

**THE STATUS OF CERVICAL SCREENING AND BREAST
CANCER HEALTHCARE SERVICES AMONG
INCARCERATED WOMEN IN WESTVILLE
CORRECTIONAL FACILITY KZN,
SOUTH AFRICA**

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Dissertation submitted in fulfilment of the requirements for the degree of Master of Health Science in Medical Laboratory Sciences in the Faculty of Health Sciences at the Durban University of Technology.

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DECLARATION

I declare that “The status of cervical screening and breast cancer healthcare services among incarcerated women” is my own work and not that of any other person, unless explicitly acknowledged by means of citation of published work. The work has not previously been submitted in any form to the Durban University of Technology or any other institution for assessment or for any other purpose.

DEDICATION

I dedicate this dissertation to my late father, Mr Zwangendaba Jerome Ngonyama, who taught me at young age that “my inheritance is in my hands”, what I decide to do with hands will determine where I will be in the future, I control my destiny. His last dying words of encouragement allowed me to draw strength and wisdom to complete this Master’s degree. And, not forgetting a special feeling of gratitude to my son, Langa Goba, whose existence serves as encouragement to me and will always be a motivation for tenacity through this and any of my future endeavours’.

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ABSTRACT

Background: Incarcerated women represent a vulnerable population with severe health problems, including a heightened risk of cervical and breast cancer. The provision of comprehensive healthcare, including cancer prevention services, within prisons is a critical yet often neglected issue.

Aim: This study investigated the status of cervical screening and breast cancer healthcare services among incarcerated women at Westville Correctional Facility in KwaZulu-Natal, South Africa.

Methods: A mixed-methods approach was utilised, including a cross-sectional survey of 145 incarcerated women, a retrospective review of 1,639 Pap smear results from Westville Correctional Facility laboratory records (2013–2022) and in-depth interviews with healthcare workers (HCWs). Data analysis included descriptive statistics, chi-square tests, and thematic analysis.

Results: Retrospective data had a high HIV prevalence (54%). Despite this risk, cervical screening was low, with only 21.4% of women receiving a Pap smear during incarceration and 43.4% with no screening history. Breast cancer screening was virtually non-existent (1.4%). Knowledge regarding both cancers was low, with most of the incarcerated women unaware of risk factors, symptoms, and screening methods. Retrospective data revealed an erratic, campaign-based screening pattern, with a screening rate of less than 5% per year. Critically, 23.3% of women with a clinically healthy cervix had a cytological abnormality. A significant association between a healthy cervix and antiretroviral (ARV) treatment ($X^2(8) = 61.907$, $p < 0.001$) was found.

Findings from HCWs contextualised these results, revealing severe structural barriers including skeletal staffing, outdated equipment, and a protracted referral process that forces a reactive, crisis-driven care model. Furthermore, HCWs reported internalised stigma among offenders, something which actively suppresses health-seeking behaviour.

Conclusion: An implementation gap exists in cancer prevention services, driven by non-systematic screening, critical health literacy deficits, and a carceral environment that erodes patient agency. The rate of occult cytological abnormalities underscores the inadequacy of visual inspection.

TABLE OF CONTENTS

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
LIST OF ANNEXURES	xi
LIST OF FIGURES.....	xii
LIST OF TABLES	xiii
LIST OF ABBREVIATIONS	xiv

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION	1
1.2 BACKGROUND	1
1.3 PROBLEM STATEMENT	6
1.4 RATIONALE OF THE STUDY	7
1.5 HYPOTHESIS OF THE STUDY	9
1.5.1 The main hypothesis	9
1.5.2 Sub-hypothesis	9
1.6 AIM AND OBJECTIVES OF THE STUDY	9
1.6.1 Aim.....	9
1.6.2 Objectives	9
1.7 OUTLINE OF THE DISSERTATION.....	10
1.8 CONCLUSION.....	11

CHAPTER TWO

LITERATURE REVIEW

2.1	INTRODUCTION	12
2.2	BACKGROUND	12
2.3	CONCEPTUAL FRAMEWORK.....	14
2.4	CERVICAL SCREENING AND BREAST CANCER HEALTHCARE SERVICES IN CORRECTIONAL FACILITIES.....	16
2.5	PREVALENCE AND RISK FACTORS.....	17
2.5.1	Cervical cancer	18
2.5.2	Breast cancer	19
2.6	HEALTHCARE SERVICES IN CORRECTIONAL FACILITIES GLOBALLY ..	20
2.7	NATIONAL HEALTHCARE POLICIES IN SOUTH AFRICA	22
2.8	CLASSIFICATION AND STAGING OF CERVICAL CANCER IN SOUTH AFRICA	25
2.9	CONCLUSION	26

CHAPTER THREE

METHODOLOGY

3.1	INTRODUCTION	27
3.2	STUDY DESIGN.....	28
3.2.1	Quantitative Arm of the Study (Retrospective Laboratory Data).....	28
3.2.2	Quantitative arm of the study (Incarcerated women).....	29
3.2.3	Qualitative Arm of the Study (Healthcare Workers).....	29
3.3	STUDY SETTING	30
3.4	STUDY SAMPLING PROCESS.....	31
3.4.1	Quantitative Arm of the Study (Retrospective Laboratory data)	31
3.4.2	Quantitative Arm of the Study (Incarcerated Women).....	32

3.4.3	Qualitative Arm of the Study (Healthcare Workers).....	33
3.4.4	Inclusion Criteria for Cross-Sectional data.	34
3.4.5	Exclusion criteria	34
3.5	RECRUITMENT OF PARTICIPANTS.....	35
3.5.1	Retrospective Data.....	35
3.5.2	Incarcerated women.....	35
3.5.3	Healthcare workers	36
3.6	DATA COLLECTION INSTRUMENTS AND STUDY MEASURES.....	36
3.6.1	Retrospective Laboratory Data.....	36
3.6.2	Quantitative measures (Data from incarcerated women)	36
3.6.3	Qualitative Themes and Trustworthiness (Data from healthcare Workers)	37
3.7	DATA MANAGEMENT AND ANALYSIS	39
3.7.1	Quantitative Arm of the Study (Incarcerated women).....	39
3.7.2	Quantitative Arm of the Study (Retrospective Laboratory Data).....	39
3.7.3	Qualitative Arm of the Study (Healthcare Workers).....	39
3.8	ETHICAL CONSIDERATION.....	40

CHAPTER FOUR

RESULTS

4.1	INTRODUCTION	42
4.2	CROSS-SECTIONAL QUANTITATIVE DATA (INCARCERATED WOMEN) 43	
4.2.1	Sample size and socio-demographics.....	43
4.2.2	Cervical and Breast cancer knowledge and perception	46
4.3	RETROSPECTIVE QUANTITATIVE LABORATORY DATA ANALYSIS	48
4.3.1	Cervical Screening Rates.....	48

4.3.2	Cervical Cancer and Pre-cancerous Lesions: Incidence and Prevalence	49
4.4	QUALITATIVE DATA ANALYSIS: HEALTHCARE WORKER PERSPECTIVES THROUGH ANDERSEN'S MODEL	51
4.4.1	Enabling Resources: The Constrained Infrastructure of Care	52
4.4.2	Predisposing Characteristics and Perceived Need: Shifting Beliefs and Health- Seeking Behaviour.....	54
4.4.3	Health Behaviour and Utilisation: A Reactive, Referral-Based Model .	55

CHAPTER FIVE

DISCUSSION

5.1	INTRODUCTION	57
5.2	SIGNIFICANCE OF THE STUDY	57
5.2.1	Contribution to Knowledge and Public Health	57
5.2.2	Upholding Human Rights and Ethical Obligation.....	58
5.3	QUANTITATIVE FINDINGS: INCARCERATED WOMEN	58
5.3.1	Cancer Screening and Healthcare service in Correctional Facilities ...	60
5.3.2	Cancer Screening Knowledge and Perception.....	61
5.4	QUANTITATIVE FINDINGS: RETROSPECTIVE DATA.....	62
5.4.1	Prevalence of Cervical and Breast cancer	62
5.5	QUALITATIVE FINDINGS: HEALTHCARE WORKERS.....	64
5.6	HEALTHCARE DELIVERY IN WESTVILLE CORRECTIONAL FACILITY	65
5.7	STUDY LIMITATIONS	67

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1	INTRODUCTION	69
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6.2	CONCLUSION.....	69
6.3	RECOMMENDATION.....	70
REFERENCES.....		72

LIST OF ANNEXURES

Appendix A1: Gatekeeper permission letter from Department of Correctional Service	89
Appendix A2: Department of Correctional Services gatekeeper approval.....	90
Appendix A3: Entrance permit to management area: Durban correctional services	91
Appendix B1: Gatekeeper permission latter from Academic Affairs and Research Management Systems (AARMS).....	92
Appendix B2: NHLS AARMS gatekeeper approval	93
Appendix C1: English version	94
Appendix C2: IsiZulu version.....	99
Appendix D: Letter of Information – Healthcare Workers	105
Appendix E1: English version.....	110
Appendix E2: IsiZulu version.....	111
Appendix F: Informed Consent – Healthcare Workers	112
Appendix G1: English version	113
Appendix G2: IsiZulu version	117
Appendix H: Interview Guide (HCW).....	122
Appendix I: Cytology Laboratory Data Collection Tool	123
Appendix J: Research Ethics Certificate	124
Appendix K1: IREC Provisional Approval Letter.....	125
Appendix K2: IREC Approval, Ethics Clearance Number: IREC 240/23	126
Appendix L: Social worker appointment letter	127
Appendix M: Supplementary Results	128
Appendix N: Proofreading Certificate	129

LIST OF FIGURES

Figure 1.1: Showing the 2022 global incidence rates of (A) breast and (B) cervical cancer. (Ferlay et al., 2024).	3
Figure 1.2: Showing the 2022 global mortality rates of (A) breast and (B) cervical cancer. (Ferlay et al., 2024).	4
Figure 3.1: Sample size calculation breakdown	32
Figure 4.1: The levels of cervical cancer knowledge among incarcerated women ...	46
Figure 4.2: The levels of breast cancer knowledge among incarcerated women	47
Figure 4.3: Cancer related attitudes, stigma, and perceived support levels among incarcerated women	48
Figure 4.4: The number of tests performed between June 2013 to November 2022 (n=1642).....	49
Figure 4.5: Cytological results against cervix status.....	51
Figure 4.6: Socio-demographic profile of HCWs	52

LIST OF TABLES

Table 4.1: Demographic characteristics of the survey cohort.....	43
Table 4.2: Sexual and reproductive health characteristics of the survey cohort.	45
Table 4.3: Correlations of cervical screening outcomes with age and other clinical features	49

LIST OF ABBREVIATIONS

AARMS	-	Academic Affairs and Research Management Systems
ASCUS	-	Atypical Squamous Cells of Undetermined Significance
ASR	-	Age Standardized Rate
CDW	-	Central Data Warehouse
CIN	-	Cervical Intraepithelial Neoplasms
DCS	-	Department of Correctional Services
DOH	-	Department of Health
DRC	-	Departmental Research Committee
FIGO	-	Federation of Gynaecology and Obstetrics
FRC	-	Faculty Research Ethics Committee
HCW	-	Health Care Workers
HIC	-	High Income Countries
HIV	-	Human Immunodeficiency virus
HPV	-	Human Papilloma virus
HSIL	-	High grade squamous intraepithelial lesion
IREC	-	Institutional Research Ethics Committee
KZN	-	KwaZulu Natal Province
LMIC	-	Low- and Middle-Income Countries
LSIL	-	Low grade squamous intraepithelial lesion
NBCCP	-	National Breast Cancer Control Programme
NCCPP	-	National Cervical Cancer Prevention Programme
NCD	-	Non-Communicable Diseases
NDOH	-	National Department of Health
NGO	-	Non-Government Organisation
NHLS	-	National Health Laboratory Services
NILM	-	Negative for Intraepithelial Lesions or Malignancy
NRC	-	National Cancer Registry
Pap	-	Papanicolaou smear
SA	-	South Africa
UN	-	United Nations
WHO	-	World Health Organization

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This quantitative and qualitative study was conducted at Westville Correctional Facility among incarcerated women, to determine the status of cervical screening and breast cancer healthcare services. The study also determined the perspective of healthcare workers on the structural and organisational issues that may impact the delivery and provision of cervical screening and breast cancer health care services within the facility. In addition, this research study presents findings that were collected from National Health Laboratory Services database (NHLS), to determine the rates of cervical screening and prevalence of cervical and breast cancer in Westville Correctional Facility over a ten-year period from 2013 to 2022. The study also highlighted the perceptions of the participants on cervical and breast cancer, as well as the screening uptake prior and during incarceration.

In this introductory chapter, the study's rationale is explained, and the research overview is provided. The chapter begins with the background in which the study was conducted. This is followed by the problem statement, as well as the hypothesis of the study. It then proceeds to explain the aim and objectives of the study. Finally, an outline of this dissertation is provided.

1.2 BACKGROUND

Cancer is a growing threat to global public health, with low- and middle-income countries (LMICs) bearing a disproportionate amount of the burden (Hamdi et al., 2021). The most common causes of cancer-related morbidity and mortality among women globally are breast and cervical cancers (Hamdi et al., 2021). Prevention through early detection and screening can play an important role in improving treatment outcomes (Mendulo & Chiumia, 2023; Pickett et al., 2018). A notable difference in outcomes between high-income countries (HICs) and LMICs is due to dissimilarities in their epidemiological profiles and management capabilities (Emerson et al., 2024; Pickett et al., 2018).

In HICs, widespread screening programmes and advanced treatment protocols have led to high survival rates (Pickett et al., 2018). In contrast, although cervical and breast cancers are highly preventable and treatable diseases, they remain major public health problems, with over half a million new cases annually (Pickett et al., 2018). The success in controlling cancer is overwhelmingly skewed toward HICs, which achieve screening coverage of approximately 63%, compared to a mere 19% in LMICs (Bolon et al., 2023).

Inadequate resources and preventive healthcare services subject LMICs to a double burden of disease, a crisis compounded by pervasive poverty and weak health systems (Kouyoumdjian et al., 2018). Several of these healthcare systems often modified from colonial models to cater to indigenous populations, still lack adequate funding (Ramaswamy et al., 2017). They must deal with the chronically high burden of cervical cancer, which is caused by a lack of screening and the high prevalence of human papillomavirus (HPV), as well as the rising incidence of breast cancer, which is frequently detected at an advanced stage due to limited access to healthcare (Omotoso et al., 2023). The situation in South Africa exemplifies these challenges; nationally, breast cancer is the most common cancer by absolute case numbers, as shown in Figure 1.1, Part A (Ferlay et al., 2024). Breast cancer is the most frequently diagnosed cancer among women, with an estimated age-standardised incidence rate (ASR) of 47.8 per 100,000. However, cervical cancer poses a more severe mortality threat, as illustrated in Figure 1.1, part B (Ferlay et al., 2024). Despite a lower incidence ASR of 33.2, cervical cancer has a significantly higher mortality ASR of 19.0 compared to breast cancer ASR of 17.0 (Ferlay et al., 2024). This indicates a much higher case-fatality ratio for cervical cancer in South Africa.

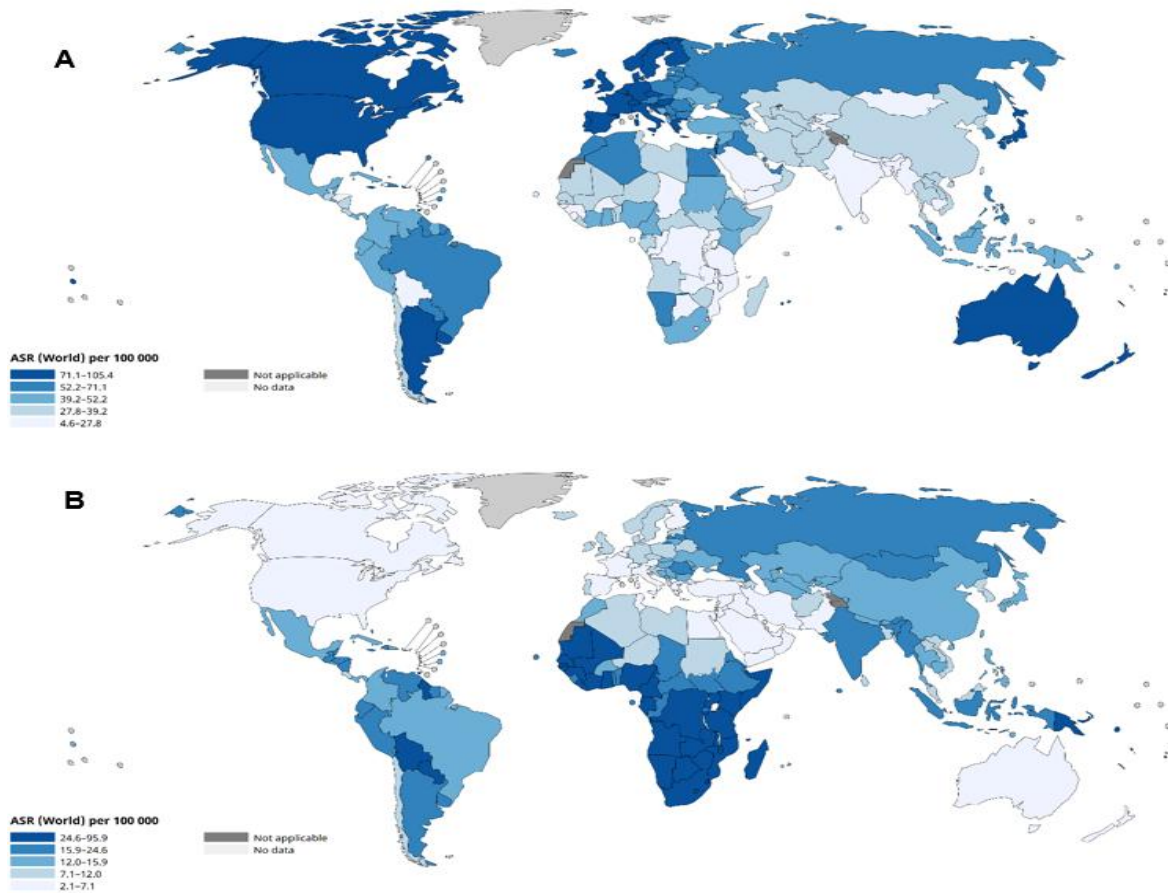


Figure 1.1: Showing the 2022 global incidence rates of (A) breast and (B) cervical cancer. (Ferlay et al., 2024)

As illustrated in Figure 1.2, part B, South Africa faces a cervical cancer burden that significantly exceeds the average for the African continent (Olorunfemi et al., 2022). The continental average is well exceeded by the national mortality rate of 19.0, and a surprisingly high incidence rate of 33.2 is shown (Pizzato et al., 2024). A fundamental failure in the cancer control cascade may be highlighted by these findings. Due to insufficient screening, resources and the exacerbating effects of the HIV epidemic, which is indirectly related to high HPV infections, cervical cancer is a greater threat to South African women than the most commonly diagnosed cancer (Bolon et al., 2023).

