 2030 (World Health Organization, 2021).

The following findings will be discussed Efficiencies and inefficiencies of CC program of which the review was made based on objective 3, to determine awareness of CCS among WLWHIV. The structural and policy factors affecting CCS were looked into based on Objective 2, to determine knowledge of CCS amongst WLWHIV. While institutional barriers, Reproductive practice and perception including policy and legal issues in Lesotho were reviewed based on objective 1, which was to determine demographic, social and clinical factors associated with CCS among WLWHIV. Moreover, Accessibility and knowledge of services relate to objectives 2 and 3 on knowledge and awarenes.

2.2 EFFICIENCIES AND INEFFICIENCIES OF CERVICAL CANCER SCREENING PROGRAMMES

Policies and guidelines on CCS are essential documents that guide CC programming (World Health Organization, 2021). The strategy by the World Health Organization targets the eradication of CC; 90% of young females should have received the HPV vaccine by age 15 years, 70% of females should be screened for CC by 35 years and 45 years of age, while 90% of those with the disease be treated and enrolled into care by 2030 (World Health Organization, 2020). Baharum, Arrif, Isa and Tin (2020) further state that for the country to effectively and efficiently move towards eradicating CC, the screening is to range between 70 and 80%. Global statistics show that 67% of females aged 20 to 70 had never received CCS (Bruni *et al*., 2022). Statistics by country classification indicate 57% of women originating from industrialised countries (China, Japan, Brazil), 92% of women come from lower-middle-income countries (Indonesia, Bangladesh, India) and 90% of women from developing countries like Afghanistan, Malawi, Tanzania, North Korea, Togo, Rwanda, Guinea and Tajikistan (Bruni *et al*., 2022).

The World Health Organization approves two methods to prevent CC, primary prevention, which focuses on providing HPV vaccine to young girls aged 9-14 years and secondary prevention, which involves active CCS among females of reproductive age (World Health Organization, 2021). Despite all that, CCS remains a public health concern in most developing countries (Umuago, Obiebi, Eze & Moeteke, 2020). Studies conducted in Africa show low coverage of CCS due to unrecognised public health policies, absence of resources, infrastructure and lack of public awareness as supported by the least 16.9% screening in Sub-Saharan Africa (Wilailak *et al*., 2021). Ethiopia, being one of the Sub-Saharan African countries, shows a lack of policies and programmes that mandate women to screen for CC (Mohamed *et al*., 2023). On the other hand, countries like Uganda lack trained personnel to conduct CCS, which leads to the low screening of eligible women (Idehen, Pietila & Kabgasniem, 2020; Black, Hyslop & Richmond, 2019).

Like in many developing countries, Lesotho's CCS programme is the primary responsibility of medical doctors, nurses, nurse-midwives and trained nurse assistants as stated by Ministry of Health Lesotho (2020), where clients identified with positive screening are treated with thermo-coagulators. Still, medical doctors treat those with invasive CC lesions with Loop Electrosurgical Excision Procedure (LEEP) at the hospital level (Ministry of Health Lesotho, 2020). Skilled human resources are essential for any country implementing CCS effectively and efficiently. The HPV self-screening is an effective way to go about in countries with limited resources, there is a need for this commodity to be cost-effective for these countries so that it becomes easy for them to scale up CCS (Beddoe, 2021).

2.3 STRUCTURAL AND POLICY FACTORS AFFECTING CERVICAL CANCER SCREENING PROGRAM

Cervical cancer has been neglected for some time, not considered as a public health problem until recently when many women were affected, and CCS remained low while mortality increases (Ciceron, Monroe, Clausen, Magnus & Daisy, 2022). Governments and private organisations have neglected CCS because there was a lack of resources and infrastructure for this (Sun, Chepkorir, Mendez, Cudjoe & Han, 2022). Despite the unavailability of resources and infrastructure, numerous studies have identified knowledge gaps as another possible factor that affected screening behaviours among females in various countries around the globe (Ciceron *et al.,* 2023). Moreover, stigma and discrimination continue to become common among communities (Milner & McNally, 2020).

2.4. INSTITUTIONAL BARRIERS TO SCREENING

Health institutions or facilities contribute somehow to females not being screened for CC, first, a male healthcare worker assigned to screen women for CC is a barrier, as women feel embarrassed to be screened by a male (Navya & Suresh**,** 2021). In another study, the majority of women were reluctant to access services because of perceived discomfort to being screened by a male and anxiety or fear of getting services (Marques *et al*., 2020). Additionally, older women face the challenge of being screened by a young healthcare provider, whereby they experience a feeling of shyness to undress in front of them while being screened (Idehen *et al*., 2020).

Regardless of having limited healthcare personnel trained on CCS, institutions have administrative procedures of staff rotation, that is, moving from one department to the next, and this interrupts services, leading to the ineffective and inefficient utilisation of limited resources (Ararsa *et al*., 2021). Medical jargon used by healthcare workers was considered a barrier because clients could not understand what was said and not explained to them (Hollard & Choma, 2021). Thus, the majority of African countries do have community healthcare workers, and their health education is more on HIV, TB and other chronic illnesses and usually say less or nothing about CCS (Milner & McNally, 2020). The fees attached to CCS in countries like Ghana inhibited women from being screened (Appiah, 2022).

Countries like Belarus and the Republic of Moldova have adequate resources. They are doing well on screening coverage, but the identification of new CC cases is high, which implies that there was a likelihood of delinquency with the quality of testing programmes (William, Rakovac, Victoria, Tatarinova, Corbex, , Mikkelsen, Berdzuli & Breda, 2021). Screening one client with VIA takes approximately 20 minutes. Therefore, a female attending multiple services will have a longer time to spend at the facility and most dislike long waiting times, which further contributes to the low utilisation of CCS (Ducray *et al*., 2021; Mohamed *et al*., 2023). Occasionally, services are offered in days, and if it so happens that the client comes on those days that screening is not done, there is a likelihood of patients not coming for services for some time until they create time again (Ararsa, *et al.,* 2021). Although screening has been integrated into other services like HIV care, there is still a low uptake of services due to patients' misconceptions and competing priorities for both healthcare workers and females to be screened (Ararsa *et al*., 2021).

2.5 REPRODUCTIVE PRACTICES AND PERCEPTIONS OF CERVICAL CANCER

Women who had once screened had perceived barriers to the screening again. That is, when the time arrives to go back, they mention pain, embarrassment and other obstacles that hinder them from going for subsequent screening tests (Idehen *et al*., 2020). Other women believe that screening is done to diagnose those who have the disease or are sick or in their late menopausal ages rather than consider screening as a process that can be used to prevent CC, thereby identifying it at an early stage and treating it (Fentie, Tadesse & Gebretekle, 2020). Other women did not screen because they were afraid of the results. (Idehen *et al*., 2020). Although some patients knew that CC was curable, others regarded it as a horrible, incurable disease that imposed an emotional and physical burden on the person suffering from it and the people around them (Al-Amro, Gharaibeh & Oweis, 2020). Further, anxiety related to being told that they have the illness was reported to be a negative motivator for women to be screened (Chien, Chuang & Chen, 2020). Lastly, African men have a huge role to play in their wives' sexual and reproductive health arena, whereby they can decide whether they go for screening or not (Appiah, 2022; Shrestha *et al*., 2022).

2.6 ACCESSIBILITY AND KNOWLEDGE OF SERVICES

Although healthcare workers play an essential role in encouraging clients to be screened for CC and adhere to it, less is known about why clients should be screened, and others do not understand what causes CC (Fentie, Tadesse & Gebretekle, 2020). In addition, Taneja, Chawla, Awasthi, Shrivastav, Jaggi and Janardhanan (2021) showed that clients do not know where they can find CCS, health facilities and schedules for screening based on their risk or susceptibility to cancer. Much is done through media, newspapers, radio, television or neighbours, still, the information provided is brief and not detailed enough for one to make an informed choice that drives them to go for screening (Appiah, 2022). This can be supported by clients who are not knowledgeable of the signs and symptoms and have reported that they were unlikely to access services or would access services mindlessly (Taneja *et al*., 2021; Baharum *et al*., 2020). Al-Amro, Gharaibeh and Oweis (2020) also showed that most women are unaware that having an HPV infection is a factor that necessitates one to seek CCS services. Taking CCS to the community is one of the strategies that can enhance service uptake, as discussed by Appiah (2022).

2.7 POLICY AND LEGAL ISSUES IN LESOTHO

The initial guideline for screening cervical precancers in Lesotho was launched in July 2012, while the programme was launched at the Sankatana Centre of Excellence in Maseru in January 2013 (World Health Organization Africa, 2013). The Lesotho CCS programme is designed to ensure a higher coverage of risky females to have CC, and the target is females aged 25 to 49 years as stipulated by 2020 guidelines (Ministry of Health Lesotho, 2020). In 2020, after the launch by WHO to end CC by 2030, the

Ministry of Health in Lesotho revised the guidelines on screening for CC, and the launch took place in August 2020. Further, they included screening for HPV among women aged 25 to 49 years while they provided HPV vaccine among female children aged 9 to 14 years. The Lesotho National HIV Strategic Plan 2018/19 to 2022/23 also states that women should be screened for HPV immediately after being identified to be living with HIV and to provide HPV vaccine to female children 9 to 14 years as primary prevention. In the guidelines on the approaches to the management of advanced HIV disease launched in 2020, the government of Lesotho (2020) states that WLWHIV often presents with CC 10 years earlier than those who are HIV negative (mean age of 44 years versus 53 years). The severely immunocompromised women are more likely to have advanced CC disease than HIV-negative women, hence the need for robust CCS for eligible WLWHIV.

2.8 CONCLUSION

Cervical cancer remains a public health problem that is preventable and curable. Still, a lot needs to be done so that by 2030, it can be eradicated, as stipulated by the World Health Organization (2021) in the target setting. Many studies have been conducted, and a lot is to be done in countries like Lesotho to achieve the target by 2030. The study aims to identify bottlenecks in CCS and which innovative approaches will be recommended to achieve WHO targets.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter two was on literature review where the researcher looked into other authors' work to identify gaps and be informed on what was missing. The literature reviewed assisted in constructing thematic areas based on the study objectives. Chapter three is about the study research methodology. Research methodology is a step-by-step procedure from the study design selection, study population and setting until the data is collected and analysed while ensuring confidentiality and minimising bias of the information collected. Research methodology is defined as the process in which the study problem is determined, the hypothesis developed, the data collected, the methods used to collect it and the techniques used to analyse the data (Ferry & Gervasoni, 2021). This includes but is not limited to the advancement of study design and identification of study setting and population. Moreover, considerations were made to develop an adequate sample size and construct data collection tools in conjunction with the data analysis tools. The tool was also needed to provide relevant data to respond to research objectives, and that data could be comparable to similar studies. On the other hand, measures were kept minimising bias. Lastly, ethical considerations were considered to ensure participants' safety.

3.2 RESEARCH APPROACH

In this study, the researcher used a quantitative research approach. This approach helped draw patterns and identify relationships between variables, understanding related factors and possibly generalising the findings to a larger population (Weyant, 2022).

3.3 Reasech Design

The research design is an advanced strategy of approaches to be adopted for data collection and techniques to be used for its analysis while keeping the research objectives in mind (Maha Mahmoud Ibrahim, 2021). The observational descriptive study was the best design to respond to the research objectives. A cross-sectional study is an observational study that involves information analysis of the population at a definite point in time (Capili, 2021). It was this design that helped the researcher capture the prevalence of CCS, knowledge and awareness of WLWHIV towards this procedure, and it was useful in obtaining an overall picture of CCS in Queen Elizabeth II hospital. Though cross-sectional studies are valuable for identifying potential relationships between variables, it's important to note that they cannot establish causality. Correlation does not imply causation, and other factors or variables not accounted for in the study may influence the observed relationships. Additionally, because cross-sectional studies capture data at a single point in time, they cannot assess temporal relationships or determine the direction of causality between variables. However, they can serve as a foundation for further research.

3.4 RESEARCH SETTING

The research setting is the location or place in which the study will be conducted (Olayinka, 2023). The study was conducted at Queen Elizabeth II Hospital in Maseru, Lesotho. The hospital is situated at the centre of the capital city of Lesotho, Maseru, and offers patients a wide range of curative and preventive services. Some services provided include ART services, maternal and child health (MCH), men's corner services, outpatient services, CCS, and the treatment of those with positive screening. The facility served the mobile population from nearby villages such as Qoaling, Sea Point, Moshoeshoe II, Thetsane, Thibella, Mohalalitoe, Katlehong and Thamae, to mention a few. The facility is estimated to serve a population of about 278,800.

Figure 1.1 below displays a map of the Queen Elizabeth II hospital.

Figure 1.1: District Hospital map (Queen Elizabeth II Hospital)

3.5 POPULATION

The study population is the subgroup that represent the entire population in research (Shukla,2020). The study population was WLWHIV active on ART who accessed Queen Elizabeth II Hospital services. The eligible women enrolled in the study were 25 to 55 years old, as the World Health Organization (WHO) stipulated, and were at increased risk of having CC. There are about 2488 WLWHIV taking their treatment in this facility, and 345 were part of the study.

3.6 SAMPLING

Sampling is selecting a more miniature representation from a larger population in which data will be collected using a pre-defined selection method (Salt, 2021).

3.6.1 Sampling methods

Convenient consecutive sampling is a type of non-probability sampling method where participants are selected based on their availability and willingness to participate in the study. In this method, the researcher enrolls study participants who meet the inclusion criteria as they become available until the desired sample size is reached (Hennebert & Beggio, 2021). The researcher used this method to identify participants who could be enrolled in the study. This was done as the researcher visited the facility for data collection. The researcher screened women eligible to participate, and those who agreed were requested to consent. This was done daily as the researcher visited the facility until the needed sample size was attained.

3.6.2 Sample size

The researcher visited the facility for data collection and screened eligible women living with HIV (WLWHIV) who attended the Queen Elizabeth II Hospital ART clinic. Those who agreed to participate were then requested to provide consent. The researcher continued this process daily during their visits to the facility until the desired sample size of 345 participants was attained.

The sample size was determined using Slovin's sample size formula, which is a method for estimating the sample size needed for a given population with a specified margin of error. The formula used in this case is:

$n= N \div (1+Ne^2)$

Where:

n = size of the sample

N = entire population (2488 WLWHIV attending the Queen Elizabeth II Hospital ART clinic)

e = margin of error (5%)

Substituting the given values into the formula:

$n=2488 / (1+2488 (0.05^2)$

$n= 2488 / (1+6.22)$

$n=2488 /7.22$

$n=344.6$

$n=345$

Therefore, the calculated sample size is 345 WLWHIV attending the Queen Elizabeth II Hospital ART clinic. This sample size was determined to provide a representative sample of the population while ensuring a margin of error of 5%.

3.7 INCLUSION AND EXCLUSION CRITERIA

Inclusion and exclusion criteria determined who among the target population was allowed or not to participate in the study.

3.7.1 Inclusion criteria

- Women living with HIV and aged 25 to 55 years were included in the study and who consented to be part of the study.
- The study participants were those still active in care and taking medication in the facility.
- Those who were either fluent in Sesotho or English, as the two are official languages used.

3.7.2 Exclusion criteria

- Women who are not living with HIV aged 25 to 55 years were excluded from the study, including those below 25 years despite them living with HIV and those who did not consented to be part of the study.
- Women living with HIV but not active in care were excluded from the study.
- Excluded from the study were those who could not use the two official languages (English and Sesotho).

3.8 DATA COLLECTION

3.8.1 Data collection instrument

The researcher developed a questionnaire that enabled information collection from study participants. This type of questionnaire or survey was like a "multiple-choice" test, where participants selected close-ended questions from a premade list of answers created per the study's objective, as attached in Annexure 5 in English. The primary source of the data was the research participants, who provided real-time information when they responded to the questionnaire.

The questionnaire in Annexure 5 was in both English and Sesotho, as those are the official languages in the country. It is composed of four sections: Section A is socio-demographic information, Section B has questions on awareness of CCS, and Section C has questions on accessibility of CCS. Lastly, Section D contained questions on knowledge of CCS. Two methods of issuing questionnaires to participants were used, self-administered and researcher-administered. In the self-administered method, participants were issued questionnaires and responded to questions while still at the facility. With researcher-administered, the researcher assisted participants by ticking responses on their behalf as he read the questions to them (Beatty, Collins, Kaye, Padilla, Wilis & Wilmot, 2019). This method was primarily used for illiterate participants. As the participants were done responding to the questionnaire, they were verified for completeness and appreciated for their participation in the study.

3.8.1 Data collection procedure

A data collection technique is a practice used by researchers to get sensitive information from participants while ensuring the privacy of respondents (Amirataee, Montaseri & Rezaie, 2020). Data collection commenced on the 8th of August 2023 to

26th of September 2023 where the study was explained to eligible participants. Following that, they were given a questionnaire attached to it with a consent form to fill out before responding to questions. Responding to the questionnaire was done onsite, so respondents would answer and leave the completed questionnaire before leaving the facility. The researcher was always there facilitating the process of data collection as the only person who understood the study and in charge of responding to questions that arose from respondents. The questionnaires were issued to 351 women to participate in the study, as they were coming for their clinical visits. Fortunately, 346 of them were enrolled, resulting in 99.4% participation. Reasons for others not participating, three of them were diagnosed with cervical cancer while two withdrew participation while they were enrolled. All WLWHIV attending ART services Queen Elizabeth II Hospital were screened for eligibility, and once identified, they were taken through the consent process. Participants who provided written consent to participate in the study were taken through the data collection tool (a questionnaire) attached in Annexure 5 English questionnaire for WLWHIV. This method encouraged respondents' cooperation while reducing their motivation to provide false information about their knowledge and awareness of CCS.