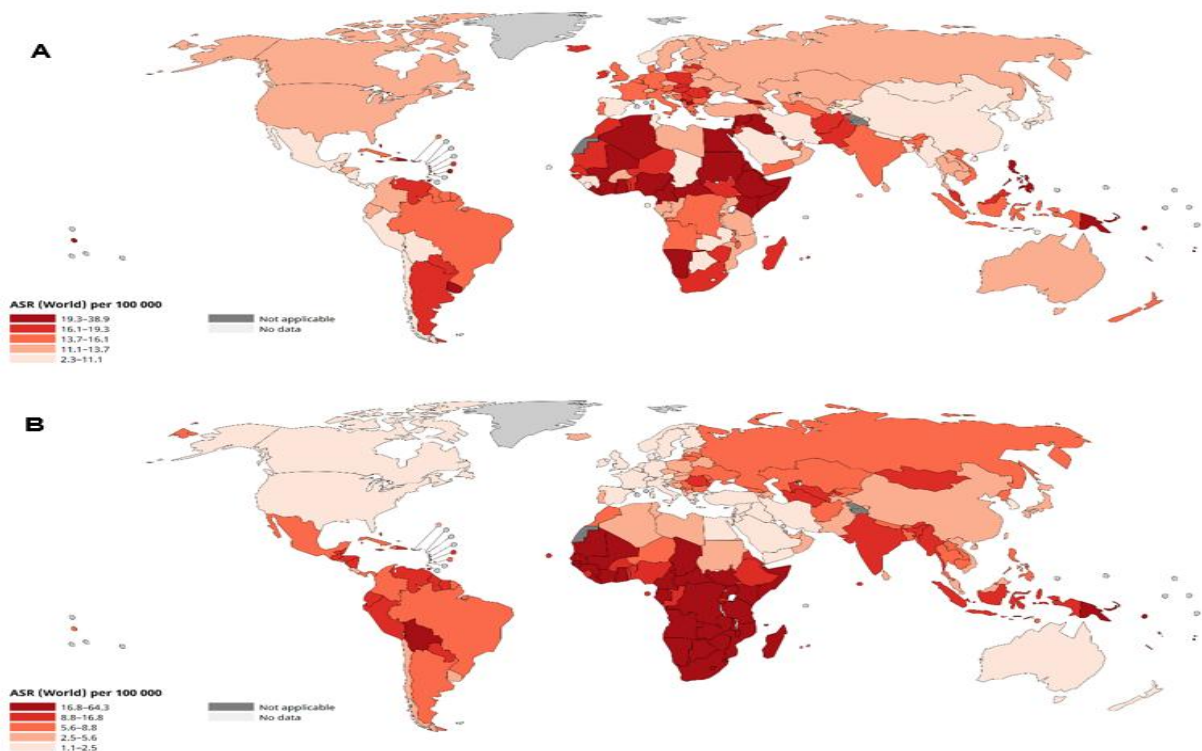


Figure 1.2: Showing the 2022 global mortality rates of (A) breast and (B) cervical cancer. (Ferlay et al., 2024)

Globally, the number of incarcerated women is rising, placing a significant but poorly understood health burden on correctional systems (Lesmana et al., 2025), whose population health status is poorly documented (Lesmana et al., 2025). This critical lack of evidence suggests that the correctional facilities' related health crisis for both cervical and breast cancer may probably be much worse than is currently known (McLeod et al., 2025). This global neglect is acutely felt in sub-Saharan Africa, where non-communicable diseases like cancer are frequently deprioritised (Hamdi et al., 2021). The region faces major barriers in achieving equitable cancer care, including insufficient funding, limited awareness, a lack of specialised health workers, high costs, and the impact of cultural stigma (Omotoso et al., 2023; Van Hout & Wessels, 2021). These systemic failures are compounded by a general shortage of health resources and inadequate infrastructure (Siziba & Barnard, 2023).

Over 733,000 women and girls occupy prisons worldwide, representing a troubling 57% increase since the year 2000 (Piason & Beichner-Thomas, 2026). This rate significantly outpaces the growth of both the male offender population at an estimated 22% and the general global population at 32% (Fair & Walmsley, 2024). Although the

United States, China, and Brazil hold the highest numbers of incarcerated women, the issue spans the globe, with some regions like Asia and Central America experiencing particularly sharp rises (Piason & Beichner-Thomas, 2026).

Significant continental variances exist regarding correctional population rates per 100,000 citizens (Maruschak & Minton, 2020). At 27.2, the United States of America has the highest rate for women. Gendered pathways heavily influence this figure, as involvement in survival economies may lead women to crime (Maruschak & Minton, 2020). In contrast, Africa has the lowest regional rate of incarcerated women, at just 3.4 per 100,000 women (Fair & Walmsley, 2024). Although women and girls constitute a small minority across the continent, making up only 3.5% of the total correctional population (Fair & Walmsley, 2024), they still represent a significant proportion of potential parents and community members.

The Correctional Service in South Africa has a substantial and intricate system in the African context with 143,223 offenders under its care as of March 2022. The Department of Correctional Services (DCS) operates as the third-largest healthcare provider in the country (Thobakgale, 2021). Despite a brief decline over the previous three years, the total number of offenders increased once more, rising by 1.59 percent (2,275 offenders) between the fiscal years 2020–2021 and 2021–2022 (Department of Correctional Services, 2022). The system is decentralised across several regions: Gauteng with an overall of 33,143 offenders, followed by the Western Cape with 26,765, and Limpopo, Mpumalanga, and Northwest cluster with 22,233 offenders (Department of Correctional Services, 2022).

According to the DCS data, the overall number of offenders increased by more than 13,000 in 2024, from 143,223 in 2022 to 156,600 in 2024. In 2024, there were 4,641 incarcerated women, both sentenced and unsentenced, up from 3,724 in 2022 (Department of Correctional Services, 2024). The KwaZulu-Natal (KZN) province still has the third-highest offender's population in South Africa, with 22,024 offenders, despite an increase in the overall offender's population from 22,024 to 24,594 (Department of Correctional Services, 2024). Additionally, the number of incarcerated women in the province increased from 511 to 705 offenders (Department of

Correctional Services, 2024). This growth pattern may indicate an added strain on a system that is already troubled by limited resources.

Therefore, against this background of rising female incarceration, a high burden of gender-specific cancers, and a resource-constrained system, a critical gap persists. There is a severe lack of research on the healthcare status of incarcerated women in South Africa, particularly regarding cervical and breast cancer screening. This study aims to address this gap by conducting a comprehensive assessment of the availability, accessibility, and quality of these essential services for incarcerated women in the KZN correctional facility.

1.3 PROBLEM STATEMENT

Incarcerated women represent an increasing and deeply vulnerable population, often entering correctional facilities with a high burden of pre-existing health conditions and historically limited access to healthcare (Emerson et al., 2024; Ikaneng, 2024; Moodley, Parry, & Van Hout, 2022). Globally, this vulnerability is exacerbated by correctional systems that are ill-equipped to address their specific needs, particularly regarding non-communicable diseases such as cancer (Ikaneng, 2024). In South Africa, this crisis is especially severe (Commission for Gender Equality, 2024; Keehn & Nevin, 2018; Muntingh, 2020). The prison healthcare system, managed by the Department of Correctional Services (DCS), is chronically underfunded and structurally disconnected from the National Department of Health (NDOH), resulting in inconsistent and often reactionary healthcare provision (Department of Correctional Services, 2024).

This systemic failure has a devastating impact on gender-specific health. Incarcerated women may face a disproportionately high risk of cervical and breast cancer, with incidence rates documented to be greater than those of the general population (Emerson et al., 2024; Escobar & Plugge, 2020; Manz et al., 2021). As a result, access to basic preventive healthcare services, such as cervical screening and mammography, remains a significant barrier. This turns incarceration, a potential point of healthcare intervention into a period of heightened risk.

While some may argue that a controlled correctional facility's environment can facilitate comprehensive care, the accumulating evidence suggests otherwise (Tapera, et al., 2019). The screening rates for women in South Africa are markedly lower than the global average screening rate (Busco, 2024; Omotoso et al., 2023; Sobuwa, 2025; Tshabalala et al., 2023). As such, it is reasonable to anticipate that the screening rates within the South African correctional facilities' population will also be lower than the global average. However, a critical gap may persist since there is a severe lack of conclusive, context-specific research on the precise status of cervical and breast cancer healthcare services within South African correctional facilities, particularly in high-incarceration provinces such as KwaZulu-Natal (KZN).

This study therefore aimed to address this gap by conducting a comprehensive evaluation of the availability, accessibility, and quality of cervical and breast cancer services provision at Westville Correctional Facility. In addition, it examined knowledge, stigma, and perceptions of these cancers and healthcare services among incarcerated women and professionals. This dual approach was designed to identify not only systemic barriers to the provision of services, but also contextual and cognitive factors that influence screening uptake. The findings of this study may be essential in generating an evidence base for practical recommendations to improve healthcare delivery, inform resource allocation, and ultimately reduce cancer disparities for this vulnerable population, thereby contributing to improved health outcomes and greater health equity.

1.4 RATIONALE OF THE STUDY.

This research study was justified by the intersection of a significant public health disparity, an inherent ethical responsibility, and a critical lack of empirical evidence (Emerson et al., 2024). The Department of Correctional Services (DCS) assumption of duty of care upon incarceration, and failure to provide adequate screening and preventative healthcare services for known high-risk conditions such as cervical and breast cancer constitutes a violation of basic human rights and perpetuates a cycle of health inequality (Manz et al., 2021).

The systemic context of the South African Correctional service healthcare system demands urgent scrutiny, as a de facto major healthcare provider that is constrained by chronic underfunding and a structural separation from the NDOH (Busco, 2024; Ikaneng, 2024; Keehn & Nevin, 2018; Omotoso et al., 2023; Van Hout & Wessels, 2021). As a result, the DCS healthcare is reactive, ill-equipped for specialised healthcare, and notoriously lacking in gender-sensitive approaches (Commission for Gender Equality, 2017, 2018, 2024). The Westville Correctional Facility in KwaZulu-Natal, a large facility in a high-burdened province, notorious for poor health outcomes (Department of Correctional Services, 2022, 2024; Van Hout & Wessels, 2021), serves as a critical case study to investigate how these systemic failures manifest in practice and directly impact this vulnerable cohort of incarcerated women.

Additionally, the absence of context-specific data within the South African context, compounded by a substantial disease burden and systemic healthcare challenges, further underscores the importance of this investigation (McLeod et al., 2025). Existing literature often focuses on the Global North or general correctional facilities healthcare systems, leaving gaps in understanding the precise availability, accessibility, and quality of cancer healthcare services in South African correctional facilities like the KZN Westville. Moreover, the perspectives of incarcerated women and the healthcare workers navigating this strained system, are largely absent (Acheampong et al., 2021; Rangolo, Tshitangano & Olanyi, 2021; Tshabalala et al., 2023). In the absence of comprehensive evidence and interventions, policy reforms are likely to be misguided and ineffective (Tapera et al., 2019).

This research study was therefore essential to generate reliable, multilateral evidence which may inform policy by providing data to support targeted budget allocations and policy reforms within the DCS. The study further supports the reporting of the practices of the Westville Correctional Facility by evaluating the availability, accessibility, utilization and healthcare service provision within the correctional facility (Rangolo et al., 2021; Sung et al., 2021).

This study may thus shed light on the current state of cancer healthcare among incarcerated women in KwaZulu-Natal, providing the basic knowledge needed to understand the healthcare services in Westville Correctional Facility and uphold the right to health for all.

1.5 HYPOTHESIS OF THE STUDY

1.5.1 The main hypothesis

Given documented health inequalities, resource constraints, and the vulnerability of incarcerated women, this study hypothesised that cervical screening and breast cancer services at Westville Correctional Facility are inadequate to meet inmates' preventive and diagnostic needs, potentially delaying detection and treatment.

1.5.2 Sub-hypothesis

- i. The prevalence of abnormal cervical cytology and breast cancer was higher among the incarcerated population, which may allude to inadequate primary preventative healthcare services such as screening and breast exams. Furthermore, retrospective review of laboratory records data may provide a comprehensive and contextualised understanding of the service provision accessibility, and utilisation within the correctional facility over a ten-year period.
- ii. The rate of cervical screening among incarcerated women was significantly lower, which is hypothesised to be driven by limited available resources, limited perceived knowledge and stigma towards cervical cancer.

1.6 AIM AND OBJECTIVES OF THE STUDY

1.6.1 Aim

The primary aim of the study was to investigate the status of cervical screening and breast cancer healthcare services for incarcerated women at the Westville Correctional Centre in KwaZulu-Natal, South Africa, using a mixed-method approach.

1.6.2 Objectives

- To investigate the status of cervical screening and breast cancer healthcare services among incarcerated women.
- To evaluate the availability of healthcare infrastructure, resources, personnel, and organisational issues within correctional facility to determine the feasibility

of implementing regular cervical screening and breast cancer healthcare programmes.

- To evaluate the rate of cervical cancer screening among incarcerated women at Westville Correctional Centre, KZN, SA over a ten-year period between 2013 to 2022.
- To evaluate the prevalence of cervical and breast cancer among incarcerated women at Westville Correctional Centre, KZN, SA over a ten-year period between 2013 to 2022.

1.7 OUTLINE OF THE DISSERTATION

Chapter two will present the literature review relevant to this study. The review will focus on cervical screening and breast cancer healthcare services among incarcerated women, general healthcare policies or guidelines for cervical screening and breast cancer healthcare services in correctional facilities, prevention and perceived barriers to cervical screening and breast cancer healthcare services.

Chapter three will describe the methodological approach used in the study. It will describe the research design, study setting, study population, study period, sample size, data collection, data analysis and management and presentation of the study findings. It will also look at dissemination of results, ethical considerations, and the study limitations.

Chapter four will present the study results. This section will present the findings from the research questionnaire, in-depth interview with healthcare workers regarding the status of cervical screening and breast cancer healthcare services, as well as the rate of cervical screening and prevalence of cervical and breast cancer among incarcerated women in Westville Correctional Facility.

Chapter five will focus on the discussion of the findings and the conclusion of the study. This section will discuss the research study results as outlined in chapter four and the conclusion of the study based on the study results.

1.8 CONCLUSION

In conclusion, this chapter briefly introduced an overview of the research study including the background, research problem, the aim and objectives, significance of the study and the hypotheses that the research study endeavoured to investigate. .

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter familiarises the reader with the existing body of knowledge relevant to cervical screening and breast cancer healthcare services for incarcerated women. It examines the global and national context of correctional facilities' healthcare, the significant prevalence and risk factors of these cancers and the systemic obstacles that hinder service accessibility, with a specific emphasis on Westville Correctional Facility. The chapter further considers the theoretical underpinnings of the study through Andersen's Behavioural Model and reviews relevant South African healthcare policies. It concludes by identifying critical gaps in the literature, particularly the lack of focused research on the availability, accessibility, and quality of cancer prevention services for incarcerated women in low- and middle-income countries like South Africa.

2.2 BACKGROUND

Cancer constitutes an increasing global epidemic and a significant public health threat (Hamdi et al., 2021). The burden is substantial, with an estimated 18.1 million new cases and 9.6 million deaths in 2018 (WHO, 2018), with lifetime risks indicating that one in five men and one in six women will develop the disease (Bray et al, 2018; Gaobotse et al, 2023). This burden is projected to rise, with expectations of 24.6 million new cases and 13 million deaths by 2030 (Dare et al., 2021; Finestone & Wishnia, 2022).

This burden is not borne uniformly (Hamdi et al., 2021). Low- and middle-income countries (LMICs), particularly in Africa, endure an inequitable burden of cancer morbidity and mortality (Denny & Kuhn, 2017; Gopal & Sharpless, 2021). The success in controlling highly preventable and treatable cancers, such as cervical cancer, is overwhelmingly skewed toward HICs due to stark disparities in resources, management capabilities, and screening coverage (Bolon et al., 2023; Castle, 2021). The neglect of non-communicable diseases (NCDs) persists despite global cancer mortality rates which have risen more than HIV, malaria, and tuberculosis combined,

with healthcare resources often remaining focused on communicable diseases (Bolon et al., 2023; Castle et al., 2021; Denny, 2019; Finestone & Wishnia, 2022; Sarmah, Sibiya & Khoza, 2024).

South Africa exemplifies these challenges. The country faces a severe cervical cancer crisis, characterised by a high mortality rate that highlights a fundamental failure in the cancer control cascade (Bolon et al., 2023; Ngwa et al., 2022). The cancer burden may also be compounded by systemic barriers including insufficient funding, limited awareness, and a lack of specialised healthcare workers (Omotoso et al., 2023; van Hout & Wessels, 2021).

The broader healthcare crisis is acutely institutionalised within correctional facilities (Denny et al., 2023). The global female offenders' rate is rising rapidly, and these women predominantly come from underprivileged communities, resulting in worse health status even before incarceration (Da Costa et al., 2022; Di Giuseppe et al., 2022; Fair & Walmsley, 2024; Ikaneng, 2024). Conditions of detention, including overcrowding and poor nutrition, further exacerbate health risks (Di Giuseppe et al., 2022). Despite these vulnerabilities, correctional facilities' healthcare research in Africa has historically focused on communicable diseases among male offenders, neglecting the specific needs of female offenders (Moodley et al., 2022; Muntingh, 2020; Nweze et al., 2021; van Hout & Wessels, 2021).

In South Africa, the correctional facilities' healthcare system is severely strained and ill-equipped to provide gender-sensitive or specialised healthcare services (Association for the Prevention of Torture, 2024; Commission for Gender Equality, 2018, 2024; Keehn & Nevin, 2018; Omotoso et al., 2023). As a results, incarcerated women face a heightened risk for cervical and breast cancer due to a confluence of factors, greater prevalence of risk behaviours, and major obstacles in accessing preventive healthcare services like Pap smear and mammography (Di Giuseppe et al., 2022; Kouyoumdjian et al., 2018; Manz et al., 2021; Pickett et al., 2018). Consequently, reactive healthcare service models and cancer rates among offenders may be more than double those of the general population.

Correctional facilities offer an exceptional opportunity to address the significant health disparities, as they represent a crucial point of contact with a population that may be difficult to reach from a public health standpoint. However, delivering adequate healthcare in South African correctional facilities remains complex and inconsistent (Muntingh, 2020). Therefore, as the rate of female incarceration outpaces that of men, the state of correctional facilities' health services across Africa demands comparative investigation and immediate reformative action (Nweze et al., 2021). Addressing healthcare disparities is not just a correctional facility's concern, but a critical imperative for public health.

2.3 CONCEPTUAL FRAMEWORK

A modified version of Andersen's behavioural model for health service use was adapted to guide the study. The model posited that healthcare utilisation was determined by three factors, these include predisposing characteristics (e.g., age, education, beliefs), enabling resources (e.g., income, insurance, availability of services), and need factors (Dawkins et al., 2021; Srinath et al., 2023; Tshabalala et al., 2023). In the context of incarcerated women, predisposing characteristics included demographic factors, health beliefs, and prior healthcare experiences (Dawkins et al., 2021; Srinath et al., 2023 & Tshabalala et al., 2023). Enabling resources encompassed the availability and accessibility of healthcare services within the correctional facility, as well as policies and procedures related to screening and treatment (Emerson et al., 2024; Ikaneng, 2024; Mendulo & Chiumia, 2023).

Need factors referred to the perceived or actual health needs of incarcerated women, include symptoms, medical conditions, and risk factors for cervical and breast cancer (Armes et al., 2024; Phaswana-Mafuya & Peltzer, 2018; Pickett et al., 2018). In examining these factors, the study aimed to identify the possible determinants of cervical screening and breast cancer healthcare utilisation among incarcerated women at Westville Correctional Facility.

Furthermore, the social determinants of health framework offered a valuable perspective for analysing the intricate interplay of socioeconomic factors, such as poverty, education, and access to resources, that were hypothesised to significantly influence health outcomes among incarcerated women (Dawkins et al., 2021; Srinath

et al., 2023; Tshabalala et al., 2023). Factors like limited awareness, cultural beliefs, financial constraints, and healthcare system-related challenges were recognised as significant barriers to screening uptake among women in general (Akoto & Allsop, 2023; Dawkins et al., 2021; Naidoo et al., 2021; Srinath et al., 2023). The study incorporated this framework to explore how these broader social factors impacted access to and utilisation of cervical screening and breast cancer healthcare services within the Westville Correctional Facility.

Rates of cervical screening and breast cancer services at Westville Correctional Facility were likely lower due to systemic barriers and individual factors, despite existing policies (Armes et al., 2024; Dawkins et al., 2021; Sarmah et al., 2024; Tshabalala et al., 2023; Yadav et al., 2022). The incidence of abnormal Pap test results was anticipated to be higher, influenced by prior high-risk sexual behavior or limited healthcare access before incarceration (Chen et al., 2025; Kelly et al., 2018; Musonda et al., 2022).

The availability and quality of breast cancer healthcare services within the correctional facility, which include clinical breast exams, mammography, and access to treatment for diagnosed cases were also assessed (Pickett et al., 2018). Factors such as low income, limited education, and minority status were known barriers to cervical cancer screening and breast healthcare services were expected to contribute to disparities in access (Phaswana-Mafuya & Peltzer, 2018; Pickett et al., 2018).

Population-specific characteristics such as sexual history containing high-risk behaviours and a history of abuse were also considered potential contributing factors (Chen et al., 2025; van Hout & Wessels, 2021). By examining the interplay of these factors, the study aimed to identify the key determinants of cervical screening and breast cancer healthcare utilisation among the incarcerated women.

Moreover, the study investigated the association between various risk factors for cervical and breast cancer screening uptake and healthcare respectively. Specifically, the study sought to determine if factors such as age, race, ethnicity, incarceration history, and substance use were independently associated with the likelihood of having undergone cervical screening and breast cancer healthcare services (Pickett et al., 2018). It was anticipated that the results of this study would highlight the pressing

need for improved programmes for cervical screening and breast cancer healthcare services in correctional facilities. Given that incarcerated women were more likely than their non-incarcerated counterparts to experience health issues, understanding the specific challenges faced by incarcerated women in accessing healthcare services was necessary (Association for the Prevention of Torture, 2024; Manz et al., 2021). Thus, focusing on this population helped elucidate the factors that contributed to disparities in screening rates and healthcare outcomes.