3.9 DATA ANALYSIS

The data analysis process described involves both descriptive and inferential statistical methods to examine the perceptions, accessibility of services, awareness, and knowledge towards cervical cancer screening (CCS) among women living with HIV (WLWHIV).

Data from the questionnaire were captured and entered into the Epi Info system to create a database. Before analysis, the researcher performed data cleaning and manipulation to ensure data accuracy and consistency. The database was then exported into Statistical Package for the Social Sciences (SPSS) version 22 for analysis.

The researcher employed descriptive statistics to summarise and describe the characteristics of WLWHIV, including measures of frequency and percentages. Tables and charts were generated in SPSS for easy analysis and interpretation.

The researcher further conducted inferential tests to analyse data beyond descriptive statistics. These tests utilise properties of underlying probability distributions to test hypotheses and derive estimates. They enable the researcher to make conclusions and predictions based on the data.

Logistic regression was employed to examine the relationship between predictor variables (such as social, demographic, and clinical factors) and the likelihood of CCS among WLWHIV. Logistic regression provided a way to model the probability of a binary outcome such as CCS uptake based on one or more predictor variables. It allowed for the estimation of odds ratios, which indicate the strength and direction of associations between predictors and the outcome.

3.10 RELIABILITY AND VALIDITY

3.10.1 Reliability

Reliability is a measure that provides the same results under the same conditions. Repeating the test should produce similar results if all things are to be the same (Baker, 2021). The questionnaire that was used to collect data was derived from previous studies through a literature review of studies that were conducted in similar settings. The questionnaire was further piloted at Domiciliary Health Centre near Queen Elizabeth II Hospital where 35 respondents were drawn. The pilot study outcomes were used to refine the questionnaire.

3.10.2 Validity

Validity is the capability of the tool to measure what it was planned or designed to find (Andel, Koopmann, Asseldonk, de Boer, Mokkink & Noomen, 2019). There are four types of validity: construct, content, face, and criterion validity.

- Construct validity

Construct validity is the degree to which the data collection tool precisely measures what it was proposed to measure and circumvents, measuring additional things. This type of validity subsumes the other types of validity (Pandey & Snigdh, 2022). The questionnaire was sent to an expert to assess if it measures the correct concepts.

- Content validity

Content validity is described as whether a tool steadily and widely measures a representative of the trait (Pandey & Snigdh, 2022). The questionnaire was submitted for expert, the Biostatician to check if all aspects of the objectives were addressed in the questionnaire.

- Face validity

Face validity is the degree to which a procedure, more especially a psychological test or assessment appears effective in terms of stated aims (Taherdoos, 2016). The questionnaire was tested for face validity during the pilot study, and the results of the pilot study were used to determine the feasibility of the questionnaires.

- Criterion validity

According to Bolariwa (2015) and Haradhan (2017) criterion validity measures how well one measure predicts an outcome for another measure. Because no predictions are made in this study, criterion validity is irrelevant.

3.11. BIAS

Bias is an error that can end up providing incorrect results of what is being measured (Wang, Chen, Wong, Thabane, Mbuagbaw, Siegal, Le Gal & Holbrook, 2021). There were mitigation strategies to avoid or minimise bias so that the study could provide accurate results. There are different types of bias which includes,

3.11.1 Social desirability bias

Social desirability bias is where respondents answer in such a way that they will be favoured by other people (Kwak, Ma & Kim, 2021). To minimise social desirability bias, participants were encouraged to respond to questions honestly and without any favour as they would remain anonymous. Participants had to respond to questions in their private space where others did not influence them.

3.11.2 Sampling bias

Sampling bias includes cases where the study population may be given a chance to volunteer to take part in the study. To overcome this bias, the researcher implemented the consecutive convenience sampling method to enrol participants. Those who attended the facility on that particular day of data collection were randomly selected.

3.11.3 Information bias

Information bias is the difference in which information is gained from various study participants (Radke, Glenn & Kraft, 2021). A questionnaire was issued to participants to answer independently and was collected at the facility after filling in to assess for completeness. The researcher was always available to clarify unclear questions to study participants as they completed the questionnaire.

3.12 PILOT STUDY

A pilot study was conducted at Domiciliary Health Centre offering services similar to those of Queen Elizabeth II hospital. Permission to continue with the study was given by the facility manager where 35 WLWHIV aged 25 to 55 years and accessing services consented to participate. The purpose of this activity was to examine if they understood the questions. Moreover, this was done to identify potential problems in understanding how the questions were asked and whether the communication was appropriate for them. The pilot study helped validate and refine the tool.

3.13 ETHICAL CONSIDERATIONS

3.13.1 Ethical clearance

Different authorities within the University of Limpopo gave ethical clearance and approvals to execute the study. The first approval was attained from the Department of Public Health committee, followed by approval from the School of Health Care Sciences committee. After that, the endorsement was from the Faculty of Health Sciences committee. The proposal was then submitted to the Turfloop Research Ethics Committee (TREC) (FHDC2023/2), which issued ethical clearance to execute the research.

3.13.2 Permission to execute the study

Once ethical clearance from TREC was issued, the researcher submitted the letter to the Ministry of Health Lesotho requesting permission to conduct the study at Queen Elizabeth II hospital. Permission was given to Queen Elizabeth II hospital requesting authorisation to execute the study. The management of the hospital approved this. Furthermore, a request was made to conduct a pilot study at Domiciliary health centre to test the tool, as the facility offers services similar to those of Queen Elizabeth II hospital. The request was also granted.

3.12.3 Informed consent

Informed consent annexure 4 is an obligation that the researcher makes before executing the study, and this ethical obligation states the terms and conditions for one to volunteer to participate (Schnabel, Favaretto, Elger & Shaw, 2021). It is a participant’s right to self-determination, which the researcher addresses by providing a verbal clarification of the study; a consent form is provided to the participant. This was done to clarify the purpose of the study, probable benefits and risks of participation, and reasons for their engagement in the study.The informed consent process involves giving participants enough information to understand the study and being free to choose whether to consent to participate or not. Moreover, the procedures and methods deployed in the study were clarified. Thus, worries that arose were attended to. The participants viewed the researcher as neutral and did not influence the study, which reduced the likelihood of obtaining biased information. The researcher implemented the informed consent process, whereby every participant enrolled and signed the consent form.

3.12.4 Beneficence

Beneficence is the principle the researcher needs to follow to protect the rights of participants, avert injury and remove circumstances that cause injury to them (Boudreau, 2020). The principle is not averting injury but assisting patients and promoting their well-being (Bae, 2022). In this study, participants did not benefit personally. Still, the information given might help identify bottlenecks in the CCS programme, which will be addressed through the study recommendations and sharing with programme managers. Hopefully, the programme will start to flourish.

3.12.5 Nonmaleficence

Nonmaleficence is not to injure participants but supports several moral rules like do not debilitate, do not cause crime, do not withdraw others', murder or hurt (Pundak, Steinhart & Goldenberg, 2021). The researcher applied the principle of nonmaleficence, where the benefits of the intervention were weighed over unsuitably activities that caused a burden to participants, and the best course of action was taken (Faucett, Zucker & Unsworth, 2020).

In this study, there were no possibilities of physical injury or harm that resulted from participating. Efforts were made to keep personal information confidential to avoid harm. Paper-based information was placed in a lockable cabinet to which only the researcher had access. The gadget that captured information for analysis had a password, and only the researcher could access it.

3.13 ANONYMITY, CONFIDENTIALITY AND PRIVACY

3.13.1 Confidentiality

Confidentiality is a critical component of research that must be handled carefully throughout the research process. Dixon, Glogowska, Garland, Hunt, Lasserson, and Hayward (2021) report that confidentiality is a contract between the investigator and participants, showing that their information will not be reported publicly and made accessible to others with identifiable information. To ensure confidentiality in this study, respondents were told that the information that they provide will be between the researcher and them of which that will not affect or influence the care they receive at facility. Moreover, the data that they shared with the researcher will be locked in a lockable cabinet with access to the researcher alone until study materials are disposed. Data or information from respondents will not be shared with third parties as it will be used for academic purposes. Lastly, respondents answered the questionnaires in a safe space in their comfort.

3.13.2 Privacy

Dankar (2021) stated that participants' right to privacy is governed by the ethical value of justice, which states that people have the right to determine the time, level and circumstances in which their personal information can be disclosed. All data collection tools were stored in lockable cabinets. Study participants were issued IDs that did not reveal their personal information and could not be linked to them in any way.

3.13.3 Anonymity

There is a close relationship between anonymity and confidentiality; anonymity is often done to secure confidentiality. If the researcher cannot connect a participant with any information, that is called strict anonymity (Esmene & Kirsop-Taylor, 2021). As Dankar (2021) maintains, participants' information needs to be kept confidential by not making it easily accessible and not revealing identities during presentations, reports or publications. The researcher guaranteed participants that their personal information would be managed with care. The researcher ensured that there was no breach of confidentiality as that can worry participants, leading to them providing incorrect information intentionally or withholding vital information. To address participants' anxiety, they were told that the study findings would be generalised during reporting rather than them being individualised. This activity reduced the possibility of connecting individuals with certain verbatim expressions during report writing.