2.4 CERVICAL SCREENING AND BREAST CANCER HEALTHCARE SERVICES IN CORRECTIONAL FACILITIES

Incarcerated women in South African correctional facilities continue to face significant challenges in accessing adequate healthcare services (Van Hout & Wessels, 2021). This is despite robust legislative framework that includes the UN Bangkok Rules, the South African Constitution, and SADC Minimum Standards, all of which mandate that offenders receive healthcare, including gender-specific screenings, on a basis equivalent to that of general community (Association for the Prevention of Torture, 2024; Commission for Gender Equality, 2024). However, the implementation of these policies has been inadequate. Evidence on the ground reveals a stark contrast to these policy ideals.

While some services are reported at certain centres, the prevailing finding is that cervical and breast cancer screening are not readily accessible (Busco, 2024; Commission for Gender Equality, 2017, 2018, 2024). Services are often described as periodic rather than routine and are typically provided only upon request, rather than as a standard of care (Association for the Prevention of Torture, 2024; Ikaneng, 2024). This aligns with international evidence which demonstrates that, incarcerated women consistently report a lack of regular gynaecological and breast examinations (Luget et al., 2022; Di Giuseppe et al., 2022; Escobar & Plugge, 2020).

Several interconnected factors impede effective screening within correctional facilities (Mendulo & Chiumia, 2023). A primary barrier is a chronic lack of resources (Mendulo & Chiumia, 2023). Despite the DCS's large overall budget, the allocation for healthcare is severely constrained, with funding overwhelmingly directed towards security and salaries, leaving little for medical equipment or specialised care (National Treasury

Republic of South Africa, 2023). This is compounded by insufficient numbers of healthcare professionals and a lack of adequate training on the specific health needs of incarcerated women (Commission for Gender Equality, 2024; Ikaneng, 2024). Furthermore, pervasive overcrowding strains all resources and creates conditions that exacerbate health challenges (Di Giuseppe et al., 2022; Muntingh, 2020; Nweze et al., 2021).

Beyond systemic issues, patient-related barriers also play a significant role (Noman et al., 2021). Incarcerated women often have low knowledge about cancer and the value of screening (Atwa et al., 2019; Musonda et al., 2022). Many have experienced trauma or abuse, which can foster fear, shame, and a distrust of the healthcare system, making them hesitant to seek care or undergo invasive procedures (Ackermann, 2015; Ikaneng, 2024; Kelly et al., 2018). The transient nature of the offenders' population and logistical challenges in transporting offenders to external facilities compound this and create major obstacles for consistent screening and follow-up care (Association for the Prevention of Torture, 2024; Busco, 2024; Commission for Gender Equality, 2018, 2024; Commission for Gender Equality, 2017).

In line with South African national guidelines, which recommend screening from age 25 with intervals differing by HIV status, it is crucial that these services are accessible to all women (Botha et al., 2023; Tshabalala et al., 2023). However, vulnerable groups, such as incarcerated women, consistently face barriers to accessing both initial screening and subsequent follow-up care (Armes et al., 2024; Dawkins et al., 2021; Emerson et al., 2024; Sarmah et al., 2024). Against this backdrop, investigating the status of cervical screening and breast cancer healthcare services, specifically at Westville Correctional Facility in South Africa, can help identify the key determinants of healthcare access and utilisation for this vulnerable population.

2.5 PREVALENCE AND RISK FACTORS

One of the primary risk factors for cervical and breast cancer is being female. Both cancers show a high and sustained prevalence in South Africa; however, they are highly treatable or preventable through early screening and preventative healthcare (National Cancer Registry, 2022).

2.5.1 Cervical cancer

Cervical cancer represents a major public health challenge in South Africa, where the number of women diagnosed with the disease in the previous five years is estimated to be between 25,000 and 30,000 (National Cancer Registry, 2022). Furthermore, the one-year prevalent cases are estimated to be between 10,000 and 15,000 (National Cancer Registry, 2022). Historical data from 2017 confirms this high frequency, ranking cervical cancer as the second most common cancer among women, accounting for 16.55% of all female cancers with an Age-Standardized Incidence Rate (ASR) of 23.71 per 100,000 (Ferlay et al., 2024; National Cancer Registry, 2017). On a global scale, prevalence data is particularly striking; Africa has the second-highest number of prevalent cases of all continents. This underscores the disproportionate burden borne by the region, which is largely driven by limited screening infrastructure and a high prevalence of HIV infections (Ferlay et al., 2024). Black women bear the greatest burden, with an ASR of 28.25 per 100,000, which is substantially higher than the rates for Coloured (13.66), Asian (8.29), and White (15.24) women (National Cancer Registry, 2022). This underscores cervical cancer's status as a critical and disproportionately deadly public health priority for Black South African women.

Incarcerated women may face a unique set of risk factors for cervical cancer (Pickett et al., 2018). It has been shown that incarcerated women have higher rates of certain risk factors, such as obesity, smoking, HIV and HPV infection, and limited access to preventive healthcare services which are predisposing factors to cervical cancers (Association for the Prevention of Torture, 2024; Commission for Gender Equality, 2017, 2018; South African National Preventive Mechanism, 2024). Additionally, the stressful environment of incarceration and exposure to drugs and substance abuse may contribute to increased cervical cancer risk in this population (Pickett et al., 2018). It is therefore crucial to address the unique needs of this vulnerable group. Active health action, through regular preventative screening to facilitate early detection and prompt treatment, may be the cornerstone of reducing the risk of cervical cancer and improving outcomes. Understanding the specific obstacles to such preventive measures within correctional facilities may therefore be a key public health imperative.

2.5.2 Breast cancer

In the South African context, breast cancer is the most frequently diagnosed female cancer, exhibiting a leading age-standardised incidence rate (ASR) of 47.8 per 100,000 women (Ferlay et al., 2024). This pattern was also reflected in detailed national data, which also reveals significant racial disparities (National Cancer Registry, 2022). For breast cancer, Black women have a lower reported ASR (20.81 per 100,000) compared to their Coloured (48.36), Asian (54.61), and White (88.68) counterparts (National Cancer Registry, 2022).

Despite a lower overall incidence of breast cancer, mortality rates among Black women, those from low-income backgrounds are thought to be significant (Tshabalala et al., 2023). For instance, over 70% of patients are diagnosed at an advanced stage, a situation that mirrors incarcerated women in facilities like Westville Correctional Centre (Almuhtaseb & Alby, 2021; Joffe et al., 2018; Omotoso et al., 2023; Pickett et al., 2018).

The Globocan (2022) and South African National Cancer Registry (2017) data describe the prevalence of breast cancer in South Africa. In 2022, it was estimated that there were approximately 40,000 to 45,000 women who had been diagnosed with breast cancer in the past five years in South Africa (Ferlay et al., 2024; National Cancer Registry, 2022). The one-year prevalent cases, representing women alive who had been diagnosed in the past year, were estimated to be between 15,000 and 20,000 (National Cancer Registry, 2022). This high prevalence is consistent with 2017 data, which identified breast cancer as the most common cancer among South African women, accounting for 23.11% of all female cancers and an Age-Standardised Incidence Rate (ASR) of 35.35 per 100,000 women (Ferlay et al., 2024; National Cancer Registry, 2017). On a global scale, while Asia and Europe have the highest number of prevalent breast cancer cases, Africa's burden is substantial, reflecting the disease's widespread impact. Breast cancer has a higher overall prevalence, reflecting its status as the most diagnosed cancer.

Women are more likely to develop breast cancer than men (Ferlay et al., 2024; Sung et al., 2021). Additionally, the risk of breast cancer increases with age, with most cases being diagnosed in women aged 55 and older (Phaswana-Mafuya & Peltzer, 2018;

Sung et al., 2021). Family history and genetic factors also play a significant role in breast cancer risk, with 5-27% of cases being attributed to such factors (Hamdi et al., 2021). Environmental and lifestyle factors account for the majority of breast cancer risk (Dare et al., 2021; Hamdi et al., 2021; Srinath et al., 2023; Sung et al., 2021). Drugs and substance abuse that may interfere with the function of the endocrine system, have also been implicated as potential contributors to breast cancer risk (Dahlman et al., 2021). Cumulative and sustained exposure to estrogen, either through reproductive factors or exogenous sources, is also cited as a well-established risk factor for breast cancer in women (Kim & Munster, 2025; Starek-Świechowiec et al., 2021). Additionally, other independent risk factors, including smoking and HIV infection, are more common among incarcerated women (Acheampong et al., 2021; De Luget et al., 2022; Musonda et al., 2022).

2.6 HEALTHCARE SERVICES IN CORRECTIONAL FACILITIES GLOBALLY

Globally, approximately 11 million people live in correctional facilities, with more than 30 million moving between their communities and correctional facilities annually (Da Costa et al., 2022). Female offenders represent about 6% of the global population of 11 million offenders (Da Costa et al., 2022). In 2021, the United States had the highest rate of incarceration globally, with 350 and 192 offenders per 100,000 population in correctional facilities (Fair & Walmsley, 2024). As a result, millions of Americans obtain healthcare services each year within correctional facilities (Fair & Walmsley, 2024). The high recidivism rate highlights the crucial role of correctional facilities as a de facto source of health care (Alper et al., 2018). For example, in 2005, offenders released from 30 United states of America were arrested many times in the next nine years, showing how correctional facilities unintentionally become a permanent home for a transient population that otherwise lacks access to consistent providers and continuity of healthcare (Alper et al., 2018).

Healthcare services in correctional facilities around the world vary significantly based on the country, region, resources available, and the legal framework governing healthcare for incarcerated individuals (Association for the Prevention of Torture, 2024; Commission for Gender Equality, 2017; 2018; South African National Preventive Mechanism, 2024). While it is a fundamental human right, access to healthcare in correctional facilities can vary greatly in terms of both quality and scope of services

offered (Da Costa et al., 2022). Standards of healthcare service differ between countries, with some nations having well-established healthcare systems within correctional facilities, while others struggle due to limited resources or infrastructure (Da Costa et al., 2022). The majority of correctional facilities globally face challenges such as overcrowding, inadequate funding, lack of trained medical staff, and limited access to essential medicines and equipment, impacting the quality of healthcare services available to offenders (Mendulo & Chiumia, 2023).

The state of correctional facilities, healthcare services and status in Africa's 54 countries, South African included, calls for comparative investigation and immediate reformative actions to remedy the situation (Association for the Prevention of Torture, 2024; Ikaneng, 2024; Nweze et al., 2021; van Hout, 2023). Out of the eleven million people in correctional facilities globally, one million is in African correctional facilities (Association for the Prevention of Torture, 2024). One of the main reasons for the increase in the number of offenders in African correctional facilities is the large number of offenders awaiting trial (Sarkin, 2019). This represents almost 42% of the offender's population in Africa, above the global average of 27 percent (Sarkin, 2019).

Cancer is an illness that is not well researched among those who are incarcerated or have been incarcerated in the past (Escobar & Plugge, 2020; Manz et al., 2021). Yet, the most common cause of death for those who have served time has been identified to be cancer (Manz et al., 2021). The quality of cancer prevention and screening services provided to incarcerated individuals is poorly understood, and if cancer is discovered, the data required to evaluate and enhance the provision of cancer healthcare is lacking (Armes et al., 2024; Mendulo & Chiumia, 2023). As a result, little may be known about the cancer healthcare received by individuals with a criminal record, particularly those who re-enter the correctional system (Phaswana-Mafuya & Peltzer, 2018). Thus, tracking the healthcare service received and obtaining results may not be done through any formalised processes, and may prove to be impossible (Phaswana-Mafuya & Peltzer, 2018).

There are recommendations for cervical and breast cancer prevention and control measures. The recommendations support early healthcare screening as a preventive measure, emphasise the value of health education in any programme aimed at preventing cancer and point to lack of knowledge as a key obstacle to success (Castle

et al., 2021; Dare et al., 2021; Denny & Kuhn, 2017). The recommendations also stress the value of non-governmental organisations' (NGOs) participation and cross-organisational cooperation (Lesmana et al., 2025). The demand for cancer prevention services in South African correctional facilities and the supply of those services could be reconciled with the aid of these organisations.

Therefore, this study may directly address this critical gap by systematically investigating the availability, quality, and barriers to cervical screening and breast cancer healthcare services within a South African correctional facility, thereby generating the essential data needed to inform remedial actions and improve cancer care for the vulnerable, underserved population.

2.7 NATIONAL HEALTHCARE POLICIES IN SOUTH AFRICA

The right to health care for all South Africans, which is enshrined in Section 27 of the Constitution, is implemented in the national healthcare system for offenders by the National Health Act (No. 61 of 2003). The law expressly empowers the state to establish a national health system and to implement a policy that includes the provision of healthcare services to both convicted and pending offenders (Busco, 2024). The Correctional Services Act 111 of 1998 stipulates that the DCS provide adequate healthcare services to all offenders so that they can lead a healthy life (van Hout & Mhlanga-Gunda, 2019). Historically, the Department of Correctional Services, which is responsible for the health of offenders, has provided services separately from those offered by the NDOH, which caters to the general population (Department of Correctional Services, 2022). Although South Africa's healthcare system is typically described as a dual system combining the private and public health sectors (Jarbandhan et al., 2023), the DCS healthcare system currently operates arguably the third-largest healthcare provider in the nation, delivering care to more than 143,223 offenders (Department of Correctional Services, 2022).

South Africa has implemented various healthcare policies to address the critical issue of cervical screening and breast cancer healthcare for all women (Tshabalala et al., 2023). Cervical cancer is a significant concern in Africa, with over 80% of new cases diagnosed in the region (Ferlay et al., 2024; Sung et al., 2021). Unfortunately, screening and prevention efforts have been hampered by a lack of resources,

infrastructure, and trained healthcare workers (Mendulo & Chiumia, 2023). Although for the past decade there has been an availability of both public and private-sector preventative screening for cervical and breast cancer, South Africa has not yet had an effective population-wide screening programme that is also inclusive of incarcerated women (Musonda et al., 2022; Sobuwa, 2025).

The government has made efforts to expand and strengthen the National Cervical Cancer Prevention Programme and the National Breast Cancer Control Programme to improve access to screening and treatment services for all women, including incarcerated women (South African Department of Health, 2021; van Hout, 2023). These initiatives aim to increase the availability of Pap smears, HPV testing, and breast exams within healthcare facilities, as well as facilitate referrals and follow-up care for those requiring further diagnostic tests or treatment (Denny et al., 2023; Denny & Kuhn, 2017; Tshabalala et al., 2023). The establishment of effective cervical screening within correctional facilities is in theory dependent upon a well-functioning national screening programme. It may therefore be assumed that the documented weaknesses and slow progress of the community-based system in South Africa are likely mirrored, and potentially intensified, within the DCS context.

In addition to cervical cancer, the South African government has also recognised the importance of breast cancer healthcare services for incarcerated women (Association for the Prevention of Torture, 2024; Commission for Gender Equality, 2018; Kelly et al., 2018). The National Breast Cancer Control Programme has been implemented to increase awareness, promote early detection, and ensure access to diagnostic and treatment services for all women, including those in the correctional facilities (South African Department of Health, 2022). Existing research studies also reveal significant disparities in access to and utilisation of cervical screening and breast cancer healthcare services among incarcerated women in Africa (Mendulo & Chiumia, 2023). While some correctional facilities may offer opportunistic screening during routine medical visits, coverage and uptake remain low (Pickett et al., 2018). The low coverage is likely due to a combination of logistical challenges, insufficient resources, lack of awareness and prioritisation, and sociocultural barriers (Mendulo & Chiumia, 2023).

These healthcare policies have been supported by various initiatives, such as the deployment of mobile screening units to correctional facilities, the training of healthcare workers within the correctional system, and the integration of cancer screening into routine primary healthcare services for incarcerated individuals (Sobuwa, 2025). However, the implementation of these healthcare policies has faced significant challenges. Critics argue that the deployment of mobile screening units and the integration of cancer screening into primary care services within correctional facilities may be insufficient to address the complex barriers faced by incarcerated women in accessing preventive healthcare (Busco, 2024; Omotoso et al., 2023). Incarcerated individuals often have limited autonomy and face additional social, financial, and logistical barriers that can hinder their ability to actively engage with and navigate the healthcare system (Ikaneng, 2024; van Hout, 2023). Furthermore, the training of healthcare workers within the correctional system may be hampered by resource constraints and competing priorities that limit the effectiveness of these initiatives (Commission for Gender Equality, 2024; Department of Correctional Services, 2024).

Although the South African Government recognises the need for a collaborative approach in correctional healthcare services between the DCS and the NDH, practical integration remains limited (Commission for Gender Equality, 2017, 2018). Progress was held back by a long-standing deadlock, mainly over funding responsibilities and allocation of resources (Topp et al., 2019). Consequently, the prevailing model relies on a fragmented system of referrals, with offenders being transferred to public tertiary institutions for specialised care rather than a seamless integrated service (Commission for Gender Equality, 2017, 2018). In view of this impasse and the limited internal capacity of the DCS, recommendations were made to the DCS to actively develop partnerships with NGOs (Commission for Gender Equality, 2024). This cooperation is considered a key strategy for leveraging external expertise and resources to address the specific health needs of the female offenders.

Effective implementation of healthcare policies for incarcerated women in South Africa may depend on overcoming systemic barriers and building up substantial inter-service cooperation. However, the exact mechanisms by which these systemic failures translate into documented disproportionately high rates of precursors to cervical

cancer and invasive diseases in this population have not been empirically established. In this study, the critical dynamic and direct correlation between policy implementation gaps and the health outcomes of incarcerated women will be explored.

2.8 CLASSIFICATION AND STAGING OF CERVICAL CANCER IN SOUTH AFRICA

In South Africa, the management of cervical cancer is guided by a dual framework of cytological classification and clinical staging to direct diagnosis and treatment (Department of Health, 2023; South African Department of Health, 2021). The primary and preferred screening method for early detection of cervical cancer is liquid-based cytology (LBC), which identifies precursor lesions using the Bethesda System for reporting (Chebib et al., 2015; Pangarkar, 2022). This system categorises findings as Negative for Intraepithelial Lesion or Malignancy (NILM), Atypical Squamous Cells of Undetermined Significance (ASC-US), Low-Grade Squamous Intraepithelial Lesion (LSIL), or High-Grade Squamous Intraepithelial Lesion (HSIL), with the latter carrying a greater risk of progression to invasive carcinoma (Chebib et al., 2015; Pangarkar, 2022). The detection of high-grade lesions enables timely intervention through ablative or excisional procedures, effectively preventing the development of invasive cancer (Chebib et al., 2015; Pangarkar, 2022).

South Africa also adheres to the International Federation of Gynaecology and Obstetrics (FIGO) staging system for confirmed cases (South African Department of Health, 2021). This classifies disease progression from Stage I (confined to the cervix) to Stage IV (distant metastasis), which directly informs treatment strategies, ranging from surgery for early-stage disease to chemoradiation for advanced stages (South African Department of Health, 2021).

Notably, global and national guidelines are increasingly prioritising primary high-risk HPV (hr-HPV) DNA testing due to its superior sensitivity over cytology alone for detecting precancerous lesions (South African Department of Health, 2021; WHO, 2021). Persistent infection with hr-HPV types, particularly 16 and 18, is the principal driver of oncogenic progression. However, types 33, 35, 45, 52, and 59 are emerging as clinically significant in the South African context. Therefore, South Africa's integrated approach, which combines advanced screening technologies with

standardised histological and clinical frameworks, is critical for enabling early detection, guiding appropriate treatment, and ultimately reducing the national burden of cervical cancer.

2.9 CONCLUSION

In summary, this literature review highlights that incarcerated women represent a population with a high burden of risk factors for cervical and breast cancer, yet they are situated within a National DCS healthcare system characterised by systemic inadequacies. Despite a robust policy framework in South Africa mandating equitable healthcare, the implementation of essential cancer prevention services remains inconsistent and poorly documented. The application of Andersen's Behavioural Model provides a valuable lens through which to analyse the predisposing, enabling, and required factors that determine healthcare utilisation in this context. Collectively, the evidence underscores a critical gap, a severe lack of focused research on the specific availability, accessibility, and quality of cervical screening and breast cancer healthcare services for incarcerated women in South Africa, which this study aims to address.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter describes the research methodology used to investigate the status of cervical screening and breast cancer healthcare services in a correctional institution. The research design, paradigm, setting, sampling strategy, data collection procedures, analytical methods, and ethical considerations are detailed herein.