In this study, participants were allocated study IDs (four-digit numbers starting from 001) to keep them anonymous. For example, the study IDs for the first two participants were 0001 and 0002, respectively. After obtaining informed consent, the data collection procedure took place.

3.14 DISSEMINATION OF THE RESULTS

Study results will be shared with Queen Elizabeth II hospital staff, whereby the management will be requested to gather staff in one place and a presentation will be made. These will give staff a chance to interrogate and question the results while they also get the recommendations from the study. Post that, a request to the Ministry of Health Disease Control Department, Sankatane oncology clinic and program managers from different organisations supporting cervical cancer will be invited for a presentation on the results of the study. Lastly, an abstract will be developed for publication which will then be shared at large.

3.15 CONCLUSION

The research methodology provided more insight into the study. It assisted the researcher in identifying rich information that might be helpful and, if addressed, can help improve CC programming in Lesotho. This chapter is a prerequisite to understanding chapter four, which will demonstrate the study's findings or results.

CHAPTER 4

RESULTS OF THE STUDY

4.1. INTRODUCTION

Chapter 3 was on research methodology which is a step-by-step procedure of identifying research approach and design aligned to study objectives. These included study setting or location of the study as well as the target population to participate. From the target population, there was a need to derive a sample size to represent the whole population where it was calculated factoring who to be included or excluded from the study. Data collection instrument being a questionnaire, elaborations were made on how it was developed and steps taken to collect data from respondents while maintaining confidentiality of both the respondents and information provided. The chapter tabulates how data was analysed, starting with capturing data from paper based into Epi info until exported to SPSS that gave outputs of graphs and tables. There were ethical procedures to be followed before the commencement of the study, of which they were clearly articulated including the dissemination of study results with different stakeholders.

Chapter 4 will elaborate on SPSS V22 outputs following data collection from Queen Elizabeth II Hospital. The data will be presented in tables, bars, and pie charts, whereby the researcher will highlight key findings and provide insight into the results.

4.2 DATA MANAGEMENT AND ANALYSIS

Screening for eligibility was done, and 351 women were given questionnaires to participate in the study when they came for their clinical visits. Fortunately, 346 of them were enrolled, resulting in 99.4% participation. Reasons for the failure of some not to participate in the study included that three were diagnosed with CC and did not respond to some questions as they reported that they were irrelevant to them, while two withdrew their participation. As data was collected from participants, data cleaning was also done, and completion screening was done onsite. Post-collection data was transferred from paper-based questionnaires to Epi info to generate a database, which was later imported into SPSS V22 for analysis. Socio-demographic data was analysed using descriptive statistics, including some variables on knowledge and awareness. Furthermore, analysis of knowledge and awareness was done using inferential statistics, additionally, logistic regression was employed to measure the association between knowledge and awareness.

4.3 RESULTS

4.3.1 Sociodemographic data

Social and demographic factors of WLWHIV are demonstrated in the table below. The table shows age, residence, marital status, education, occupation, monthly income and children of participants.

Table 4.1: Socio-demographic data of study participants (n=346)

Variable	Frequency	Percent
Age group		
20-25	39	11.3
30-34	77	22.3
35-39	70	20.2
40-44	74	21.4
45-49	47	13.5
50+	39	11.3
Residence		
Urban	306	88.4
Rural	40	11.6
Marital Status		
Married	154	44.5
Separated/Divorced	63	18.2
Single	86	24.9
Widow	43	12.4
Educational Attainment		
No Education	4	1.2
Primary	65	18.8

Secondary	172	49.7
Tertiary	105	30.3
Occupation		
Employed	160	46.2
Self-employed	64	18.5
Unemployed	122	35.3
Monthly Income		
<500	94	27.2
500-1000	79	22.8
1000-2000	82	23.7
2000-5000	56	16.2
>5000	35	10.1
Number of Children		
0	54	15.6
1	95	27.5
2	119	34.4
3 or more	78	22.5

The majority of study respondents were aged between 30 and 34 years 77 (22.3%), followed by 40-44 years (21.4%), 35-39 years (20.2%), 45-49 years (13.6%), 20-25 years, and lastly, 50+ years at 11.3%. The majority of respondents resided in urban areas, 306 (88.4%), while 40 (11.6%) came from rural areas. Moreover, a significant figure was married 154 (44.5%), followed by single 86(24.9%), separated/divorced 63(18.2%) and finally, widowed 43(12.4%). The study findings showed the majority of women with two children, 192 (34.5%); those with one child, 95 (27.5%); three or more children, 78 (22.5%); and 0 children, 54 (15.6%). Almost half of the study respondents attained secondary qualification 172 (49.7%), followed by tertiary 105 (30.4%), primary 65 (18.8%) and no education 4 (1.2%). A higher proportion was employed at 46.2%, followed by unemployed at 35.3% and self-employed at 18.5%. Lastly, majority of the respondents had income less than M500 94 (27.2%), followed by M1000-M2000 82(23.7%), M500-M1000 79 (22.8%) and >M5000 35 (10.1%), respectively.

4.3.2 Awareness of Cervical Cancer Screening

The awareness of women on CCS is tabulated below. This is a process by which women become aware of their feelings towards CC. The table entails risks of having CC, worried about cancer, CC as a serious health problem, screening for CC as important, screening for CC as painful and fear of doing screening for CC.

Table 4.2: Awareness of participants regarding cervical cancer screening (n=346)

Variable	Frequency	Percent
Risk of having cervical cancer		
Yes	182	52.6
No	164	47.4
Ever worried about cancer		
Yes	251	72.5
No	95	27.5
Cervical cancer is a severe health problem.		
Yes	323	93.4
No	23	6.6
Screening for cervical cancer is important.		
Yes	334	96.5
No	12	3.5
Screening for cervical cancer painful		
Yes	172	49.7
No	174	50.3

Afraid of doing cervical cancer screening in fear of positive cervical cancer results		
Yes	70	20.2
No	276	79.8

A significant proportion of women considered themselves at increased risk of having CC, where 52.6% responded ‘yes’ as compared to 47.4% that responded with a ‘no’ to the question. Moreover, 72.5% responded ‘yes’ compared to 27.5% who responded ‘no’ to the question on worries about CC disease. Also, 93.4% responded ‘yes’ compared to 6.6%, who responded with a ‘no’ to the question asking if they considered CC a severe health problem. The study results also reveal that 334 (96.5%) responded ‘yes’ compared to 12 (3.5%) who responded with a ‘no’ to considering screening for CC as an essential act. Almost half of the women do not think screening for CC as a painful procedure, where study participants responded with a ‘no’ 174 (50.4%) compared to 172 (49.7%) who responded with a ‘yes’. Lastly, more than three quarters responded with a ‘no’, 276 (79.8%) compared to 70 (20.2%) who responded with a ‘yes’ on fear of positive CC results.

The pie chart below shows respondents’ awareness of services.

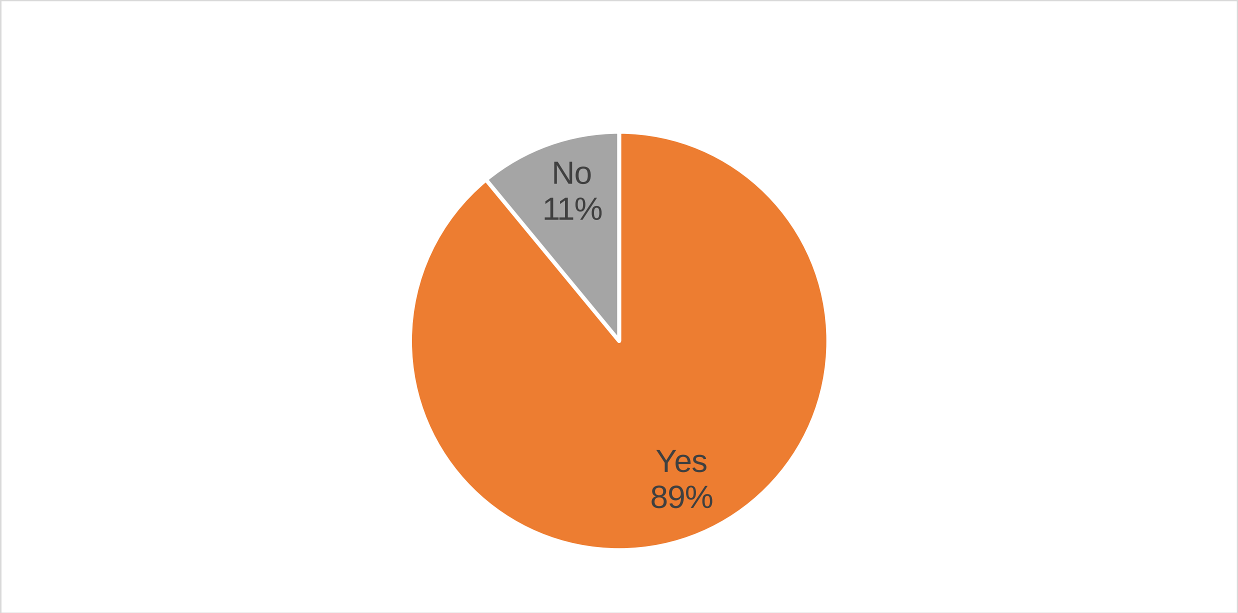

Figure 4.1: Distribution of participants who have heard of cervical cancer (n=346)

As explicit in the above figure, this facility's overall awareness of cervical cancer screening services was 89%.

The bar chart below shows study participants’ responses to whether CCS prevents the disease. The answers required them to select between strongly agree, agree, neutral, disagree and strongly disagree.

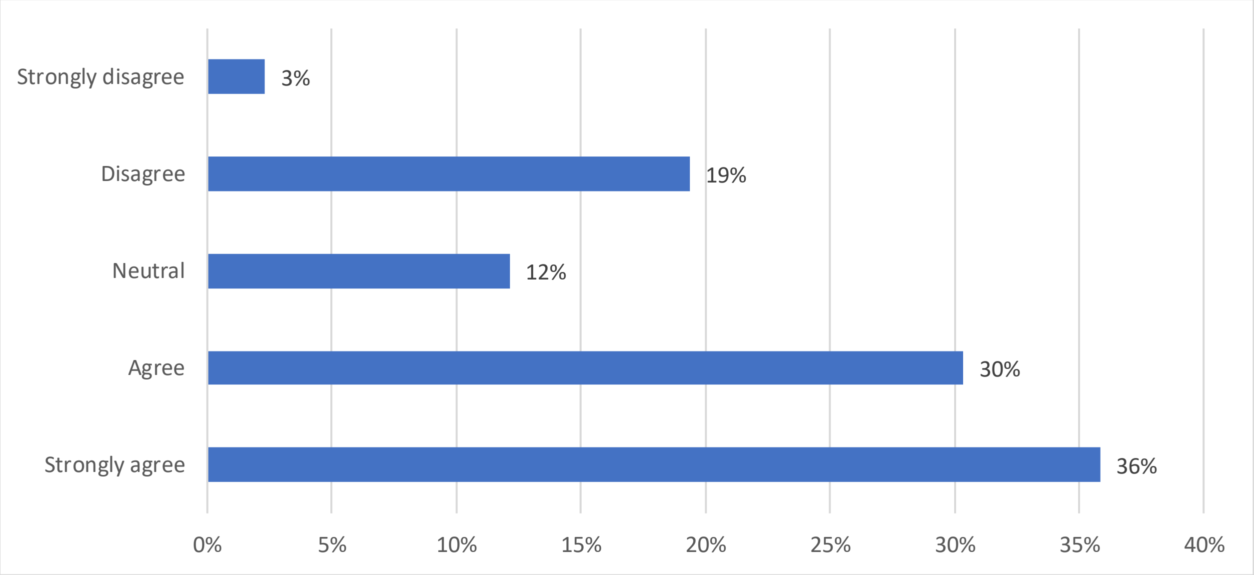

Figure 4.2: Participants who appreciated that screening prevents cervical cancer (n=346)

Study findings showed that 36% strongly agree, 30% agree, 12% neutral, 19% disagree, and 3% strongly disagree that screening for CC in time will help prevent the disease.

4.3.3 Knowledge of cervical cancer screening

Knowledge on cervical cancer screening is presented in the table below, where the following variables were presented: know how often CCS should be done, know that if cancer is found early, it can be cured and believe that screening for CC saves lives.

Table 4.3: Knowledge of cervical cancer screening (n=346)

Variable	**Frequency**		**Percentage**
	Know how often cervical cancer screening should be done.		
Yes	250		72.3
No	96		27.7
	Know that if cancer is found early, it can be cured.		
Yes	286		82.7
No	60		17.3
	Believe that cervical cancer screening saves lives.		
Yes	341		98.6
No	5		1.4

The study findings show that 250 (72.3%) reported ‘yes’ compared to 96(27.7%) who reported ‘no’ on how often they should be retested or rescreened for CC, as exhibited in Table 4.3 above. Additionally, 341 (98.6%) responded with a ‘yes’ compared to 5 (1.4%) who responded with a ‘no’ on whether or not they believe that CCS saves lives. A significant proportion, 82.7%, responded with a ‘yes’ compared to 17.3% who responded with a ‘no’ on knowledge of identifying CC in an early stage of progression can be cured.

The pie chart below shows participants’ knowledge of CCS.

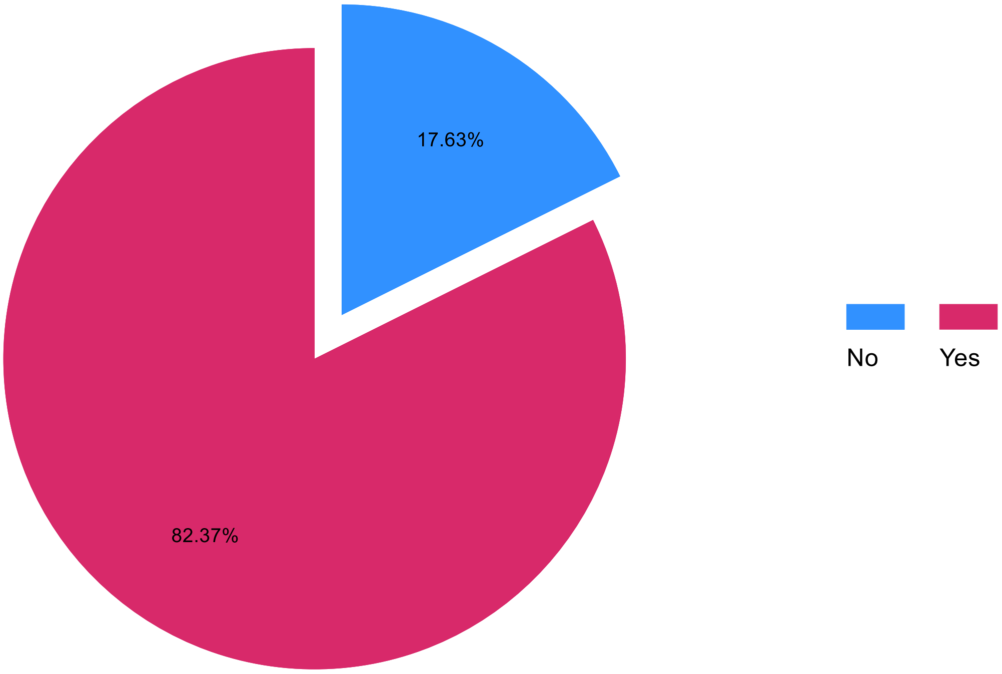

Figure 4.3: Distribution of participants who know of cervical cancer screening services (n=346)

The overall knowledge of CCS services was 82.37%, as shown in Figure 4.3 above.

4.3.4 Association between cervical cancer awareness and sociodemographic characteristics of respondents

The table below shows the association between CC awareness and the socio-demographic characteristics of respondents. The following are presented, residence, marital status, education, occupation, monthly income, and the number of children who have ever heard of CC.

Table 4.4: Association between cervical cancer awareness and socio-demographic characteristics of the participants (n=346)

Variable	**Ever Heard of Cervical Cancer**		**Chi-square**	***p*-value**
	Yes	**No**		
Residence				
Urban	271	35	0.5611	0.454
Rural	37	3		
Marital Status				
Married	148	6	19.5964	0.001
Separated/Divorced	51	12		
Single	69	17		
Widow	40	3		
Educational Attainment				
No Education	4	0	6.7748	0.079
Primary	56	9		
Secondary	160	12		
Tertiary	88	17		
Occupation				
Employed	141	19	3.1635	0.206
Self-employed	54	10		
Unemployed	113	9		
Monthly Income				
<500	82	12	1.0096	0.908
500-1000	72	7		
1000-2000	73	9		
2000-5000	49	7		
>5000	32	3		
Number of Children				
0	44	10	6.2338	0.101
1	83	12		
2	107	12		

3 or more	74	4		

The test shows no significant association between residence and cognisance of CC (p-value = 0.454). However, the test indicates a significant association between marital status and cognisance of CC (p-value = 0.001). Furthermore, the chi-square test suggests no significant association between educational attainment and cognisance of CC (p-value = 0.079), including occupation and cognisance of CC (p-value = 0.206). In addition, the chi-square test indicates no significant association between monthly income and awareness of CC (p-value = 0.908) in conjunction with the number of children and awareness of CC (p-value = 0.101).

4.3.5 Association between knowledge of cervical cancer screening services and socio-demographic characteristics of the participants

The table below shows the association between knowledge of CCS services and the socio-demographic characteristics of respondents. The table captured residence, marital status, education, occupation, monthly income and number of children in connotation with knowledge of CCS services.