A mixed-methods approach, integrating both quantitative and qualitative methodologies, was adopted for this study. This design was deemed most appropriate to comprehensively address the research problem, as it facilitated the collection of robust statistical data while simultaneously providing contextual depth by exploring the lived experiences and perceptions of the participants (Asenahabi, 2019; Sakyi et al., 2020). The quantitative component sought to quantify the availability and utilisation of services, while the qualitative component explored how incarcerated women and healthcare workers perceive the provision of these services within the Westville Correctional Facility.

The validity and reliability of the quantitative questionnaires (Appendices G1 and G2) and the qualitative interview guide (Appendix H) were ensured through triangulation. By utilising a variety of viewpoints, the researcher sought to increase the dependability of the research findings, eliminate bias, and lower the possibility of missing data. To ensure that conclusions did not rely on a single dataset, the researcher employed data triangulation; data was collected on different days and across different sections of the Westville Correctional Facility over the course of one month. Finally, to validate results by comparing findings across several methods, the researcher used methodological triangulation, which combines qualitative and quantitative research approaches.

The subsequent sections of this chapter elaborate on the pragmatic research paradigm that guides this mixed-methods inquiry, the study setting, the sampling processes for both phases, the specific instruments and procedures for data collection, and the plans for integrated data analysis.

3.2 STUDY DESIGN

Research design is a fundamental aspect of any study, as it provides a structured framework for transforming research aims and objectives into a coherent and actionable project (Asenahabi, 2019; Creswell & Creswell, 2018). The research design decides on the strategy the researcher chooses to utilise on different components of the study together in a logical way, thereby ensuring that it effectively addresses the research problem (Asenahabi, 2019, Creswell & Creswell, 2017). Moreover, the choice of research design depends on the research aim; therefore, this study utilised a cross-sectional descriptive survey with a retrospective data collection approach. Data collection functioned as a single-point snapshot (Asenahabi et al., 2019). In principle, a good research design must fulfil the ultimate rationale of translating research problems into data for analysis to provide answers to a research study aims and objectives (Asenahabi et al., 2019).

This research study employed a cross-sectional, mixed methods design to comprehensively assess cervical and breast cancer services at Westville Correctional Facility. The rationale for employing a mixed-methods design was to enhance validity by cross-verifying findings from multiple data sources and broadening the research scope by exploring different dimensions of both qualitative and quantitative approaches. This design was particularly useful for understanding the status of healthcare delivery, the prevalence rates of cervical and breast cancer, and the perceptions of healthcare workers, where understanding both statistical trends and human experiences was essential.

3.2.1 Quantitative Arm of the Study (Retrospective Laboratory Data)

This dual methodological approach was complemented by a retrospective review of National Health Laboratory Services (NHLS) Central Data Warehouse (CDW) database using a data collection tool (Appendix I) to establish historical screening rates, and both cervical and breast cancer prevalence within the correctional facility. The data for the retrospective arm of the study were purposefully collected to establish the prevalence of cervical and breast cancer at Westville Correctional Facility over a ten-year period (2013–2022).

3.2.2 Quantitative arm of the study (Incarcerated women)

This quantitative component of the study involved a questionnaire administered to incarcerated women by the researcher under the supervision of facility guards. This was done to collect demographic data, as well as detailed information regarding knowledge, perceptions, and self-reported cervical screening history both prior to and during incarceration. Participants were randomly selected for the study, and those who chose to take part provided written informed consent (Appendices E1 and E2). The tools utilised for the quantitative data collection arm of the study can be found in Appendix G1 and G2 respectively.

3.2.3 Qualitative Arm of the Study (Healthcare Workers)

Concurrently, the qualitative strand utilised purposive sampling to conduct in-depth interviews with healthcare providers, exploring perspectives on structural and service delivery barriers using the interview guide (Appendix H).

Qualitative research, rooted in sociological inquiry, involves collecting descriptive data such as participants' own spoken or written words and observable behaviours, followed by in-depth analysis (Asenahabi, 2019; Asenahabi et al., 2019). Qualitative studies are particularly appropriate for examining healthcare services through interview-based designs that yield rich, detailed descriptive data (Pyo et al., 2023; Renjith et al., 2021). The rationale for employing a qualitative research design in this study was the paucity of data on cervical screening and breast cancer healthcare services among incarcerated women in South Africa. Consequently, it was imperative to explore and understand the factors influencing healthcare delivery at Westville Correctional Facility. This design focuses on eliciting insights from individuals' lived experiences and their interpretations thereof, including how healthcare providers' perceptions of healthcare services may diverge from those in the broader community (Pyo et al., 2023; Renjith et al., 2021). Essentially, the qualitative component in this study provided the contextual depth required to comprehend the complex realities of healthcare delivery within correctional settings.

While the qualitative part determined the why and how of the provision of services, the quantitative component identified the broad patterns and trends, through determining the what, how much, and to what extent (Asenahabi, 2019; Sakyi et al., 2020). For example, the questionnaires administered to incarcerated women generated standardised, measurable data on the prevalence of knowledge gaps, the frequency of screening uptake, and the distribution of perceptions across the population (Asenahabi, 2019; Asenahabi et al., 2019; Sakyi et al., 2020). Concurrently, the retrospective analysis of NHLS laboratory data provided an objective, longitudinal measure of actual screening rates and cancer prevalence within the facility over a ten-year period. Together, these quantitative methods yielded generalisable statistics and objective benchmarks that quantified the scope of the problem, identified key trends, and provided a factual baseline against which the rich, contextual insights from the qualitative interviews can be understood and validated. To identify general patterns, qualitative inquiry provided the contextual depth necessary to understand the complex realities of healthcare delivery in correctional facilities.

3.3 STUDY SETTING

A study setting can be defined as a place where the data is collected (Creswell & Creswell, 2017). Researchers conduct studies in their natural setting, attempting to make sense of or interpret phenomena in terms of the meanings that research participants bring to the study (Creswell & Creswell, 2017). This involves going out to the participants or field of study, gaining access, and collecting information (Creswell & Creswell, 2017).

For this research study, data was collected at Westville, female correctional facility, which is located at Dawn Cliffe, Westville, KwaZulu-Natal, South Africa. The Westville Correctional Facility is one of the largest in South Africa, with several wards including a medium security, maximum security, and a female offenders wing. It is the only correctional facility located in Durban Westville area (Department of Correctional Services, 2022) and it is designed to house 250 offenders; however, overcrowding is a frequent occurrence in it (Department of Correctional Services, 2022). A letter requesting permission to conduct the study was sent to the DCS (Appendix A1), and approval was granted (Appendix A2) by DCS. Prior to data collection, the researcher

obtained permit letter (Appendix A3) from the Westville correctional facility manager to gain access to the facility.

3.4 STUDY SAMPLING PROCESS

According to Johnson and Christensen (2017) the sampling process is defined as the identification of the population to be studied and the selection of the appropriate sampling frame (Johnson & Christensen, 2024). The term population refers to the broader population to which the researcher generalises the findings of the study (Johnson & Christensen, 2024). The term sample is utilised for a group of elements taken from a larger population, while the term element refers to a basic unit taken from the population (Asenahabi et al., 2019; Johnson & Christensen, 2024). In contrast, a sample frame refers to everything within a population (Asenahabi et al., 2019; Johnson & Christensen, 2024). The sampling frame is considered larger than the sample because some participants may choose not to participate or may not be available (Asenahabi et al., 2019; Johnson & Christensen, 2024). Sampling is extremely important since, in most cases, it is not possible to research the entire population.

The sample population for this study consisted of incarcerated women and healthcare workers. The Westville Correctional facility female wing comprised of 264 sentenced females (Commission for Gender Equality, 2018). The included healthcare workers had worked at the correctional facility for more than a year. The facility's clinic comprised of five healthcare workers including the sister in-charge.

3.4.1 Quantitative Arm of the Study (Retrospective Laboratory data)

The retrospective data, on the rate of cervical screening and prevalence of cervical and breast cancer in Westville Correctional Facility for the period between 2013 and 2022, was collected from NHLS Central Data Warehouse (CDW). The researcher sought gatekeeper permission from Academic Affairs and Research Management Service (AARMS) (Appendix B1) and permission was granted by AARMS (Appendix B2). Data was collected using the cytology laboratory data collecting tool that provides variables to be included in the data collection (Appendix I). To ensure anonymity and maintain confidentiality, patient-identifying accession numbers from the Laboratory Information System (LIS) were replaced with a unique, de-identified code sequence in

the study's Microsoft Excel database. The data collection and analysis included records for cervical screening and precancerous lesions.

3.4.2 Quantitative Arm of the Study (Incarcerated Women)

The data for this component of the study was collected using a structured questionnaire (see Appendices G1 and G2). The Westville Correctional Facility is designed to accommodate 251 offenders, and the minimum required sample size was calculated to be 153 participants. This sample size calculation was determined using the Raosoft online sample size calculator (Figure 3.1) (<http://www.raosoft.com>), which computes the necessary sample size based on a specified confidence level and margin of error. The calculation ensured that the chosen sample size ($n = 153$) was statistically representative of the entire population of 251 incarcerated women, with a confidence level of 95% and a margin of error of 5%. This methodological approach enhanced the reliability and validity of the study findings by ensuring adequate population representation.

The calculations can be seen below:

A. Cochran's Formula	B. Finite Population Correction
$x = Z^2 \left(\frac{c}{100} \right) \times r \times (100 - r)$ $x = 1.96^2 \left(\frac{c}{100} \right) \times 0.5 \times (1 - 0.5)$ $x = (3.8416) \times 0.5 \times (1 - 0.5)$	$n = \frac{N * x}{(N - 1) * E^2 + x}$ $n = \frac{251 * 0.9604}{(251 - 1) * (0.05)^2 + 0.9604}$ $n = \frac{241.0604}{(250) * 0.0025 + 0.9604}$

Figure 3.1: Sample size calculation breakdown

Data was collected using a piloted questionnaire (Appendix G1 and G2) that was administered by the researcher. The researcher did not limit the participants to language; the data collection tools were both in English (Appendix G1) and IsiZulu (Appendix G2) as per participants language preferences.

A panel of six experts was chosen for piloting the questionnaire. It included two incarcerated women, two healthcare workers from Westville Correctional Facility and two laboratory practitioners from NHLS, together with the researcher. The data collected during the pilot sessions was used only to refine the questionnaire and was not included in the study. The questionnaire included sections pertaining to the participants' demographic profiles, their perceptions and knowledge of cervical screening, cervical and breast cancer, and self-reported screening behaviour prior and during incarceration.

3.4.3 Qualitative Arm of the Study (Healthcare Workers)

The data for the qualitative aspect of this research study was on structural and organisational issues, in terms of how they impact delivery and the provision of cervical screening and breast cancer services. It was collected amongst the five HCWs employed at the Westville Correctional Facility. Data saturation was reached when all five HCWs were interviewed individually (Renjith et al., 2021). The goal of this qualitative study was to provide a range of perspectives on the topic (Renjith et al., 2021). Rather than seeking statistical generalization, the researcher aimed to uncover and describe the healthcare workers' (HCWs) distinct perceptions and experiences (Pyo et al., 2023). Furthermore, conducting too few interviews could result in superficial or repetitive findings (Pyo et al., 2023).

For qualitative research, a sample size can be determined by data saturation or pre-determined falling into the 5-25 participant range (Pyo et al., 2023; Renjith et al., 2021). Five participants made up the sample size for the qualitative component of this research study. The concept of information power was introduced by Malterud et al. (2015) as a pragmatic guiding principle, arguing that the more information power the sample provides, the smaller the sample size should be, and vice versa (Malterud et al., 2016). Moreover, the researcher noted that, by the fifth interview, no new concepts or information emerged, confirming that saturation had been reached.

One-on-one interviews were used to gather HCWs' perceptions pertaining to structural and organisational issues in Westville Correctional Facility in terms of how they impact the delivery and provision of cervical cancer screening and breast cancer services (Interview guide: Appendix H). The interviews took about 30 to 45 minutes; responses

were handwritten by the researcher due to strict rules and regulations within the correctional facility that prohibited the use of cell phone and recording devices within premises. Transcription began at the beginning of the interviews. The interviews' transcription notes were stored in access-controlled location where only the researcher had access. Only official HCWs who have worked in the correctional facility for more than a year and have signed informed consent (Appendix F) were interviewed for the research study. The researcher ensured that private HCWs information was kept confidential and informed the participants of the right to withdraw from the study without any penalty should they wish to do so. The study was conducted over a period of one month.

3.4.4 Inclusion Criteria for Cross-Sectional data.

The research study included the following individuals:

- i. Women aged 18 to 49 years who had been incarcerated for at least one year, and those with a current or previous cancer diagnosis were eligible.
- ii. Official healthcare workers who had been employed at the facility for more than one year.

The informed consent for incarcerated women can be found on Appendix E (Appendix E1 English and E2 IsiZulu), while the healthcare workers informed consent can be found on Appendix F.

3.4.5 Exclusion criteria

The following participants were excluded from the study:

- i. Incarcerated women who were known at the facility to be severely mentally ill or cognitively impaired, and therefore unable to provide informed consent. Facility wardens assisted in identifying individuals who were ineligible for this reason. This category also included incarcerated women whose participation was deemed a significant risk to their safety or well-being.
- ii. Incarcerated women who were awaiting sentencing.
- iii. Incarcerated women who had previously participated in a similar study, to avoid bias.

- iv. Healthcare workers (HCWs) who had been employed at the facility for less than one year. The sister-in-charge directly assisted in identifying eligible HCWs and provided the researcher with their employment histories.

3.5 RECRUITMENT OF PARTICIPANTS

3.5.1 Retrospective Data

Anonymised retrospective data on cervical screening rates and prevalence of cervical and breast cancer in Westville Correctional Facility from 2013 to 2022 was collected from the NHLS Central Data Warehouse (CDW). Permission was obtained through the Academic Affairs and Research Management Service (AARMS) (Appendix B1/B2).

Data were collected using a cytology laboratory data collection tool (Appendix I), with accession numbers used as patient identifiers to maintain confidentiality and anonymity. A corresponding order of numbers was used when entering data into Microsoft Excel spreadsheets. The collected data was stored on a password-protected computer in an access-controlled environment.

3.5.2 Incarcerated women

Finding possible research participants and informing them to ascertain interest in taking part in a proposed study constitute the recruitment process (Manohar et al., 2018). Additionally, the total success of the research project depends on the recruitment and retention of the study population (Manohar et al., 2018). Potential participants for the quantitative arm of the study were recruited through information sessions conducted by the researcher and a counsellor during times when offenders congregate, such as mealtimes, following approval from the Westville Correctional Facility manager (Appendix A3).

Incarcerated women between 18-49 years of age who had been incarcerated for at least one year were approached following proper protocols. Participants were given an information letter (Appendix C) in their preferred language (English or IsiZulu) that explained the study's aims, objectives, importance, and benefits. For illiterate and non-

English speaking participants, the information letter was read aloud, followed by a question-and-answer session for clarity. Women who were known to be severely mentally ill or cognitively impaired, those who had already participated in similar studies and those whose participation posed a significant risk to their safety were excluded.

The researcher worked closely with the facility's officials to ensure that the study aligned with the DCS policies and to safeguard the rights and well-being of this vulnerable population.

3.5.3 Healthcare workers

The correctional facility's healthcare centre consisted of five HCWs, including the sister-in-charge. The researcher collaborated with the sister-in-charge to identify potential HCWs who met the eligibility criteria of having worked there for more than one year. Formal invitations were sent through official channels for organised information sessions. During these sessions, the study's purpose, procedures, potential benefits, and risks were explained using an information letter (Appendix D). All five HCWs were eligible and participated in individual interviews for the qualitative arm of the study.

3.6 DATA COLLECTION INSTRUMENTS AND STUDY MEASURES

This section details the specific variables and data points collected for the research study.

3.6.1 Retrospective Laboratory Data

The data extraction from the NHLS CDW focused on the following variables:

- i. Rates of cervical screening conducted.
- ii. Prevalence of cervical and breast cancer.
- iii. Incidence of precancerous lesions.

3.6.2 Quantitative measures (Data from incarcerated women)

The questionnaire for incarcerated women captured data across several domains:

- i. Demographic Profile.
Sex, age, race, nationality, marital status, and highest level of education.
- ii. Healthcare Profile of incarcerated women.
Knowledge of cervical and breast cancer screening, self-reported history of screening uptake prior to and during incarceration, and factors related to gender inequality.
- iii. Cancer Knowledge and Perception.
Knowledge of symptoms, prevention methods, and treatment options for cervical and breast cancer, as well as the perceived stigma.

3.6.3 Qualitative Themes and Trustworthiness (Data from healthcare Workers)

a. Qualitative Themes

The interview guide for healthcare workers was designed to explore themes related to structural and organisational issues impacting the delivery and provision of cervical screening and breast cancer healthcare services within the correctional facility.

b. Trustworthiness in Qualitative Research

Credibility

The researcher ensured that the interview guide accurately reflected the healthcare workers' experiences by spending sufficient time with individual participants to gain deeper insights. Each interview lasted 30 to 45 minutes. Participants were debriefed about the research study during an information session prior to the commencement of the interview. For consistency, the researcher conducted all interviews.

Transferability

Transferability was achieved through detailed descriptions, contextual information, and participants' individual narratives, including their age, years of work experience, perspectives, and educational backgrounds.

Confirmability

Confirmability is one of the key criteria used to establish trustworthiness in qualitative research. It refers to the degree to which research findings are shaped by the participants' contexts rather than the researcher's biases or perspectives. To ensure the confirmability of the research data, the researcher maintained detailed documentation of all raw data, including transcription notes and notes from information sessions. The researcher also ensured the triangulation of data by conducting individual interviews with HCWs and integrating the interview findings to reduce the risk of the results reflecting only a single viewpoint. Additionally, the confirmability of the data collection process was supported by sharing written interpretations with participants. This allowed them to confirm the accuracy of the conclusions, which enhances credibility and, by extension, confirmability.

Dependability

Dependability in qualitative research refers to the stability, consistency, and transparency of research findings over time, ensuring that results are trustworthy and can be understood in context. Dependability focuses on documenting research processes transparently so that variations in findings can be traced and explained. This ensures that research findings are consistent and grounded in the research data rather than influenced by external factors or researcher bias.

The researcher kept detailed records of data collection methods and data interpretation to maintain an audit trail. Clearly outlined research procedures—such as sampling methods, data collection tools using a structured interview guide (Appendix I), open-ended questions, and adequate interview times allocated to individual HCWs—enhanced consistency and replicability. Also, data were reanalysed at different points in time to ensure consistency in interpretation. This process involved analysing a portion of the data, taking a break, and then reanalysing it to ensure stability.

3.7 DATA MANAGEMENT AND ANALYSIS

3.7.1 Quantitative Arm of the Study (Incarcerated women)

Quantitative data analysis was conducted using IBM SPSS Statistics version 29. Descriptive statistics (frequencies and crosstabulations) were computed to summarise the socio-demographic, knowledge, and perception data collected via cross-sectional questionnaires. Inferential analyses, including Chi-square tests, were employed to examine associations between key variables. Adjusted residuals were calculated to identify significant cell contributions in contingency tables.

3.7.2 Quantitative Arm of the Study (Retrospective Laboratory Data)

The retrospective quantitative data from the NHLS were analysed descriptively to determine cervical screening rates and cancer prevalence over the ten-year period. Crosstabulations and association tests were also performed on the cytological data.

All electronic data, including Microsoft Excel spreadsheets and SPSS files, were stored on access-controlled systems accessible only to the researcher and statistician. Physical documents and interview transcripts were stored securely under lock and key.

3.7.3 Qualitative Arm of the Study (Healthcare Workers)

For the qualitative data, interviews were manually transcribed due to the prohibition of electronic recording devices within the correctional facility. A thematic analysis was guided by a modified version of Andersen's Behavioural Model for health service use, focusing on the predisposing, enabling, and need factors that influence healthcare utilisation. This framework helped to systematically categorise healthcare workers' perspectives on structural and organisational barriers to service delivery.

Braun and Clarke's (2022) reflexive thematic analysis approach was used to analyse the data. This method allowed the researcher to identify patterns and themes while maintaining awareness of personal biases and perspectives that may affect data interpretation. To document these reflections, the researcher maintained transcription journals throughout the analysis.

Six steps of reflexive thematic analysis were utilised: data familiarisation, generating initial codes, searching for themes, reviewing and defining themes, and finally, producing the report. This reflexive approach allowed the researcher to gain a deep understanding of the data content, label relevant features relating to the research questions, and organise codes into potential themes that capture significant patterns.

The approach was also significant because it allowed the researcher to refine research themes, ensure accurate representation of coherent data, and integrate themes with relevant literature to produce clear findings.

3.8 ETHICAL CONSIDERATION

Ethical conduct in research involves adhering to guidelines that safeguard the rights, welfare, and dignity of participants (Abrar & Sidik, 2019). This study received full ethical approval from the Durban University of Technology Institutional Research Ethics Committee (IREC 240/23; Appendix K). Furthermore, gatekeeper permission was secured from the DCS (Appendix A2 & A3) and the Academic Affairs and Research Management Service (AARMS; Appendix B2).

The following ethical principles were rigorously upheld throughout the research process:

a. Informed Consent and Voluntary Participation

Participation was entirely voluntary. Prior to data collection, all potential participants received a detailed information letter (Appendix C1, C2, and D) explaining the study's purpose, procedures, and their rights. Written and signed informed consent (Appendix E and F) was obtained from all participants.

b. Confidentiality and Anonymity

The confidentiality of all participants was preserved. Data were anonymised during collection, analysis, and reporting. Physical data, such as handwritten interview transcripts, were stored under lock and key, while electronic data were kept on password-protected, access-controlled systems.

c. Minimisation of Harm and Respect for Autonomy

The study design ensured that participants were not exposed to physical or psychological harm. Participants were treated with respect and dignity and were informed of their right to withdraw from the study at any time without penalty or loss of access to standard medical care. Interviews were conducted in a private setting to ensure a confidential and secure environment.

CHAPTER FOUR

RESULTS

4.1 INTRODUCTION

This section of the dissertation presents the findings from the study that employed a mixed-methods approach to investigate the status of cervical screening and breast cancer healthcare services among incarcerated women at Westville Correctional Facility in KwaZulu-Natal, South Africa. Data were derived from three sources to ensure a comprehensive analysis. These were the quantitative data obtained from the questionnaire administered to incarcerated women, qualitative data from the correctional facility's healthcare workers and lastly retrospective correctional facility's laboratory data from NHLS CDW records.

The primary aim was to comprehensively assess these services through quantitative surveys, qualitative interviews, and a review of retrospective laboratory data.

The study was guided by the following specific objectives:

- To investigate the status of cervical screening and breast cancer healthcare services among incarcerated women.
- To evaluate the availability of healthcare infrastructure, resources, personnel, and organizational issues affecting service delivery.
- To determine the rate of cervical cancer screening among incarcerated women over a ten-year period (2013–2022).
- To evaluate the prevalence of cervical and breast cancer among this population over the same period.

To address these objectives, data were derived from three sources, namely the quantitative questionnaires administered to incarcerated women, qualitative interviews with healthcare workers and retrospective data from the National Health Laboratory Services (NHLS). The findings are structured to reflect these components, beginning with the prospective quantitative and qualitative data, followed by the retrospective

analysis. This integrated presentation provides a multi-faceted understanding of the research problem.

4.2 CROSS-SECTIONAL QUANTITATIVE DATA (INCARCERATED WOMEN)

4.2.1 Sample size and socio-demographics

Although the target sample size was 157, a total of 167 incarcerated women participated in the survey. Ultimately, 145 questionnaires were included in the data analysis, while 22 were excluded due to incomplete data and participants exceeding the age limit.

The demographic characteristics of the cohort are summarised in Table 4.1. Most participants were aged 36-44 years; the cohort was predominantly Black (84.1%) and almost exclusively South African (96.6%). Most participants reported being single (73.1%) and had completed high school as their highest level of education (57.9%).

Table 4.1: Demographic characteristics of the survey cohort

<i>Demographic (N=145)</i>		<i>n</i>	<i>%</i>
Age (years)	<i>18-24</i>	12	8
	<i>25-30</i>	19	13
	<i>30-35</i>	32	22
	<i>36-44</i>	82	57
Ethnicity	<i>Black</i>	122	84.1
	<i>White</i>	5	3.5
	<i>Coloured</i>	6	4.1
	<i>Indian</i>	12	8.3
Nationality	<i>South African</i>	140	96.6
	<i>Foreign</i>	5	3.4
	Marital Status		
	<i>Single</i>	106	73
	<i>Married</i>	28	19
	<i>Divorced</i>	11	8
Educational Background		21	14
	<i>Primary School</i>	84	58
	<i>High School</i>	24	17
	<i>Tertiary/Higher</i>	14	10
	<i>No Education</i>	2	1
	<i>Not documented</i>	0	0

The sexual, reproductive, and cancer screening histories of the participants are detailed in Table 4.2. The length of incarceration varied, with most women (65.5%) having been incarcerated for 1-5 years. The rate of self-reported cervical cancer screening was notably low, with only 21.4% who had undergone a Pap smear during their incarceration. Furthermore, 43.4% of the participants had no history of cervical screening at any point, either prior to or during incarceration. Similarly, breast cancer self-examination reported was extremely low, with only 1.4% of participants who have had a mammogram, either before or during their time in the correctional facility.

The cohort was characterised by a high prevalence of self-examination reported HIV, with over half of the women testing positive. Most participants had experienced sexual debut between the ages of 16-21, and nearly half of the cohort had two or fewer children. Sexual history was evenly distributed with a notable proportion of women choosing not to disclose their number of sexual partners.

Table 4.2: Sexual and reproductive health characteristics of the survey cohort.

<i>Variable</i>	<i>n</i>	<i>%</i>
Incarceration time (years)		
1-5	95	66
6-10	17	12
11-15	19	13
16-20	6	4
20+	8	5
Self-reported Screening History		
Prior to incarceration		
Pap Smear	47	32.4
Mammogram	2	1.4
During incarceration		
Pap Smear	31	21.4
Mammogram	2	1.4
No history of screening	63	43.4
Number of sexual partners		
1	24	17
2	25	17
3	14	10
4	18	12
5+	22	15
Undisclosed	42	29
Age of first encounter (years)		
≤15	16	11
16-21	83	57
22-29	38	26
Undisclosed	8	6
Self-reported HIV Status		
Positive	78	54
Negative	49	34
Unknown	6	4
Undisclosed	12	8
Parity		
≤2	71	49
≥3	46	31.7
Undisclosed	13	9
No children	15	10.3

4.2.2 Cervical and Breast cancer knowledge and perception

The knowledge levels of incarcerated women regarding cervical and breast cancer are presented in Figure 4.1 and Figure 4.2, respectively. Knowledge of cervical cancer risk factors was poor. The number of participants that reported not to know any risk factors for cervical cancer was 44.6%. Among those who identified a risk factor, HPV infection was the most recognised at 22.3%. Knowledge of prevention was higher, with half of the women correctly identifying early screening as a key preventive measure. Furthermore, the majority accurately identified a Pap smear as the primary screening method. However, knowledge of HPV vaccination as prevention was very low.

Knowledge of breast cancer was substantially poorer across all domains. As shown in Figure 4.1, a large number of women reported not to know the risk factors, symptoms, prevention methods, or correct screening method for breast cancer.

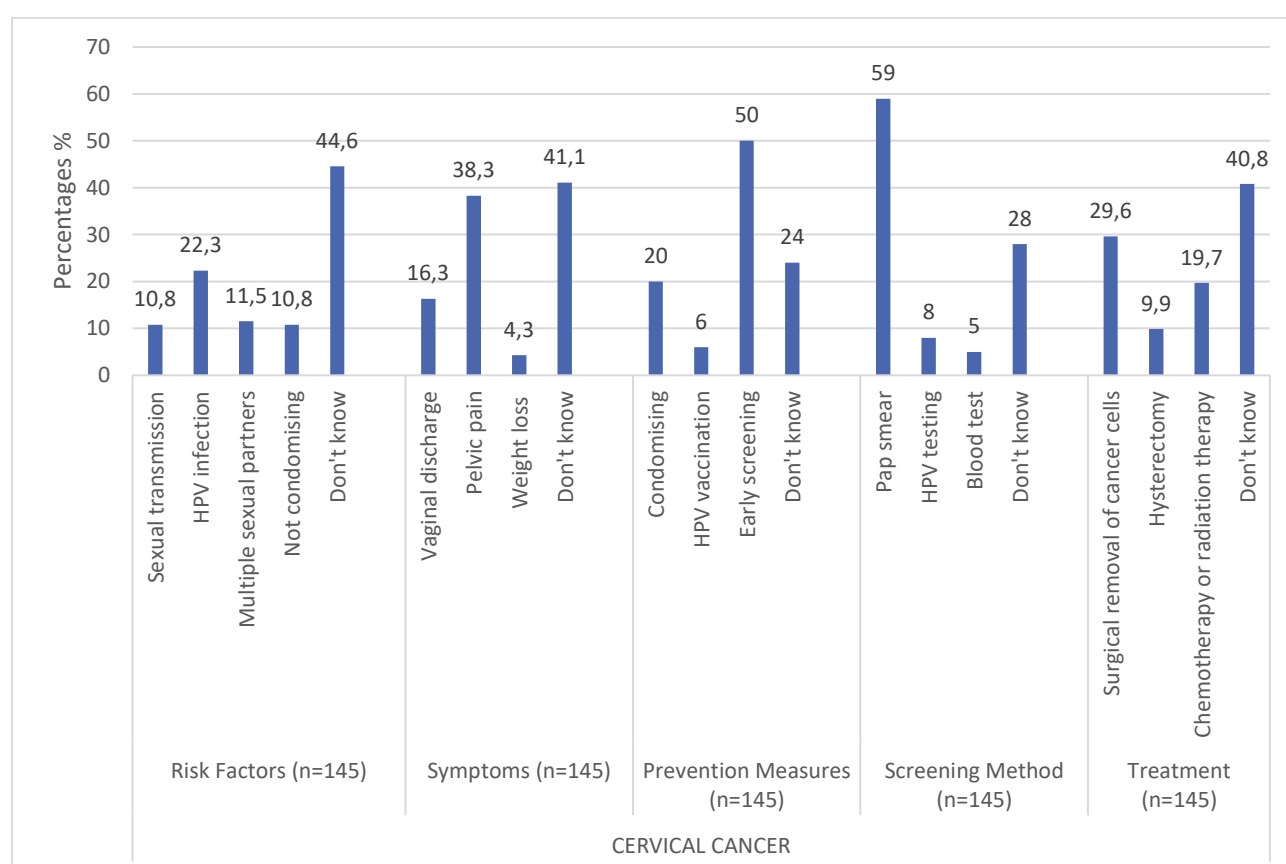


Figure 4.1: The levels of cervical cancer knowledge among incarcerated women

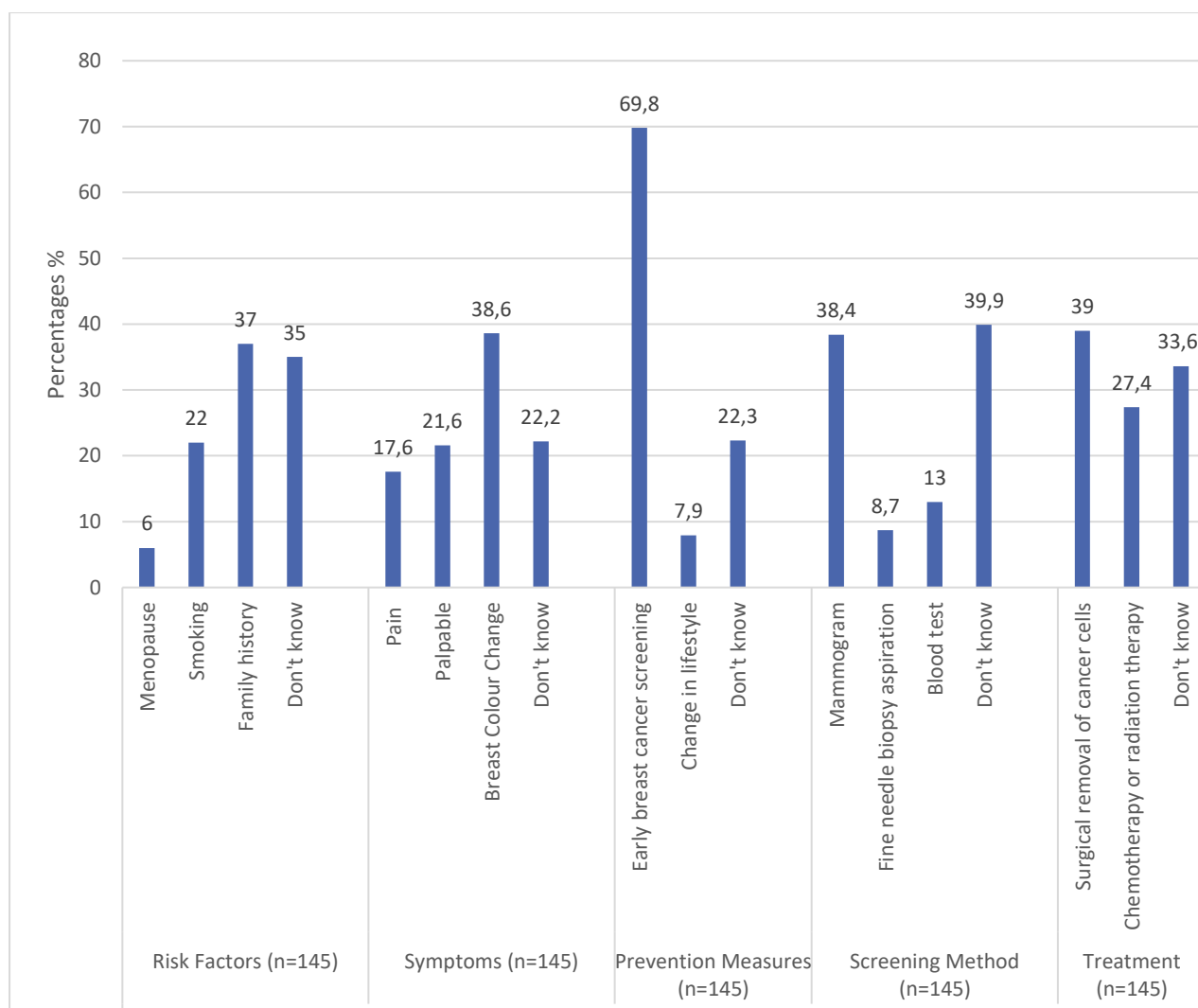


Figure 4.2: The levels of breast cancer knowledge among incarcerated women

Attitudes and perceptions regarding cancer within the correctional facility environment are summarised in Figure 4.3. On a personal level, most women stated they would support a friend diagnosed with cervical or breast cancer, indicating low personal stigma.

However, perceptions of the institutional and social environment were remarkably different. When asked how a woman with cancer is treated in the correctional facility, only 15.2% believed that the correctional facility provides support while a significant proportion reported not knowing. Furthermore, nearly half of the participants felt they could not assess the quality of life for a cancer patient within the correctional facility. When comparing stigmas, opinions were divided, where 24.1% believed there is no stigma towards cancer, while 15.9% felt the stigma is less than that associated with HIV, and only 4.8% believed it is worse.

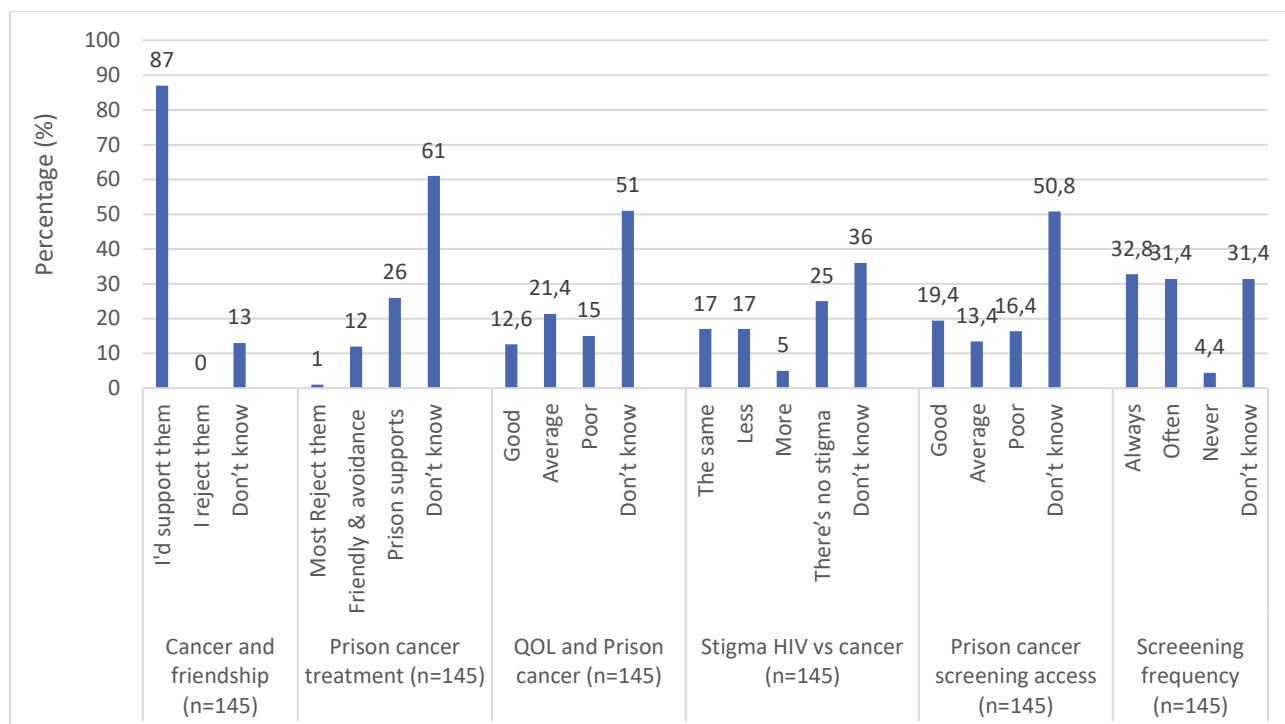


Figure 4.3: Cancer related attitudes, stigma, and perceived support levels among incarcerated women

4.3 RETROSPECTIVE QUANTITATIVE LABORATORY DATA ANALYSIS

4.3.1 Cervical Screening Rates

The total number of Pap smear tests conducted within the facility during the ten-year study period from June 2013 to November 2022 was 1639. The screening coverage was contextualised against the correctional facility's population. The facility has a design capacity of 250 offenders; however, consistent with the national correctional services context, severe overcrowding was reported, with occupancy at times reaching 150% of capacity to approximately 375 offenders. Based on these figures, the estimated crude screening rate among the incarcerated women over the ten years was 48.6%.

An analysis of the temporal trend of testing, as illustrated in Figure 4.4, reveals that screening was not conducted as a consistent, routine programme. Instead, testing was highly sporadic, with noticeable peaks of activity followed by extended periods of very low activity.

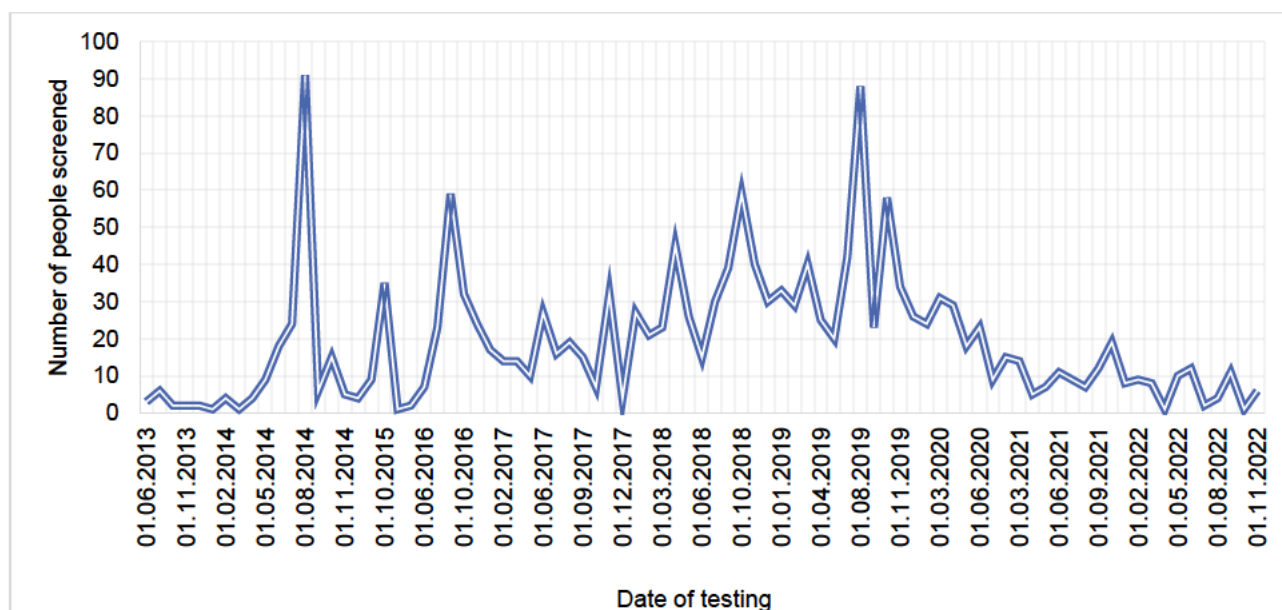


Figure 4.4: The number of tests performed between June 2013 to November 2022 (n=1642)

4.3.2 Cervical Cancer and Pre-cancerous Lesions: Incidence and Prevalence

Cytological analysis revealed that most results were within normal limits, with 85% of specimens classified as healthy. Inflamed cervixes were identified in 3% of the tests. The cohort was characterised by a high prevalence of HIV, with half of the women testing positive for the retrovirus. As detailed in Table 4.3, inferential statistical analyses were conducted to determine associations between cervix status and key variables. A highly significant association was observed between cervix condition and retrovirus status. Post-hoc analysis of the data indicated that a healthy cervix was more likely to be found in individuals who were on antiretroviral (ARV) treatment (See appendix M).