Table 4.5: Association between knowledge of cervical cancer screening services and socio-demographic characteristics of participants (n=346)

Variable	**Knowledge of cervical cancer screening services**		**Chi-square**	***p*-value**
	Yes	**No**		
Age group				
25-29	24	15	13.9947	0.016
30-34	65	12		
35-39	58	12		
40-44	63	11		
45-49	42	5		
50+	33	6		
Residence				
Urban	258	48	6.8867	0.009

Rural	27	13		
Marital Status				
Married	132	22	2.9271	0.403
Separated/Divorced	48	15		
Single	70	16		
Widow	35	8		
Educational Attainment				
No Education	3	1	6.6052	0.086
Primary	58	7		
Secondary	133	39		
Tertiary	91	14		
Occupation				
Employed	129	31	0.6993	0.705
Self-employed	53	11		
Unemployed	103	19		
Monthly Income				
<500	78	16	3.3208	0.506
500-1000	68	11		
1000-2000	65	17		
2000-5000	48	8		
>5000	26	9		
Number of Children				
0	42	12	2.4703	0.481
1	77	18		
2	103	16		
3 or more	63	15		

The chi-square test indicates a significant association between age group and residence with knowledge of CCS services where the values are at (p-value = 0.016) and (p-value = 0.009), respectively. Further, the chi-square test suggests no significant connotation between marital status and knowledge of CCS services (p-value = 0.403).

Similarly, there is no substantial association between educational attainment and knowledge of CCS services (p-value = 0.086).

The chi-square test shows no significant association between occupation and knowledge of CCS services (p-value = 0.705). It also indicates no significant association between monthly income and knowledge of CCS services (p-value = 0.506). Lastly, the test shows no substantial connotation between the number of children and knowledge of CCS services (p-value = 0.481).

4.3.6 Association between cervical cancer awareness and marital status

The table below shows the association between CC awareness and the marital status of respondents where the following were obtainable: marital status and odds ratio.

Table 4.6: Association between cervical cancer awareness and marital status (n=346)

Variable	**Odds Ratio**	***p-Value***	**[95% Confidence Interval]**
Marital Status	1.43	0.020	1.06 - 1.93

The odds ratio is 1.43, meaning that the odds of being aware of CC are 1.43 times higher for individuals who are married compared to those who are not. On the other hand, the p-value associated with the marital status variable is 0.020. This p-value indicates that the relationship between marital status and CC awareness is statistically noteworthy when p=<0.05 at a confidence interval (CI) of 95% for the odds ratio is (1.06, 1.93).

4.3.7 Association between knowledge of cervical cancer screening services and age and residence

The table below shows the association between CCS knowledge and age, residence and odds ratio.

Table 4.7: Association between knowledge of cervical cancer screening services and some independent variables (n=346)

Variable	**Odds Ratio**	***p-Value***	**[95% Confidence Interval]**
Age	0.78	0.013	0.64 - 0.95
Residence	2.73	0.008	1.30 - 5.72

The odds of knowing CCS services decrease by 0.78, meaning younger individuals have more chances to be cognisant of CCS services when associated with older individuals. Nonetheless, the p-value associated with age is 0.013, indicating that the relationship between age and knowledge of CCS services is statistically noteworthy if the p=< 0.05 at CI of 95%.

The odds ratio for residence is 2.73, indicating that people living in urban regions are 2.73 times more likely than those living in rural areas to be aware of CCS facilities. The p-value associated with residence is 0.008, which indicates that the affiliation between residence and knowledge of CCS is statistically noteworthy.

4.3 CONCLUSION

Descriptive statistics on socio-demographic data demonstrated that women aged 30-34 had the highest participation rate and that most resided in urban areas. Many study participants were married and had attained a secondary qualification. The inferential and logistic regression also exhibited a significant relationship between CCS and multiple variables. That is, age and living in urban areas have a substantial relationship with knowledge of CCS. Marital status is associated with respondents' awareness of screening services. The following chapter elaborates more on the study's findings relative to the literature.

CHAPTER 5

DISCUSSION, RECOMMENDATION AND CONCLUSION

5.1 INTRODUCTION

Chapter 4 was on data analysis where tables, pie and bar charts were produced. The data from descriptive, logistic and inferential statistics were displayed in different formats. This chapter will discuss the study results in comparison with other studies that were completed before. The comparison will be made concerning the study objectives. The study focused on factors contributing to the low uptake of cervical cancer screening among women living with the Human Immunodeficiency Virus at Queen Elizabeth II Hospital in Maseru, Lesotho.

The objectives to study were as follows:

Objective 1: To determine demographic, social and clinical factors associated with cervical cancer screening among women living with HIV at Queen Elizabeth II Hospital.

Objective 2: To determine awareness of cervical cancer screening services among women living with HIV at Queen Elizabeth II Hospital.

Objective 3: To determine knowledge on cervical cancer screening amongst women living with HIV at Queen Elizabeth II Hospital.

5.2 DISCUSSION

5.2.1 Objective 1: To determine demographic, social and clinical factors associated with cervical cancer screening among women living with HIV at Queen Elizabeth II Hospital

The majority of study respondents were aged 30 – 44 years (21.3%-22.3%), which correlates with what was revealed by the Lesotho Population-Based HIV Impact Assessment (2020). The socio-demographic data show almost half of the study respondents attained secondary qualifications; 49.7% and 46.2% were employed. The finding of this study agrees with the study conducted in Kenya that showed congruency on socio-demographic data, where 38.4% had secondary education, and 67.2% were employed (Kangethe, Monroe-wise, Komu, Mutai, Nzivo & Pinet, 2022). A study conducted by Maria, Olwit, Kaggwa, Nabirye and Ngabirirano (2022) showed contrary results to the finding of this study in that they found more respondents aged 35-39 years (36%) and a majority had primary qualifications (58.1%).

This study showed a significant number of respondents were married (44.5%), and there is a significant association between being married and being aware of CCS. A comparable study by Getahun, Kaba and Derseh (2020) showed that 80.6% of respondents were married, whereas, in Mpata and Nkosi's (2021) study, 57.6% were married. Moreover, the age and residence of women had a significant association with knowledge as the younger respondents who resided in the urban area tended to be knowledgeable about CCS services, where 82.37% of them knew about it.

5.2.2 To determine awareness of cervical cancer screening services among women living with HIV at Queen Elizabeth II Hospital

In this study, many women were aware of CCS services. The possibility of awareness is that there is a significant association between age and marital status, where the p-values are 0.013 and 0.020, respectively. This study is congruent with the study done by Hausiku, Kouame and Aboua (2022); Azzani, Ba-Alawi, Atroosh and Yadav (2023) where age and marital status were the only variables with significant association with the uptake of Pap smear screening, and the p-values were at 0.003 and 0.02, respectively. The study also showed no significant association between the number of children and awareness of CCS, where the p-value = 0.101. This is congruent with a study by Alsalmi and Othman (2022), who observed that the number of children was not significantly associated with screening awareness where the p = 0.193.

The odds of married respondents being aware of CCS services are 1.43 higher than unmarried women. This is congruent with Baharum *et al*. (2020) that more years in marriage, women are more likely to have CCS. A study by Sun, Chepkorir, Mendez, Cudjoe, and Han (2022) is contrary to this study, which found no significant association between marital status and cognisance of CCS with an odds ratio of 1.15 and a p-value of 0.740.

In this study, a significant number of women considered themselves at increased risk of having CC 52.6%, while 72.5% were worried about the disease. A similar study by Hausiku, Kouame and Aboua (2022) showed that 76% of women thought of CC as a severe disease, and 52.9% of the respondents felt at risk of CC. This could be attributed to the numerous study respondents residing in urban areas where knowledge of CCS is higher than that of those living in rural settings. Also, 49.7% of women considered CCS as a less painful procedure, and more than three-quarters of them were not afraid of positive CC results. Hausiku, Kouame and Aboua (2022) had similar findings to this study, where they reported a massive proportion of women having heard of CC and Pap smear tests, and the results were 92.6% and 93.4%, respectively. Contrary to this study, Idehen *et al*. (2020) found that women did not screen because they feared receiving adverse outcomes of the screening results.

5.2.3 To determine knowledge of cervical cancer screening amongst women living with HIV at Queen Elizabeth II Hospital

The majority of study respondents were between 30- 44 years old. In this age group, they were considered to be more knowledgeable of screening services than it is with the older ages. Women being knowledgeable of screening services makes it possible to be perceived as at increased risk of acquiring CC. In this study, it was found that 82.37% of respondents were knowledgeable about screening services. Respondents' higher knowledge about screening services could be that screening is integrated into routine ART services. A study by Maria *et al.* (2022) is congruent with the results of this study, where knowledge of screening facilities was 91%. However, a study by Taneja *et al. (2021) showed findings contrary* to the findings of this study in that the knowledge of screening was at 20.3%.

Knowledge of CCS services is significantly linked with age group and residence, with p-values=0.016 and 0.009, respectively. The findings imply that younger study respondents were more likely to be aware of CCS services. Further, respondents living in urban areas are notably more knowledgeable about these services than their rural counterparts.