Table 4.3: Correlations of cervical screening outcomes with age and other clinical features

<i>Cervical Screening Outcome</i>	<i>X² (df)</i>	<i>p-value</i>
<i>Age</i>	4.764 (6)	0.574
<i>Cultured pathogens</i>	30.741 (16)	0.015
<i>Cervical cytological findings</i>	46.613 (18)	<0.001
<i>Retrovirus status</i>	61.907 (8)	<0.001

Furthermore, statistically significant association was identified between cervix status and the presence of cultured pathogens ($p=0.015$). Sub-analysis revealed that cultures of *Candida* species were more prevalent in individuals with healthy cervix compared to those with other pathological conditions (See appendix M). The statistically significant association was also identified between cytological diagnosis and cervix status ($p=0.001$).

Regarding age distribution of participants, the largest proportion was aged 36 years and above, followed by the 25-30-year age group. However, no statistically significant association was found between age and cervix conditions.

A highly statistically significant association was observed between the clinical status of the cervix and the cytological diagnosis, post-hoc analysis of the data indicated that an inflamed cervix was more likely to have abnormal cells.

Consistent with this finding, the distribution of cytological results stratified by cervical status is presented in Figure 4.5. The figure demonstrates that a clinically healthy cervix was strongly associated with a higher proportion of negative cytological results (Negative for Intraepithelial Lesion or Malignancy, NILM). In contrast, an inflamed cervix was associated with a greater proportion of atypical cellular findings, including Atypical Squamous Cells of Undetermined Significance (ASC-US) and Atypical Endocervical Cells.

A detailed sub-analysis of the cytological results within each clinical category revealed important nuances. Among most cervix examinations that were classified as clinically healthy, cytology indicated that 72.5% were NILM. However, a substantial minority of 27.5% of these healthy cervixes harboured an epithelial cell abnormality, ranging from ASC-US to High-Grade Squamous Intraepithelial Lesion (HSIL). Conversely, among the few cases with an inflamed cervix, the cytological result was negative (NILM) in 55.8% ($n=42$) of cases, with 44.4% showing an abnormal result.

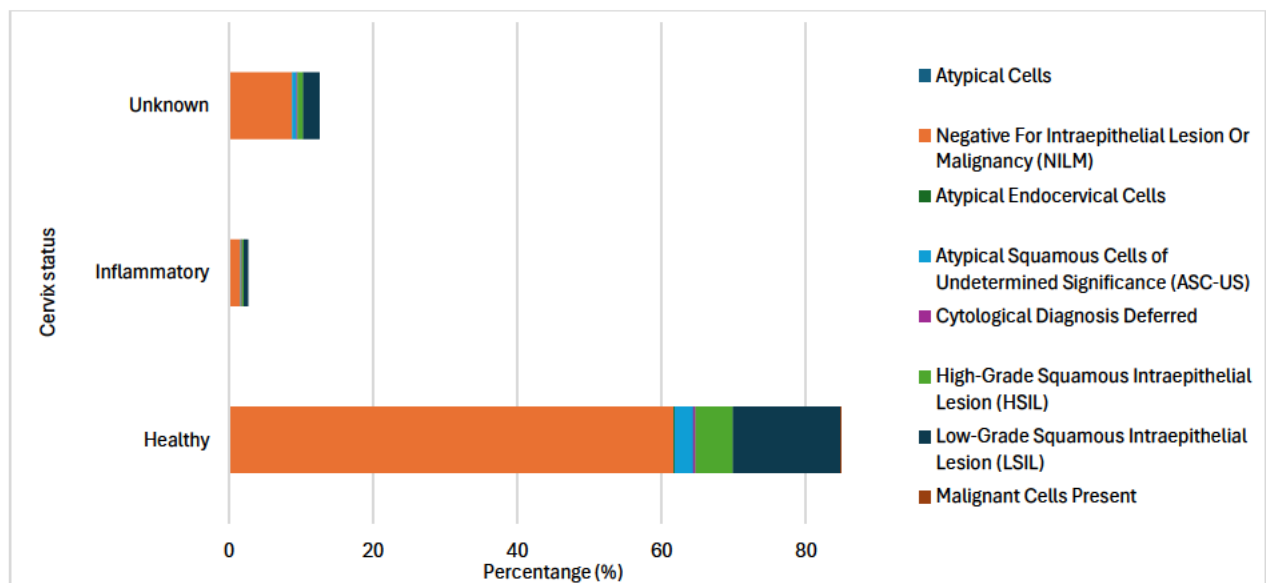


Figure 4.5: Cytological results against cervix status

4.4 QUALITATIVE DATA ANALYSIS: HEALTHCARE WORKER PERSPECTIVES THROUGH ANDERSEN'S MODEL

During the study period, the correctional facility employed five healthcare workers, including four professional nurses and one sister-in-charge, aged between 36 and 44 years. All healthcare workers were female nurses of African descent who held a bachelor's degree in nursing (Figure 4.6).

Interviews were conducted with all five healthcare workers at Westville Correctional Facility to understand the factors influencing the delivery of cervical and breast cancer services. The findings are structured using Andersen's Behavioural Model, analysing the predisposing characteristics of the offenders, the enabling resources of the system and the need factors and subsequent health behaviours observed. Selected quotations from the interviews are quoted under each identified theme from the model.

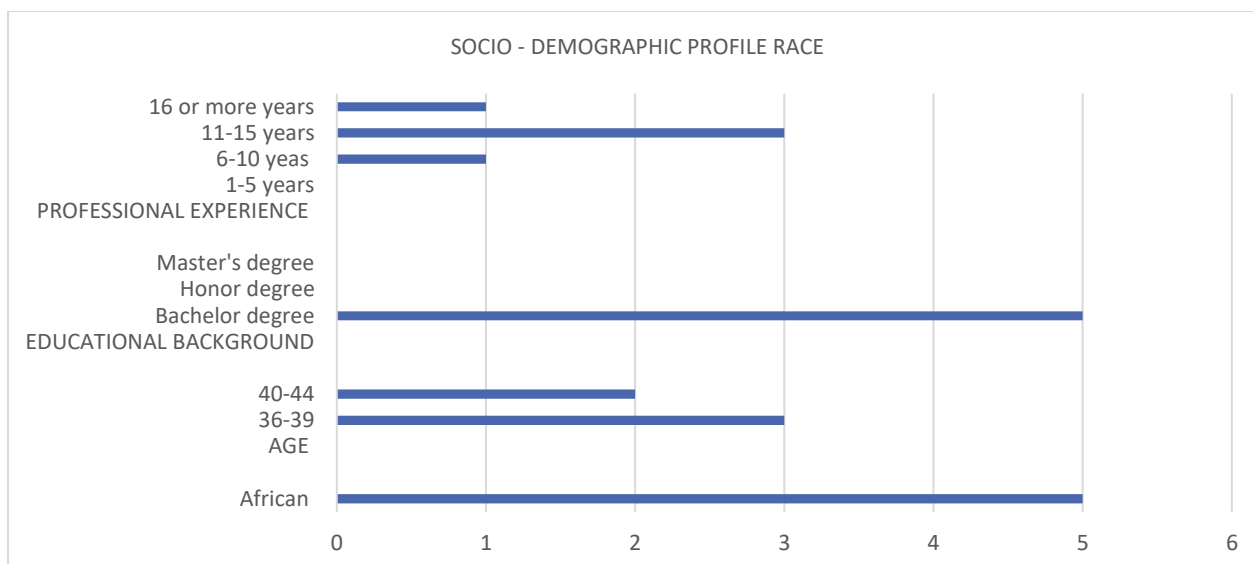


Figure 4.6: Socio-demographic profile of HCWs

4.4.1 Enabling Resources: The Constrained Infrastructure of Care

The most prominent theme was the severe limitation of enabling resources, which directly impacts the availability and accessibility of services.

In assessing the environment within the correctional facility for the availability and accessibility of cervical screening and breast cancer medical services intended for the women who are incarcerated, in terms of the personnel, it was discovered that the facility operated on a skeleton staff, as Participant 1 stated:

The facility has a clinic with only five professional sisters including myself. There are no available professional doctors on-site. The administrative and general duties are carried out by incarcerated women with no proper required training for these duties.

This facility can only house patients with minor illnesses, such as flu, minor infections and wounds treatments. It can also accommodate the management of pregnant incarcerated women with basic prenatal healthcare needs; further management requires that offenders must be transferred to nearest hospitals for further testing such as scan and postpartum care. Limited access in healthcare service is due to logistical challenges, lack of transportation, and limited resources within correctional facilities. This hampers early detection of health issues, appropriate

monitoring of diseases, and the provision of necessary interventions (Participant 1).

This lack of specialised personnel dictates the scope of care, confining it to minor ailments.

The intricate and drawn-out referral procedure is also a significant obstacle to organisational policies and referral procedures. Participant 4 explained that:

It takes days to process a hospital referral. Unless it's an emergency, the internal processes to finalise a referral takes long. The issue is presented to the sister in-charge and the officer on duty must contact the correctional facility's officials who are responsible for authorising offenders leaving the facility. After that then, they arrange officers to accompany offenders to referral hospitals (Participant 4).

This systemic delay is a significant enabling barrier, discouraging timely care for non-emergencies like cancer screening follow-ups.

The equipment and infrastructure within the facility are insufficient to adequately support cervical screening and breast cancer medical services for incarcerated women. Participants 2 and 5 reported that: Patients with critical medical needs which require intense medical examinations such as breast exams, X-rays, colposcopy, and surgery to mention a few, are referred to the nearest referral hospitals (Participant 2).

This clinic has limited infrastructure and resource, including insufficient medical facilities, lack of specialised equipment, and inadequate staff training, can compromise the quality of healthcare services provided within correctional facilities. Available equipment is in poor condition, and most is outdated, which makes it difficult to conduct general healthcare procedures (Participant 5).

Therefore, if basic procedures prove difficult, the provision of advanced services such as mammography will be impossible in the field. Further interviews with healthcare

workers revealed that some procedures are available, but they are provided on a conditional basis. Participants 2 and 3 reported below:

The Pap smears screening is available only when deemed necessary. Patients with abnormal results are referred to the nearest hospital as further treatment is not available within the facility (Participant 3).

Further treatment and breast healthcare services such as mammograms and colposcopy are outsourced and not available at the facility's clinic. Women who show cervical or breast cancer-like symptoms at the clinic are referred to King Edward Hospital (KEH) or Albert Luthuli Central Hospital for treatment (Participant 2).

4.4.2 Predisposing Characteristics and Perceived Need: Shifting Beliefs and Health- Seeking Behaviour

The interviews revealed how systemic failures shape the offenders' predispositions and perceptions of their own healthcare needs. Due to the absence of enabling resources, the system has shaped offenders' attitudes and beliefs and has changed their views on health. Participant 1 described a profound shift:

On the other hand, poor healthcare access within the correctional facility is perceived to have affected the offender's attitude and health seeking behaviour to the extent that, offenders believe they deserve the lack of adequate medical attention. Incarcerated women see this as normal for offenders and most of all the offenders reported to have lost faith in the government's capacity to provide medical support during incarceration and feel that they are undeserving of decent living and health standards, simply because they are offenders. (Participant 1).

This internalised stigma appears to be a major predisposing barrier to seeking care.

Compared to clinically evaluated needs, such as when a symptomatic breast lump leads to a referral, offenders are likely to perceive a low need for preventive screening due to the beliefs and the reactive nature of the system. If services are available "only

when deemed necessary” (Participant 3), this would reinforce a model that prioritises urgent care over prevention.

4.4.3 Health Behaviour and Utilisation: A Reactive, Referral-Based Model

The interaction of enabling and predisposing factors results in a specific pattern of health service utilisation.

The utilisation pattern is characterised by fragmented and reactive care. Cervical screening is provided intermittently, while all diagnostic confirmations and treatments are outsourced. As Participant 2 stated: “Further treatment and breast healthcare services such as mammograms and colposcopy are outsourced... women... are referred to King Edward Hospital.” Participant 1 further stated that:

Hospital referrals take time to process and are made only to the government hospitals. Even if offenders expressed interest to go to private hospitals for better treatment, this is not possible during their incarceration even if the offender or their family could meet the cost due to security concerns. (Participants 1).

In managing high-need cases, the system’s capacity to address complex conditions was illustrated by its handling of cancer diagnoses. Participant 1 stated that:

The clinic has had four offenders who were diagnosed with cancer, three with breast cancer and one with cervical cancers during incarceration. All were successfully treated and in remission. All were referred to King Edward hospital for further treatment. Some have since been release from incarceration (Participant 1).

This indicates that a pathway for clinically evaluated need is in place but relies entirely on the external public health system, which introduces inherent delays.

In summary, through the lens of Andersen’s Model, the provision of cancer care is primarily hindered by a critical lack of enabling resources, which in turn fosters negative predisposing beliefs among the offender’s population. This leads to a health

behaviour pattern in which utilisation is characterised by delayed, reactive, and externally dependent care, rather than integrated, preventive health services.

CHAPTER FIVE

DISCUSSION

5.1 INTRODUCTION

The findings of this study reveal a complex interplay between clinical needs and service provision and patient knowledge and perception, culminating in a significant implementation gap in cervical and breast cancer screening services within the Westville female correctional institution. While ascertaining that the precise prevalence of breast cancer was beyond the scope of this study, the available data strongly indicates that breast cancer screening services were notably poor and inaccessible to the incarcerated population. A study conducted in Canada also found that incarcerated women have a higher prevalence of breast cancer risk factors, but lower screening rates because of stigma, mistrust of correctional facilities' healthcare services, and a lack of culturally sensitive information (Kouyoumdjian et al., 2016). According to a multi-country review by the World Health Organization (WHO, 2021), there are no universal guidelines for breast cancer screening in correctional facilities, and policies differ significantly due to budget limitations and competing healthcare goals.

5.2 SIGNIFICANCE OF THE STUDY

This research holds significant implications across multiple domains. It addresses a critical blind spot in public health policy, and human rights within the South African correctional facilities' context.

5.2.1 Contribution to Knowledge and Public Health

The study aimed to address a severe gap about the health of a growing and marginalised population. It also created a vital body of evidence that may be currently lacking by offering solid data on the awareness, attitudes, and actual rates of cervical screening and breast cancer healthcare services in a South African correctional facility. This was particularly important in view of the growing global cervical and breast cancer burden and its disproportionate impact in Africa, where cervical and breast cancer are the leading cause of female cancer mortality (Ducray et al., 2021; Hamdi et al., 2021; Musonda et al., 2022; Phaswana-Mafuya & Peltzer, 2018). To reduce the

disproportionately high cancer risk that this population faces, it is necessary to first understand the correlates of screening and healthcare services in this setting.

5.2.2 Upholding Human Rights and Ethical Obligation

Fundamentally, this research study aimed to investigate the exercise of constitutional healthcare rights under the state's direct care (Keehn & Nevin, 2018; van Hout, 2023; van Hout & Wessels, 2021). The documentation of the gaps in vital life-saving services such as cancer screening and healthcare highlights the fundamental public health inequity and provides the evidence needed to defend the fundamental human health rights of incarcerated women. It then challenges the current shortcomings which make these rights theoretical (Association for the Prevention of Torture, 2024; Commission for Gender Equality, 2017, 2024; Mendulo & Chiumia, 2023).

5.3 QUANTITATIVE FINDINGS: INCARCERATED WOMEN

The study cohort constituted a high-risk population for cervical cancer, characterised by a high prevalence of self-reported HIV infection, multiparity, and early sexual debut (Di Giuseppe et al., 2022; Kelly et al., 2018; Musonda et al., 2022). South Africa's cervical cancer screening guidelines recommend screening every ten years, starting at the age of 30, with three free Pap smears offered in a woman's lifetime (KZN-DOH, 2025; Sobuwa, 2025). The guidelines further recommend that screening for women living with HIV should begin at diagnosis regardless of age (KZN-DOH, 2025; Botha et al., 2023). However, despite this elevated risk profile, utilization of screening services was profoundly low, with a crude screening rate of 48.6%. This approach is informed by both the high prevalence of HPV and the significant impact of HIV co-infection on cervical cancer risk (KZN-DOH, 2025; Sobuwa, 2025).

Breast cancer screening was virtually non-existent. This finding aligns with broader trends in South Africa, where cervical and breast cancer screening rates remain low among the general female population and are strongly associated with private healthcare coverage (Finestone & Wishnia, 2022). Furthermore, research indicates that breast cancer screening within correctional facilities is both limited and inconsistent. For example, Pickett et al. (2018) found that only 42.1% of incarcerated women had ever undergone a mammogram; moreover, while 75% of those aged 50 and older had been screened at some point, just 39.3% were up to date with

recommended screening intervals. Similarly, a scoping review by Manz et al. (2023) reported that only about half of incarcerated women had received recent mammograms, highlighting low screening rates across correctional facilities. Research also points to multiple systemic barriers—including limited preventive healthcare, poor care coordination, staffing shortages, and logistical constraints like transportation and security—that hinder timely screening and follow-up (Acheampong et al., 2021). Additionally, qualitative evidence shows that incarcerated individuals often experience poor cancer care and struggle to navigate healthcare pathways due to low health literacy and communication gaps. Even when awareness of breast cancer screening is high, it does not necessarily translate into high uptake, indicating persistent structural and access-related issues. Overall, these studies reinforce the conclusion that despite the recognised importance of early detection, breast cancer screening in prisons remains inadequate, contributing to ongoing health disparities among incarcerated women.

In high-income countries, systematic screening is often initiated during incarceration and integrated into national programmes (Armes et al., 2024; Mesisca, 2023). In contrast, in LMICs such as South Africa, access is constrained by structural barriers such as limited resources, overburdened clinics, under-skilled and overworked healthcare staff, and the systematic deprioritisation of incarcerated people's health (Armes et al., 2024; McLeod et al., 2025). Instead, screening efforts are often fragmented, relying on intermittent initiatives from private institutions, non-governmental organisations that are externally funded, time-limited campaigns during awareness months and recent Department of Health cancer screening drives (KZN-DOH, 2025; Sobuwa, 2025).

The significant gap between high clinical need and low service utilisation is further exacerbated by substantial knowledge deficit, particularly pronounced for breast cancer. Most participants (35%) could not identify any risk factors or symptoms of breast cancer, and a significant proportion of 44.6% were similarly unaware of cervical cancer risk factors. Although awareness of the Pap smear as a procedure was relatively high at 59%, comprehension of its purpose was poor. This indicates a superficial understanding of health literacy rather than a conceptual grasp of preventive health. Lack of knowledge has been consistently identified as a major

barrier to cancer care and management, as awareness is crucial for early detection and risk mitigation (Atwa et al., 2019; Srinath et al., 2023).

5.3.1 Cancer Screening and Healthcare service in Correctional Facilities

Access to cancer screening and healthcare services in correctional facilities remains inconsistent and often inadequate, as highlighted by several studies. Research indicates that incarcerated women experience significantly lower rates of preventive cancer screening compared to the general population. A review study by Manz et al. (2023) found that only about half of incarcerated women had received recent cancer screening, demonstrating persistent gaps in access to preventive healthcare within correctional facilities. Additionally, Kaiksow et al. (2025) emphasise that incarceration itself acts as a social determinant of health, restricting access to essential preventive services, including cancer screening.

The data revealed profound challenges in delivering cervical and breast cancer care to incarcerated women. Nearly half (43.4%) of the surveyed population reported were never screened for cervical or breast cancer in their lifetime. Incarceration may not serve as a point of healthcare continuity but rather as a point of disruption. This challenge is evidenced by a marked decline in Pap smear uptake, which fell from 32.4% prior to incarceration to just 21.4% during incarceration. South Africa's latest cervical cancer guidelines emphasize HPV-based screening, risk-stratified follow-up, and targeted treatment for all eligible women. This includes provisions for women to receive three free lifetime screenings, with special considerations for women living with HIV. The guidelines also make allowances for opportunistic screening and mobile health clinics to reach underserved populations (South African Department of Health, 2021). Furthermore, low screening uptake was directly attributed to healthcare workers' (HCWs) accounts of a reactive system that provides Pap smears only when clinically indicated rather than as routine preventive care.

The near total absence of mammography history, consistent at 1.4% both before and during incarceration and retrospective laboratory data that showed no history of breast cancer results, was unequivocally validated by HCWs testimony, that such services are outsourced and unavailable within the clinic. The South African guidelines for breast cancer screening suggest that screening should begin at the age of 40, with

particular attention to marginalized women, such as those who are incarcerated. The guidelines also emphasize the importance of raising awareness about breast cancer and implementing preventive healthcare (South African Department of Health, 2021).

The quantitative data on low screening uptake was thus contextualised by qualitative evidence of structural deficiencies, including skeletal staffing, outdated equipment, and a prolonged referral process. HCWs' description of a system capable of managing only minor illnesses, while outsourcing all specialised care, suggested the fundamental reason behind the low screening rates. Furthermore, the correctional facility's environment appeared to exacerbate pre-existing health disparities. A critical psychosocial factor was the internalised stigma described by HCWs, where incarcerated women felt undeserving of adequate living and health standards. This stigma suppressed the desire for even the limited services available. In essence, a resource-constrained, reactive healthcare model interacting with a vulnerable population whose health-seeking behaviours have been eroded by systemic neglect, created an environment where preventive screening was an exception, leaving a significant portion of this population at undetected risk.

5.3.2 Cancer Screening Knowledge and Perception

Survey data demonstrated a critical deficit in knowledge regarding cervical and breast cancer. While most incarcerated women correctly identified sexual transmission as a risk factor for cervical cancer, profound confusion existed about symptoms and prevention; only 10.8% knew pelvic pain was a symptom, and 44.6% were unaware of any prevention methods. Knowledge was even more limited for breast cancer, with alarmingly low awareness of key risk factors like family history (17.6%) and menopause (7.9%). Crucially, a substantial portion of women were unaware of the primary screening methods, 22.3% were unaware that a Pap smear was for cervical cancer, and 33.6% did not know a mammogram was for breast cancer.

These knowledge gaps were not merely individual failings but rather were indirectly enabled by the correctional facility's healthcare service provision limitations. A system that provided Pap smears and breast examinations only sporadically and outsourced advanced healthcare created an environment devoid of practical healthcare education. When screening was not a visible or routine part of healthcare, women may

have little opportunity to learn about it. HCWs' reports of limited resources and healthcare services that focused on minor ailments indicated a system fundamentally not oriented toward health promotion.

This systemic challenge established a vicious cycle where the lack of enabling resources lead to a reactive care model with no platform for education. This, combined with the internalised stigma that diminished motivation to seek health information, results in low health literacy. In turn, this low awareness reduces the perceived need and demand for services, which allows the resource-constrained system to persist without internal pressure for change.

5.4 QUANTITATIVE FINDINGS: RETROSPECTIVE DATA

5.4.1 Prevalence of Cervical and Breast cancer

The analysis revealed that the Pap smear screening rate was 48.5% and followed a highly irregular pattern, marked by noticeable activity peaks around mid-2014 and mid-2019. This irregular uptake reflects a non-systematic, campaign-based, or opportunistic approach to screening rather than an integrated, routine healthcare service. Although the infrastructure to perform tests was evidently in place—as demonstrated by the completion of over 1,600 tests over the ten-year study period—it was not utilized effectively to deliver consistent and accessible care to the incarcerated population. Notably, screening uptake remained lower than expected even during campaigns. Although incarcerated populations have limited competing responsibilities and should, in theory, be highly accessible for health initiatives, structural and operational barriers within the correctional facility likely suppressed participation. These barriers include insufficient prioritization of health services, logistical constraints, and a lack of awareness (Noman et al., 2021; Srinath et al., 2023).

Critically, this study highlights that the environment poses an additional barrier to healthcare engagement. Although personal stigma towards cancer was low among participants, there was widespread uncertainty regarding institutional support for women diagnosed with cancer. A substantial proportion of participants were unaware of how individuals affected were treated or what their quality of life entailed, which

indicates absence of visible support systems. The correctional facility's environment is widely recognised as one where institutional control over offenders can conflict with healthcare access and may compromise confidentiality (Armes et al., 2024) and further complicates health seeking behaviours. This perceived lack of a safety net likely dissuaded the participants from proactively seeking screening or disclosing symptoms.

Furthermore, the analysis of retrospective data indicated a significant number of cytological abnormalities that were detected in cervixes that had been visually classified as healthy, highlighting that clinical appearance alone is an insufficient indicator of cellular health. These clinical findings underscored the critical importance of overcoming the infrastructural barriers by providing routine Pap smear screening in line with the cervical cancer screening guidelines. Further, these findings reinforced the non-negotiable value of systematic, laboratory-based screening and highlighted the danger of relying on visual inspection alone (Yadav et al., 2022). This was particularly crucial in a high-HIV prevalence setting such as the one in this current study, where 54% of the cohort was living with self-reported HIV. As evidenced in the literature, HIV prevalence directly influences HPV prevalence and the performance of screening tests. In this context, the reported significant association between a healthy cervix and ARV treatment does not only point to the positive impact of functional HIV care programmes within a facility. It also aligns with established evidence that effective ART use may improve immune function and lower HPV prevalence. Consequently, it may enhance the accuracy of cervical screening efforts (Castle et al., 2021).

The synergy between HIV treatment and cervical health highlighted the key role of South Africa's universal test-and-treat (UTT) policy, which has facilitated early initiation of antiretroviral therapy and strengthened linkages to ongoing care, thereby creating a platform for integrated chronic disease services such as cervical cancer screening within correctional facilities (Nicol et al., 2023; Ports et al., 2015). This existing infrastructure, the cervical cancer screening programme, is a critical platform for the integration and maintenance of cervical cancer prevention. The full potential of the screening programme may be limited by the same human resources and health system fragmentation that is hampering the long-term sustainability of HIV services.

This underscores that robust HIV care is a foundational component of effective cervical cancer prevention.

5.5 QUALITATIVE FINDINGS: HEALTHCARE WORKERS

The findings related to the perspectives of healthcare workers indicated that the delivery of cervical and breast cancer services was fundamentally shaped by a critical deficit in enabling resources. This subsequently eroded positive predisposing characteristics among the incarcerated women and ultimately resulted in a pattern of health behaviour that was reactive, delayed, and externally dependent. A major finding of this study was the overwhelming limitation of enabling resources, which aligns with a substantial body of research on correctional facility healthcare in low-resource settings (Keehn & Nevin, 2018; Omotoso et al., 2023). The skeletal staff, outdated equipment, and absence of on-site specialists described by participants create a system capable only of managing minor ailments and initiating referrals. This finding resonates with a view of Muntingh (2020) that the South African Department of Correctional Services is severely strained, operating as a de facto healthcare provider without adequate resources (Muntingh, 2020). Consequently, the availability of a service such as Pap smears screening which is provided only when deemed necessary reflects a system that is resource-driven rather than needs-based, a direct consequence of the chronic underfunding in correctional facilities (Muntingh, 2020).

Notably, the reliance on a complex, time-consuming referral process for specialised care, including diagnostics such as mammograms, was reported by HCWs as a critical barrier to providing efficient healthcare services. This corroborated international evidence that, security protocols and logistical hurdles often delay essential medical care for incarcerated individuals, turning incarceration into places of last resort rather than sites of comprehensive care (Kouyoumdjian et al., 2018).

A profound insight from this study was how systemic limitations actively reshape health beliefs of incarcerated women. The emergence of a narrative in which women feel undeserving of decent living and health standards was a significant finding. This internalised stigma can be interpreted as a coping mechanism in response to a chronically neglectful environment, a phenomenon noted in a study conducted on a marginalised population (Addison, 2023). This change in risk factors, from a population

that may seek care to one that feels unworthy of it, represents a critical barrier that extends beyond physical access. It suggests that even if resources were to become available, a deep-seated distrust and sense of failure could continue to impede service utilisation. This is aligned with the concept of therapeutic nihilism, in which both providers and patients believe little can be done, that results in the deprioritisation of care (Armes et al., 2024; Busco, 2024).

Although South Africa's National Policy Framework and Strategy on Palliative Care (2017-2022) commits to holistic care for terminal illnesses (Department of Health, 2023), it offers limited specific provisions for offenders (Albertus, 2020). Thus, systemic challenges and resource constraints severely limit the policy's practical impact, fostering a reactive approach that compromises timely access to adequate care and leads to the suboptimal management of cancer patients in correctional settings. Therefore, interventions must address both the structural and psychological legacy of institutional neglect.

5.6 HEALTHCARE DELIVERY IN WESTVILLE CORRECTIONAL FACILITY

Correctional facilities in South Africa (SA) are required to provide healthcare services to offenders, with the Department of Correctional Services (DCS) responsible for ensuring these services are adequate. The Correctional Services Act (Act No. 111 of 1998), which came into full effect in 2004, established a rights-based approach to managing correctional centres, aligning the prison system with constitutional principles of human dignity and equality (Department of Correctional Services, 2024). Central to this framework is the recognition of incarcerated individuals' right to access healthcare. The Act mandates the DCS to provide adequate medical care based on primary healthcare principles and within available resources (Commission for Gender Equality, 2024; Keehn & Nevin, 2018; Muntingh, 2020). In addition, the Act and its accompanying regulations require that healthcare services in correctional centres be comparable to those available in the public health system, reinforcing the state's obligation to ensure equitable access to care (Commission for Gender Equality, 2024).

However, the DCS is not the sole provider of healthcare; it must comply with the National Health Act and the Constitution, in which the health-related rights of offenders are enshrined. Despite the legal framework and recommendations for independent

healthcare, reality often does not align with the law. By design, the focus of the DCS is not healthcare service delivery, but rather a rehabilitation- and security-oriented correctional system (Department of Correctional Services, 2024). The reported funding constraints in the Westville correctional facility could be the reason for limited healthcare resources (Department of Correctional Services, 2024). Considering the higher vulnerability of incarcerated women to limited preventive healthcare services, and their increased risk of presenting with advanced stages of cancer, these services are not only a clinical need but also a public health responsibility that requires consideration and prioritisation.

The interaction of constrained resources and eroded patient agency culminated in a health behaviour pattern best described as a reactive, referral-based model, in which access to preventive care was limited and services were often delayed until advanced clinical need (Widdowson & Fisher, 2020; Kanbergs et al., 2023; Williams et al., 2020). The correctional facility was noted to refer incarcerated women who presented with symptoms to external healthcare facilities. This was complete outsourcing of diagnostics and treatment, while a practical necessity in this context, was incompatible with the principles of preventive cancer screening. As emphasised by World Health Organization (2021), the elimination of cervical and breast cancer is contingent upon robust screening and early treatment, goals that are unattainable within a system that only acts upon advanced symptoms. To illustrate this, HCWs reported on a few cancer cases that were successfully managed through external referrals. Although this may have only benefited a few incarcerated women, the fact that a pathway for critical care exists, was a positive finding. However, it largely highlighted a system optimised for crisis management rather than prevention. This reinforced the national and international data showing that incarcerated individuals are likely to present with more advanced stages of cancer, a direct consequence of the very barriers identified in this current study (Busco, 2024; Pickett et al., 2018).

The offenders' self-reported screening history, showing a decline in Pap smear uptake upon incarceration, are aligned directly with the retrospective analysis, which calculated a crude screening rate of 48.6% over a ten-year period. This equated to less than 5% of the population screened per year, a rate that fell drastically below

national targets and confirmed that incarceration is a point of healthcare deterioration, not intervention.

These systemic challenges were further illuminated by the knowledge gaps. The finding that over 24% and 22.3% of offenders were unaware of any cervical and breast cancer prevention methods respectively illustrated a population that is not reached by effective health education. The environment itself, by offering screenings only in sporadic bursts, teaches that preventive care is an exception, not a standard. The offenders' perceptions of poor correctional services system support for cancer treatment, were a rational reaction to a system accurately described by HCWs as under-resourced and slow. The attitudes of incarcerated women were not based on misinformation but on a lived experience of a system that deprioritises preventive health needs.

5.7 STUDY LIMITATIONS

- **Data Authenticity:** The study utilised a research questionnaire to collect quantitative data. Because participant honesty and accuracy were critical, self-reporting posed a potential limitation; however, triangulation was employed to ensure the validity and reliability of the responses.
- **Geographical Scope:** The study was limited to a single correctional facility in the KwaZulu-Natal (KZN) province of South Africa. Nevertheless, the Westville Correctional Centre is one of the largest and most representative facilities in the region, allowing the researcher to engage with diverse cohorts from various backgrounds.
- **Data Availability:** Collecting a ten-year dataset retrospectively introduced inherent limitations. Clinical characteristics that would provide a more comprehensive patient profile—such as mortality rates, disease regression, and cancer progression—were unavailable.
- **Methodological Constraints:** The retrospective analysis could not explain erratic screening patterns, specifically the sharp increases observed in mid-2014 and mid-2019. Future longitudinal studies are necessary to explore these trends.

Despite these limitations, the study successfully achieved its objectives by determining the status of cervical cancer screening and breast healthcare services among incarcerated women at the facility.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The findings of the study offer a comprehensive and severe critique of the Westville Correctional Institution's cancer screening programmes for incarcerated women. They reveal a system characterised by a critical implementation gap, where high clinical need is met with profoundly low service provision, which creates a self-perpetuating cycle of neglect. This cycle is powered by the interplay of three core elements including non-systematic, resource-driven service delivery, critical health literacy deficits and a carceral environment.

6.2 CONCLUSION

The study was a first of its kind to determine the status of healthcare services in a correctional facility. This included exploring the perceptions of HCWs on the barriers to provision of cancer screening and management healthcare services within the facility. In addition, the level of knowledge and awareness of cervical screening and breast cancer healthcare services were determined among incarcerated women.

The key findings of this study demonstrated that cervical cancer screening rate and breast cancer healthcare services, were 48.5% and non-existent in a ten-year period (2013-2022) respectively, despite the national screening guidelines that recommend routine screening. To compound this, the poor level of knowledge and awareness on the cancer screening guidelines among incarcerated women was concerning. This was in the backdrop of 44.4% prevalence rate of cases showing abnormal cervical screening results in the Westville correctional facility.

Quantitative results also indicated low uptake of routine screening services, with a substantial proportion of women reporting that they had never undergone cervical screening or received breast examinations during incarceration. This gap reflected missed opportunities for early detection and prevention.

Quantitative findings further revealed critical barriers that influenced service utilisation. Participants commonly identified limited health education, lack of awareness about available services, and delayed access to healthcare as major challenges. Some incarcerated women also expressed feelings of neglect and perceived inequities in the prioritisation of healthcare needs for incarcerated women.

Interestingly, HCWs' lived experiences reflected the ongoing tension between providing equivalent healthcare to incarcerated women and operating within a controlled and punitive environment. They highlighted the necessity for policy support, improved infrastructure, and dedicated human resources, to uphold health standards in Westville Correctional facilities. HCWs perceived correctional facility healthcare services as a challenging but critical domain, where systemic constraints, security imperatives, and understaffing conditions limited optimal healthcare delivery. In addition, systemic issues such as insufficient medical resources, and logistical constraints within the correctional facility also contributed to irregular service provision.

Despite these challenges, the study identified some positive elements, including the availability of basic healthcare infrastructure and occasional screening initiatives. However, these efforts were not consistently implemented or sufficiently comprehensive to meet the needs of the population.

Overall, the study highlighted a clear disconnect between policy expectations for incarcerated women's health services and the actual delivery of care within the Westville correctional facility. Addressing these shortcomings will require targeted interventions, including strengthening routine screening programmes, improving health education, ensuring adequate staffing and resources, and enhancing coordination with the public healthcare system.

6.3 RECOMMENDATION

Addressing Correctional healthcare services crisis requires a fundamental paradigm shift where interventions are multifaceted and simultaneously targeting all points of the healthcare provision. This necessitates the replacement of the current opportunistic model with an integrated, routine screening that leverages the existing healthcare service infrastructures, such as the screening programme, to ensure sustainability.

Additionally, there should be an implementation of a comprehensive, accessible health education programme that would dismantle knowledge barriers, empower women, and rebuild a culture of prevention.

Furthermore, ensuring equitable cancer prevention for incarcerated women is not merely a clinical challenge but a test of ethical commitment and public health policy. Therefore, in implementing these evidence-based recommendations through concerted efforts from healthcare providers, policymakers, and researchers, it is possible to affirm the right to health for this vulnerable population.

It is also important to note that these are preliminary findings; further research is required in this area. Similar studies may also establish a foundational baseline for the Westville Correctional Facility and similar facilities in South Africa. They may identify key areas for improvement and assist in developing a reproducible methodology for continuous monitoring. The insights gained may be invaluable for designing targeted health education programs, tailoring interventions to the unique needs of women in correctional facilities, and paving the way for future research, such as prospective or experimental studies designed to test causality.

Moving forward, it is crucial to continue advocating for the prioritisation of healthcare for incarcerated women. This can be achieved through ongoing research to understand the unique healthcare challenges faced by this population, as well as by advocating for policy changes that support the delivery of comprehensive healthcare services within correctional facilities.

In building on these initiatives and recommendations, it is possible to make significant strides in improving the healthcare status of incarcerated women in KwaZulu-Natal, South Africa. With concerted efforts from healthcare providers, policymakers, and researchers, the goal of ensuring equitable access to cervical screening and breast cancer healthcare services for incarcerated women can be realised.

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Appendix A1: Gatekeeper permission letter from Department of Correctional Service



Department of Correctional Services
124 WF Nkomo Street (Corner WF Nkomo & Sophie De Bruyn Street)
Poyntons Building (West Block)
Pretoria
0001
Tel: (012) 307 2000

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

Dear sir/madam

My name is Lindokuhle Winnie Dube, a Master of Health Science in Medical Laboratory Science student at the Durban University of Technology. The research I wish to conduct for my master's dissertation involves the status of cervical screening and breast cancer health care services among incarcerated woman in KwaZulu-Natal, South Africa. My objective is to investigate knowledge and perception of cervical screening and breast cancer among 157 incarcerated women using questionnaire and structural and organisational issues in terms of how they impact services delivery and provision from the prison healthcare workers perspective.

I hereby seek your consent to do research on the above stated research topic.

I have provided you with a copy of my proposal which includes copies of the data collection tools, information letters, and consent forms to be used in the research process, as well as a copy of the provisional approval letter which I received from the Institutional Research Ethics Committee (IREC) (Appendix K1).

If you require any further information, please do not hesitate to contact me on 20700609@dut4life.ac.za or 0822649793. Thank you for your time and consideration in this matter.

Yours sincerely,
Lindokuhle Winnie Dube
Durban University of Technology

Appendix A2: Department of Correctional Services gatekeeper approval



correctional services

Department:
Correctional Services
REPUBLIC OF SOUTH AFRICA

RESEARCH ETHICS COMMITTEE

Private Bag X136, Poyntons Building, 124 W.F. Nkomo Street, PRETORIA, 0001,
Tel (012) 307 2151/2222, Enquiries: Ms S.T Mahlangu: Sylvia.Mahlangu@dcs.gov.za
Ref: REC 2024/25

Dear Ms L Dube,

THE STATUS OF CERVICAL SCREENING AND BREAST CANCER HEALTHCARE SERVICES AMONG INCARCERATED WOMEN IN KWAZULU-NATAL, SOUTH AFRICA

It is with pleasure to inform you that your application to conduct research in the Department of Correctional Services (DCS) on the above topic has been **approved**.