5.3 STUDY LIMITATION

While cross-sectional studies are valuable for identifying potential relationships between variables, it's important to note that they cannot establish causality. Correlation does not imply causation, and other factors or variables not accounted for in the study may influence the observed relationships. Additionally, because cross-sectional studies capture data at a single point in time, they cannot assess temporal relationships or determine the direction of causality between variables.

Moreover, the study was conducted in one facility located in the urban area of Maseru, the findings cannot be applied to WLWHIV in rural areas of Lesotho. Likewise, the convenient sampling method was used whereby women who came to the facility for services on that particular day of data collection were enrolled if eligible, and there is a possibility of social desirability bias.

5.4 CONCLUSION

The majority of respondents' ages were between 30-44 years, married and living in urban areas. Moreover, the majority of them had attained secondary qualifications, employed and had 2 children. 72% of respondents were aware of how often they should be screened for CC while 89% of them were knowledgeable of CCS. Also, from the study results it was noticed that there is a significant relationship between marital status of women being aware of CCS services. At the same time, age and residence have a significant relationship with women being knowledgeable of screening services.

The research question was to find out what were the factors contributing to the low uptake of CCS. Still, the majority of study respondents were aware and knowledgeable of CCS of which they might not be the true factors contributing to the low uptake of CCS. Further, relating the results with the problem statement that screening in Lesotho remains at 17% but the majority of study respondents were aware and knowledgeable of screening services, which gave an impression that the two do not automatically translate to women accessing or utelising screening services.

Though knowledge and awareness to screening services might not be the major contributing factors to the low uptake of CCS a lot needs to be done by health care workers such as providing personalised counselling to women to identify why they do not utilise services. Also, encouragement or influence by peers or friends and family members who have undergone screening can be important in scaling up. Healthcare workers can also conduct community outreaches that provide education and screening services to women in their accessible places. The country can also utilise reminder systems that help clients remember the schedule and attend their CCS appointment.

The sample size of 346, the use of convenient sampling and the likelihood of attaining bias information are among reasons that the results cannot be generalise to the whole population. However, the results are appreciated and insightful to encourage for future research looking into influencers or motivators for women to access screening services. Some factors to explore could be the creation of a supportive social network of peers, friends, and colleagues to undergo screening or public health promotion programs such as campaigns, outreaches or educational initiatives if they can help in improving.

5.5 RECOMMENDATIONS

Public health approach

Comprehensive health education, information, education, and communication (IEC) materials should be provided to communities and village healthcare workers so that the remaining percentage of women who are not aware or knowledgeable about screening services are reached. This will further increase the number of women accessing screening services. Moreover, campaigns and outreaches should be done targeting women at their convenient locations.

Healthcare workers

Healthcare workers should provide individualised counselling to women so that they are able to get insights of why they are not screening so that information can be tailored to what has been gathered. Formulation of peer groups so that women can remind and encourage each other to access screening services, or women or family members who have undergone screening services can be used to influence others to go screening.

Policy makers

The study results has revealed that unmarried women and those living in rural areas lack knowledge and are unaware of CCS, therefore, it is important that policy makers develop CCS messages tailored for women living in rural areas, the older and unmarried women in the language that they will understand.

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ANNEXURE 1: TREC CERTIFICATE

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DATE: 01 MARCH 2023

NAME OF STUDENT:	**SEJANA B**
STUDENT NUMBER:	[redacted]
DEPARTMENT:	**PUBLIC HEALTH**
SCHOOL:	**HEALTH CARE SCIENCES**
QUALIFICATION:	**MPH**

Dear Student

FACULTY APPROVAL OF PROPOSAL (PROPOSAL NO. FHDC2023/2)

I have pleasure in informing you that your MPH proposal served at the Faculty Higher Degrees Meeting and your title was approved as follows:

Approved Title: "Factors Contributing to Low Uptake of Cervical Cancer Screening among Women Living With Human Immunodeficiency Virus at a District Hospital, Lesotho"

Note the following:

Ethical Clearance	**Tick One**
Requires no ethical clearance Proceed with the study	
Requires ethical clearance (TREC) (apply online) Proceed with the study only after receipt of ethical clearance certificate	√

Yours faithfully

Prof T.M Mothiba

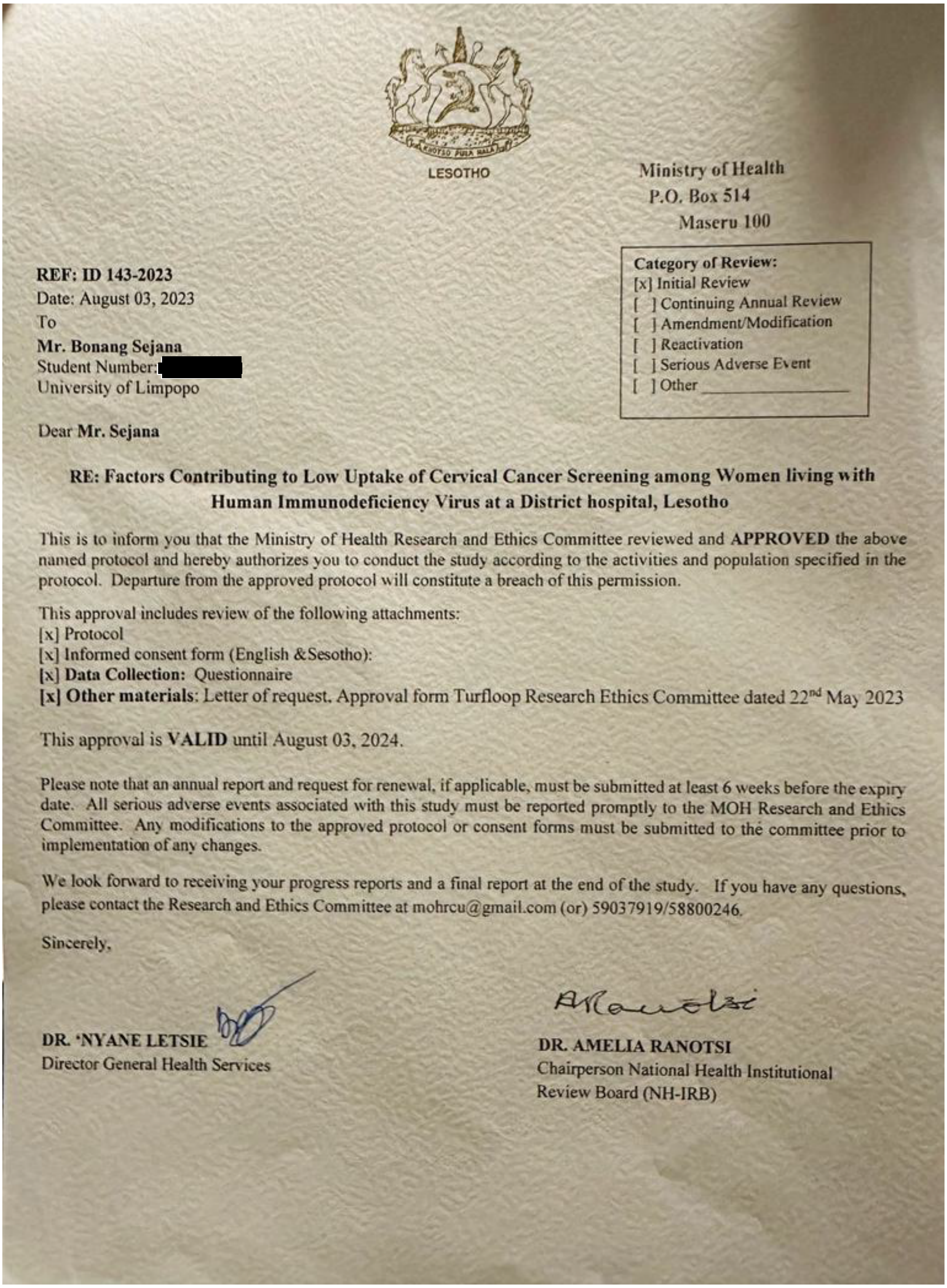
Chairperson

Supervisor: Prof S.F Matlala

Co-Supervisor: Dr T Netshapapame

Finding solutions for Africa

ANNEXURE 2: APPROVAL LETTER FROM THE MINISTRY OF HEALTH TO CONDUCT THE STUDY



LESOTHO

Ministry of Health
P.O. Box 514
Maseru 100

Category of Review:
[x] Initial Review
[ ] Continuing Annual Review
[ ] Amendment/Modification
[ ] Reactivation
[ ] Serious Adverse Event
[ ] Other ________________

REF: ID 143-2023
Date: August 03, 2023
To
Mr. Bonang Sejana
Student Number: [redacted]
University of Limpopo

Dear **Mr. Sejana**

RE: Factors Contributing to Low Uptake of Cervical Cancer Screening among Women living with Human Immunodeficiency Virus at a District hospital, Lesotho

This is to inform you that the Ministry of Health Research and Ethics Committee reviewed and **APPROVED** the above named protocol and hereby authorizes you to conduct the study according to the activities and population specified in the protocol. Departure from the approved protocol will constitute a breach of this permission.

This approval includes review of the following attachments:
[x] Protocol
[x] Informed consent form (English &Sesotho):
[x] **Data Collection:** Questionnaire
[x] Other materials: Letter of request. Approval form Turfloop Research Ethics Committee dated 22nd May 2023

This approval is **VALID** until August 03, 2024.

Please note that an annual report and request for renewal, if applicable, must be submitted at least 6 weeks before the expiry date. All serious adverse events associated with this study must be reported promptly to the MOH Research and Ethics Committee. Any modifications to the approved protocol or consent forms must be submitted to the committee prior to implementation of any changes.

We look forward to receiving your progress reports and a final report at the end of the study. If you have any questions, please contact the Research and Ethics Committee at mohrcu@gmail.com (or) 59037919/58800246.

Sincerely,

DR. 'NYANE LETSIE
Director General Health Services

ARanotsi
DR. AMELIA RANOTSI
Chairperson National Health Institutional Review Board (NH-IRB)

ANNEXURE 3: LETTER REQUEST TO CONDUCT STUDY MINISTRY OF HEALTH LESOTHO

Director General

Ministry of Health Lesotho

P.O Box 514

Maseru 100

Dear Sir/Madam

RE: APPLICATION TO CONDUCT ACADEMIC STUDY IN LESOTHO

This letter serves as a request to conduct an academic study at Queen Elizabeth II Hospital about factors contributing to low cervical cancer screening among women living with HIV at Queen Elizabeth II Hospital. The study partially fulfils a Master's degree in Public Health from the University of Limpopo in South Africa. The objectives of the study are to determine the perceptions of women living with HIV about cervical cancer screening, to investigate women living with HIV awareness of cervical cancer screening services and to evaluate the level of accessibility of cervical cancer services amongst women living with HIV. It is anticipated that data collection will commence in July, data analysis in September and report writing in late September 2023, while the expected date of completion of the study is October 2023.

The study results will be used for academic purposes, and ethical considerations will be followed during implementation.

I am looking forward to your positive feedback.

Yours sincerely

Bonang Sejana

Contacts: 53660038

Email: Ernsejana@gmail.com

ANNEXURE 4: CONSENT FORM

INTRODUCTION

You are asked to participate in a research study entitled: **FACTORS CONTRIBUTING TO THE LOW UPTAKE OF CERVICAL CANCER SCREENING AMONG WOMEN LIVING WITH HUMAN IMMUNODEFICIENCY VIRUS IN FORMER REFERRAL HOSPITAL MASERU, LESOTHO.**

The primary purpose of the study is:

To investigate factors contributing to the low uptake of cervical cancer screening among women Living with HIV at a former referral Hospital in Maseru, Lesotho, by

- determining perceptions of women living with HIV about cervical cancer screening at a former referral Hospital.
- investigating women living with HIV awareness of cervical cancer screening services at a former referral Hospital.
- evaluating the level of accessibility of cervical cancer screening services amongst women living with HIV at the former referral Hospital.

BENEFITS OF THE STUDY

The participants are not likely to benefit personally from this study, but the information given might help identify bottlenecks in the cervical cancer screening programme. The study recommendations address these, and hopefully, the programme will start flourishing. No injury or harm may result from participating in this study. Efforts were made to keep personal information confidential.

CONFIDENTIALITY

Your participation in this study is voluntary, and you will not be penalised or lose benefits if you refuse to participate or decide to terminate your participation.

The research study, including the above information, has been verbally described. I understand what my involvement in the study means and voluntarily agree to participate.

Signature of participant…………………………….. Date……………………………

Signature of researcher…………………………….. Date…………………………..

Contacts of researcher +266 53660038/ +266 62391300

ANNEXURE 5: ENGLISH VERSION QUESTIONNAIRE

Women Living with HIV: Section A-D

Section A: Socio-demographic data of participants

Tick (√) in the appropriate box to choose your answer

1. What is your age range?

☐ 25-29 years

☐ 30-34years

☐ 35-39years

☐ 40-44years

☐ 45-49years

☐ 50+ years

2. Do you reside in any of the following?

☐ Urban

☐ Rural

3. What is your marital status?

☐ Single

☐ Married

☐ Separated/Divorced

☐ Widowed

4. What is your highest educational attainment?

☐ No education

☐ Primary

☐ Secondary

☐ Tertiary

5. **What is your occupation?**

☐ Employed

☐ Unemployed

☐ Self-employed

6. **What is your estimated monthly income (in Rands) per month?**

☐ **<** R500

☐ R500 - 1000

☐ R1000 -2000

☐ R2000 - R5000

☐ >R5000

7. How many children do you have?

☐ 0

☐ 1

☐ 2

☐ 3 and more

Section B: Awareness of Cervical Cancer Screening Services

Tick (√) in the appropriate box to choose your answer

8. Are you at risk of having cervical cancer?

☐ Yes

☐ No

9. What are the chances of you developing cervical cancer in the following years?

☐ High

☐ Low

10. Do you ever worry about cervical cancer?

☐ Yes

☐ No

11. Do you consider cervical cancer a severe health problem?

☐ Yes

☐ No

12. Do you consider cervical cancer screening important?

☐ Yes

☐ No

13. Is a cervical cancer screening procedure painful?

☐ Yes

☐ No

14. Are you afraid to take cervical cancer screening because you are so scared to be told that you have cancer?

☐ Yes

☐ No

15. How often should you be screened for cervical cancer?

☐ Yes

☐ No

16. Did you know that if found early, cervical cancer can be cured?

☐ Yes

☐ No

17. Do you believe screening for cervical cancer can save your life?

☐ Yes

☐ No

Do you know or have you heard of cervical cancer?

☐ Yes

☐ No

18. Do you know about cervical cancer screening services in this facility?

☐ Yes

☐ No

19. Are you aware of the screening tests to detect cervical cancer?

☐ Yes

☐ No

☐ Do not know

20. Do you know the names of the screening tests that exist for cervical cancer?

☐ Yes

☐ No

☐ Not sure

21. **Screening helps in the prevention of cervical cancer.**

☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

22. Are you willing to be screened for cervical cancer in this facility?

☐ Yes

☐ No

23. If you answer "No," choose the reasons below.

☐ I do not know why I should be screened.

☐ Fear of the screening results.

☐ I have done it before, and I am afraid it is painful.

☐ I was feeling shy.

☐ Because male nurses do it

☐ Not applicable if ever screened

Section C: Accessibility of cervical cancer screening services

Tick (√) in the appropriate box to choose your answer

24. Have you ever accessed cervical cancer screening tests in this facility?

☐ Yes

☐ No

25. Are cervical cancer screening services available Monday to Friday?

☐ Yes

☐ No

☐ Only on certain days

☐ Do not know

26. On the list below, where can you access cervical cancer screening services in this facility?

☐ Anti-Retroviral clinic (ART)

☐ Maternal and Child Health (MCH)

☐ Out-patient Department (OPD)

☐ Inpatient/ Wards

☐ TB clinic

27. Did you screen for cervical cancer in the past three years?

☐ Yes
☐ No

28. How long do you travel to the facility to access services?

☐ Less than 30 minutes
☐ 1 hour
☐ 1 hour and 30 Minutes
☐ 2 hours and above

29. What is your mode of transport to the facility?
☐ By foot
☐ Own transport
☐ Public transport

30. What are some of the reasons why you do not take a screening test for cervical cancer?

☐ Long waiting time

☐ No equipment

☐ Long Queues

☐ Long procedure

☐ Have to combine cervical cancer screening with other services

☐ Unavailability of results

31. **Do you have a problem being assisted by a male healthcare worker for cervical cancer screening services?**
☐ Yes
☐ No

Section D: Knowledge of cervical cancer screening

32. Do you know the meaning of cervical cancer screening?

☐ Yes

☐ No

33. Cervical cancer screening is a method used to find changes in the cells of the cervix that could lead to cancer.

☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

34. Cervical cancer screening is for women and people with a cervix.

☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

35. People aged 25 to 49 receive invitations every three years to do cervical cancer screening, while people aged 50 to 64 receive invitations every five years.

☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

☐ Do not know

36. Cervical cancer screening is not recommended for anyone under 25 years old who has no recommendation from a medical practitioner.

☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

☐ Do not know

ANNEXURE 8: PROOF OF EDITING

RIGHTMOVE MULTIMEDIA
UNIT C, MANKWENG
081 746 8032
Karabokonyani@gmail.com
rightmovemultimedia@gmail.com
s5

Editing Certification
23rd March 2024

This is to certify that:

This editing certificate verifies that this Research was professionally edited for Bonang Sejana.

Thus, it is meant to acknowledge that I, Mrs K.L Malatji, a professional Editor under a registered company, RightMove Multimedia, have meticulously edited the manuscript from the University of Limpopo. Title: "FACTORS CONTRIBUTING TO LOW UPTAKE OF CERVICAL CANCER SCREENING AMONG WOMEN LIVING WITH HUMAN IMMUNODEFICIENCY VIRUS AT QUEEN ELIZABETH II HOSPITAL, LESOTHO."

Mrs K. L Malatji

KL Malatji