Kindly note the following:

- This ethics approval letter is valid from **08/10/2024 to 08/10/2025**.
- The relevant Regional and Area Commissioners where the research will be conducted will be informed of your proposed research project.
- It is your responsibility to make arrangements for your interviewing times.
- Your identity document/passport and this approval letter should be in your possession when visiting regional offices/correctional centres.
- You are required to use the terminology used in the White Paper on Corrections in South Africa (2005) and Correctional Services Act (No.111 of 1998) e.g. "Offenders" not "Prisoners" and "Correctional Centres" not "Prisons".
- You are not allowed to use photographic or video equipment during your visits, however the audio recorder is allowed.
- You are required to submit a copy of your final report to the Department of Correctional Services.

Should you have any enquiries regarding this process, please contact Ms E Mohapi for assistance at telephone number (012) 307 2151 / 069 117 0309.

Thank you for your application and interest to conduct research in the Department of Correctional Services.

Yours sincerely,

MR S ZIKALALA

DEPUTY COMMISSIONER: POLICY COORDINATION & RESEARCH (ACTING)

DATE: 08/10/2024

Lefapha le Dilalelo lsa Bosisamiri • Lefapha le Dilshabelatso lsa Tshokoloho • UmNyango weSevisi yokuQondisa (Zimbo)
Muhasho wa Tshumelo dza Vhululami • Departement van Korreksiewe Dierste • Kgoro ya Dilalelo lsa Tshokoloho
Ntsewulo ya Vuhulami bya Vabochwa • L/Tiko leTshumondziwa kwaSimfo • ISebe leNkomo soLuleko
UmNyango WezobuLungiswa bozuzPhatha

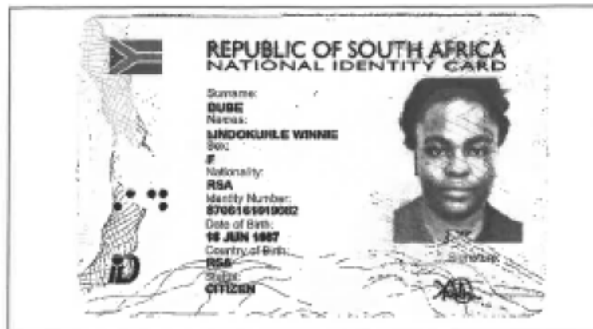
Batho Pele - putting people first

Appendix A3: Entrance permit to management area: Durban correctional services



correctional services

Department:
Correctional Services
REPUBLIC OF SOUTH AFRICA



Area Commissioner
Correctional Services Durban
Private Bag X1,
Westville, 3630

Ref No : 13/1/3/1
Enq : Z Ntshingila
Tel : (031)204 8812

ENTRANCE PERMIT TO MANAGEMENT AREA: DURBAN CORRECTIONAL SERVICES

1. Authorization is hereby granted to:

Full Name : DUBE LINDOKUHLE WINNIE

Identity Number : 870616 1019 082

Institution : DURBAN UNIVERSITY OF TECHNOLOGY

Purpose : THE STATUS OF CERVICAL SCREENING AND BREAST CANCER HEALTHCARE SERVICES
AMONGST INCARCERATED WOMEN IN KWAZULU NATAL, SOUTH AFRICA

Period of validity : 2024/10/08 – 2025/10/08

2. This permit is subjected to the following specific condition and provisions.

- 2.1 The permit holder is restricted to do above skills programme at Durban Female
- 2.2 Bearer has to produce this permit upon entry to the Durban Maximum.
- 2.3 Bearer must comply with the security arrangements of Durban Management Area during the period authorized.
- 2.4 Bearer is authorized to enter the premises
- 2.5 On expiry, the permit must be returned to this office.

SIGNED AT WESTVILLE ON 18th OF OCTOBER 2024

ACT: SECURITY AND FACILITIES: MANAGER
MS MASINGA TL

Appendix B1: Gatekeeper permission latter from Academic Affairs and Research Management Systems (AARMS)



National Health Laboratory Services

Academic Affairs and Research Management System (AARMS)

1 Modderfontein Road

Sandringham

2031

Tel: (011) 386 6000

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

Dear sir/madam

My name is Lindokuhle Winnie Dube, a Master of Health Science in Medical Laboratory Science student at the Durban University of Technology. The research I wish to conduct for my master's dissertation involves the status of cervical and breast cancer screening among incarcerated woman in KwaZulu-Natal, South Africa. My objective is to evaluate the rate of cervical screening and prevalence of cervical and breast cancer among incarcerated women over a five-year (2013 to 2018) period using retrospective Cytology and Histology laboratory data from Westville prison.

I hereby seek your consent to do research on the above stated research topic and conduct pilot study.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC) (Appendix K2).

If you require any further information, please do not hesitate to contact me on 20700609@dut4life.ac.za or 0822649793. Thank you for your time and consideration in this matter.

Yours sincerely,

Lindokuhle Winnie Dube

Durban University of Technology

Appendix B2: NHLS AARMS gatekeeper approval

 NATIONAL HEALTH LABORATORY SERVICE	Academic Affairs and Research 1 Modderfontein Road, Sandringham, 2031 Tel: +27 (0)11 555 0367/0406 Email: babaty.kgokong@nhls.ac.za academic.research@nhls.ac.za Web: www.nhls.ac.za
28 May 2024	
Applicant: Lindokuhle Dube Institution: NHLS / Durban University of Technology E-mail Address: Lindokuhle.dube@nhls.ac.za Tel: 031 240 2635 Cell: 082 584 7128	
Project Title: THE STATUS OF CERVICAL SCREENING AND BREAST CANCER HEALTHCARE SERVICES AMONG INCARCERATED WOMAN IN KWAZULU-NATAL, SOUTH AFRICA	
Reference Number: PR2450150	
Research Application Type(s): 1. Request for Data	
RE: APPROVAL LETTER: REQUEST TO ACCESS NHLS RESOURCES FOR RESEARCH PURPOSES	
This letter serves to advise that the application requesting permission to conduct the above-mentioned research using the listed NHLS resources has been reviewed and "Approved". Please note that the approval is granted on the condition that you comply with the NHLS Research Material and Data Access Policy and requirements stated below.	
1. All material and data requested shall be used as per the research protocol submitted to the NHLS and as approved by the relevant Health Research Ethics Committee (HREC) in South Africa. 2. Access to the NHLS material and/or data shall be limited to the minimum required for successful completion of the approved study and shall be made available <i>without patient names and other patient identifiers (including, but not limited to, national identity numbers, hospital/clinic file numbers, addresses and telephone numbers)</i>. 3. Confidentiality shall be maintained at the participant and institutional level and there shall be no disclosure of personal information or confidential information. 4. Data and/or material shall not be shared with other parties unless approved by the NHLS. 5. The material and/or data obtained from the NHLS shall be anonymised and not, for any reason, be used to track or recruit patients as no pre-approval/consent is obtained from patients. 6. Processes shall be discussed with the relevant NHLS departments (i.e. Corporate Data Warehouse (CDW), NHLS Laboratory Management, Operations Office, etc.) and agreed upon. 7. Any amendments to the study requirements, including the use of the material and/or data for purposes not initially disclosed to the NHLS shall be cleared by an approved HREC and submitted to the NHLS for approval via the AARMS system – https://aarms.nhls.ac.za. 8. The NHLS shall be acknowledged as a source of material and/or data in any output, such as abstracts and journal articles, emanating from the project. 9. A final report of the research study and any published output resulting from this study shall be submitted to the NHLS via AARMS.	
Please note that this letter constitutes approval by the NHLS Academic Affairs and Research Office. The NHLS entities tasked with providing the material and/or data may have additional requirements for access. Data related queries may be directed to NHLS CDW, email: zarina.sabat@nhls.ac.za; contact number: 011 386 8074 and sample related queries (if applicable) shall be directed to the relevant business manager.	
Dr Babatyi Kgokong National Manager: Academic Affairs and Research	
Physical Address: 1 Modderfontein Road, Sandringham, Johannesburg, South Africa Postal Address: Private Bag X01, Sandringham, 2131, South Africa Tel: +27 (0) 11 395 6000/ 0860 00 NHLS/564577 www.nhls.ac.za Facsimile number: 5200296	

Appendix C1: English version



LETTER OF INFORMATION – INCARCERATED WOMEN

Title of the Research Study:

The status of cervical screening and breast cancer healthcare services among incarcerated woman in KwaZulu-Natal, South Africa.

Principal Investigator/s/researcher:

Miss Lindokuhle Winnie Dube, Post Graduate diploma in Public Health, and Bachelor of technology in Biomedical technology.

Co-Investigator/s/supervisor/s:

Dr P Pillay, PhD

Dr BT Mkhize, PhD

Brief Introduction and Purpose of the Study:

The best standard of cervical screening and breast cancer health services should be available to all people, including prisoners. Women in prison must continue to receive adequate health treatment in accordance with the Nelson Mandela Rules for Prisoners and the Sustainable Development Goals (Department of Correctional Services, 2022). In the past, South Africa's Department of Correctional Services (DCS), which oversees the healthcare of prisoners, has supplied services separate from those provided by the National Department of Health, which cares for the public. The DCS health system currently serves as perhaps the third largest provider of healthcare in the country, caring for more than 143 223 inmates, even though South Africa's health care system is typically described as a dual system that combines the private and public health sectors (Department of Correctional Services, 2022). It is crucial to understand the state of healthcare delivery and provision in prisons, particularly for a vulnerable and minority group of incarcerated women.

The aim of the study is to investigate the status of cervical screening and breast cancer healthcare services among incarcerated women in Westville correctional prison in KwaZulu-Natal, South Africa.

This study will also assess the rate of cervical screening and the prevalence of cervical and breast cancer among incarcerated women over a five-year period using retrospective laboratory data from Westville prison. It will also investigate the structural and organizational issues as they relate to service delivery and provision within Westville prison from the perspective of prison healthcare workers.

Greeting:

Hello.

How are you?

I am a student at Durban University of Technology (DUT), pursuing a Master of Health Science in Medical Laboratory Sciences. In fulfilment of the master program, I am required to undertake a research project. My study is entitled " The status of cervical and breast cancer screening among incarcerated woman in KwaZulu-Natal, South Africa".

Invitation to potential participants:

I would like to invite you to be part of this research study. You do not have to decide today whether you will participate in the research. I wish to inform you that participation is voluntary, and you are free to withdraw at any time of the study when you wish to do so. The research questionnaire will ask you questions relating to cervical screening and breast cancer, awareness and accessibility to cervical cancer screening and breast health care services. Information shared during this study is confidential and will be treated with high discretion and confidentiality. Your identity will be kept private and used only for and during this research study.

Please read the information letter and feel free to ask question from me before you sign the informed consent form (Appendix E1) to be part of the research study.

What is Research?

The term "research study" refers to a thorough search or examination for recently developed general information. A thorough investigation is needed to discover or update relevant facts, concepts, hypotheses, and applications.

Research procedures:

You are invited to be part of this research which aims to investigating the status of cervical screening and breast cancer health care services among incarcerated woman in KwaZulu-Natal, South Africa. This research study objectives include:

1. To investigate the status of cervical screening and breast cancer healthcare services among incarcerated women
2. To evaluate the availability of healthcare infrastructure, resources, personnel, and organisational issues within the prison to determine the feasibility of implementing regular cervical screening and breast cancer healthcare programs.
3. To evaluate the rate of cervical cancer screening among incarcerated women in Westville correctional prison, KZN, SA over a 10-year period between 2013 to 2022.
4. To evaluate the prevalence cervical and breast cancer among incarcerated women in Westville correctional prison, KZN, SA over a 10-year period between 2013 to 2022.

The data that will be collected will help answer the research objectives, which will be semi-structured research questionnaire.

Your health requirements are more likely to be overlooked in a prison population since you are a minority group. According to the Sustainable Development Goals and the Nelson Mandela Rules for prisoners, you must continue to get adequate health care (Department of Correctional Services, 2022). Furthermore, there hasn't been enough research on the health care services of female prisoners, especially in relation to cervical screening and breast cancer's effects while imprisoned.

This study will be done over a period of one months at Westville prison. A research questionnaire will be provided to you, which will take about 30 to 45 minutes of your time. You must be of child-bearing age (18 to 49 years of age) and have been in prison for at least a year to be included in the research study. This study population will comprise of convenient sample size of minimum of 157 among the 264 sentenced female prisoners and will sample from all women that will be willing to participate. This study will also include prison health care workers who have worked at the prison for more than a year. Westville female wing comprises of an average 30 different health care workers, the study will include a minimum of five health care workers for the purpose of the study research (DCS, 2022).

The results of this study will be used to inform future research on the long-term effects of cervical cancer screening and breast cancer exit programs on health behaviours and outcomes among female prisoners when they are released from prison and reintegrate into society.

Risks or Discomforts to the Participant:

There is a possibility that you may not be open to discuss matters concerning your sexuality to the researchers. To avoid this circumstance, you will be advised and given full information regarding the study and how it influences your health and the health of other incarcerated women, thereby allowing you to answer the research questionnaire on your own, hence minimizing the risk of discomfort. Should you need any medical help, it is available at the prison clinic.

Explain to the participant the reasons he/she may be withdraw from the Study:

You are entitled to withdraw from the study at any time should they wish to do so, and you will continue to receive the appropriate standard of care. The research study may be terminated early in particular circumstances such as illness or you wish to do so. Your participation in this research is entirely voluntary. It is your choice whether to participate or not and you may change your mind later and stop participating even if you agreed earlier. You may withdraw your consent to participate in the study at any time during data collection. You are also allowed to withdraw consent to use your personal information or if you are no longer comfortable with your information to be used in the research study. To withdraw your consent to participate in the study or to ask any question regarding the research study at any time during the research, kindly use the contact information at the end of this information letter.

Benefits:

There are no direct benefits to you for participating in this study. However, the findings of this study will provide information that may help to influence decision making for policy makers and other stakeholders in the healthcare sector, in the hope of reducing the number of deaths because of cervical and breast cancer among incarcerated women.

Remuneration:

You will not be provided with any payment to take part in the research.

Costs of the Study:

You will not be expected to cover any costs towards the research study.

Confidentiality:

Your identity will not be shared with external parties except the researcher and research supervisors. The information that will be collected from this research will be kept private. Any information about you will have a number allocated to it instead of your name. Only the researcher will know what your number is, and it will not be shared with or given to anyone except the Department of Biomedical Technology at Durban University of technology.

Results:

The results of this study will be shared with Department of Biomedical Technology at Durban University of Technology. The findings will also be shared with the Department of Correctional services.

Research-related Injury:

This research study will not pose any potential physical or emotional harm to you, through adoption of third-party monitoring by having prison officials always present during interactions. However, should you require any medical assistance it will be made available to you at the prison clinic.

Storage of all electronic and hard copies including tape recordings:

This research study results will be stored in a computer, which will be access controlled. Your personal identification will not be used in the study. You will be given identification numbers which will also be used to number each questionnaire. The study collection tools will be in both English and IsiZulu. Data sheets will be store at the department of Biomedical and Clinical Technology for a period of five years and thereafter shredded and electronic data files will be access coded and deleted after five years.

Persons to contact in the Event of Any Problems or Queries:

If you have any questions, you may ask now or later, even after the study has started. If you wish to ask questions later, please contact the researcher (082 264 9793), my supervisors Dr P Pillay (031 373 5423) and Dr BT Mkhize (031 373 5297) or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the Acting Director: Research and Postgraduate Support on researchdirector@dut.ac.za.

Appendix C2: IsiZulu version



INCWADI YOLWAZI - ABESIFAZANE ABABOSHIWE

Isihloko soncwango:

Isimo sokuhlolwa komlomo wesibeletho kanye nezinsizakalo zokunakekelwa kwempilo yomdlavuza webele phakathi kwabesifazane ababoshiwe KwaZulu-Natal, eNingizimu Afrika.

Umphenyi omkhulu:

Nkosazane Lindokuhle Winnie Dube, Post-Graduate Diploma in Public Health, kanye ne-Bachelor of Technology in Biomedical Technology.

Abaqondisi:

Dr P Pillay, PhD

Dr BT Mkhize, PhD

|

Isingeniso esifushane kanye nenjongo:

Izinga elingcono kakhulu lokuhlolwa komlomo wesibeletho kanye nezinsizakalo zezempilo zomdlavuza webele kufanele zitholakale kubo bonke abantu, kuhlenganisa neziboshwa. Abesifazane abasejele kufanele baqhubeka nokuthola ukwelashwa okwanele kwezempilo ngokuhambisana neMithetho kaNelson Mandela Yeziboshwa kanye Nezinjongo Zokuthuthukiswa Okusimeme (Umnyango Wezinsizakalo Zokuhlunyelelwa Kwezimilo, 2022). Esikhathini esedlule, uMnyango Wezokuhlunyelelwa Kwezimilo eNingizimu Afrika (i-DCS), owengamele ukunakekelwa kwezempilo kweziboshwa, uye wahlinzeka ngezinsizakalo ezihlukene nalezo ezihlinzekwa nguMnyango Wezempilo Kazwelonke, onakekela umphakathi. Uhlelo lwezempilo lwe-DCS njengamanje lusebenza njengomhlinzeki wesithathu ngobukhulu kwezokunakekelwa kwezempilo ezweni, lunakekela iziboshwa ezingaphezu kwezi-143 223, nakuba uhlelo lokunakekelwa kwezempilo lwaseNingizimu Afrika luchazwa njengohlelo olukabili oluhlenganisa imikhakha yezempilo ezimele nekahulumeni (uMnyango). Wezinkonzo Zokuhlunyelelwa Kwezimilo, 2022). Kubalulekile ukuqonda isimo sokuhlinzekwa kosizo lwezempilo kanye nokuhlinzekwa kwamajele, ikakhulukazi eqenjini elisengozini kanye nedlanzana labesifazane ababoshiwe.

Inhloso yalolu cwango wukuphenya ngesimo sokuhlolwa komlomo wesibeletho kanye nezinsiza zokunakekelwa kwezempilo komdlavuza webele kwabesifazane ababoshiwe ejele lokuhlunyelelwa kwezimilo eWestville KwaZulu-Natal, eNingizimu Afrika.

Lolu cwaningo luzophinde luhlale izinga lokuhlola komlomo wesibeletho kanye nokusabalala komdlavuza womlomo wesibeletho nowebele kwabesifazane ababoshiwe esikhathini esiyiminyaka emihlanu kusetshenziswa idatha yaseLabhorithri ye-retrospective evela ejele lase-Westville. Izophinde iphenye ngezindaba zesakhiwo kanye nenhlango njengoba zihlobene nokulethwa kwezidingo kanye nokuhlinzekwa kwejele laseWestville ngokombono wabasebenzi bezempilo basejele.

Ukubingelela:

Sawubona.

Ngingumfundi eDurban University of Technology (DUT), ngenza iMaster of Health Science kwiMedical Laboratory Sciences. Ekugcwalisekeni kohlelo lwezemfundo yamabanga aphezulu, ngidingeka ukuthi ngenze ucwaningo. Ucwaningo lwami luneluhloko esithi "Isimo sokuhlalelwa umdlavuza womlomo wesibeletho nowebele phakathi kwabesifazane ababoshiwe KwaZulu-Natali, eNingizimu Afrika".

Ngithanda ukukumema ukuthi ube yingxenywe yalolu cwaningo. Akumele unqume namuhla ukuthi uzobamba iqhaza yini ocwaningweni. Ngifisa ukukwazisa ukuthi ukuhlalanyela kungokuzithandela, futhi ukhululekile ukuxoxa kunoma yisiphi isigaba socwaningo uma ufisa. Uhlu lwemibuzo locwaningo luzokubiza imibuzo ephathelene nokuhlola komlomo wesibeletho kanye nomdlavuza webele, ukuqwashisa nokufinyeleleka ekuhlalweni komdlavuza womlomo wesibeletho kanye nezinsizakalo zokunakekelwa kwebele. Ulwazi olwabiwe phakathi nalolu cwaningo luyimfihlo futhi luzophathwa ngokubona okukhulu nokugcinwa kuyimfihlo. Ubuwena buzogcinwa bungaziwa futhi busetshenziswe kuphela phakathi nalolu cwaningo locwaningo.

Ngicela ufunde incwadi yolwazi futhi uzizwe ukhululekile ukuxoxa nami ngayo ngaphambi kokuba usayine ifomu lemvume unolwazi (Appendix E1) ukuze ubambe iqhaza ocwaningweni.

Luyini Ucwaningo?

Igama elithi "ucwaningo locwaningo" lisho ukusesha okuphelele noma ukuhlola kolwazi olujwayelekile olusanda kuthuthukiswa. Kudingeka uphenyo olunzulu ukuze kutholwe noma kuthuthukiswe amaqiniso afanelekile, imiqondo, imibono ecatshangwayo, kanye nezicelo.

Izinqubo zocwaningo:

Uyamenywa ukuthi ubambe iqhaza kulolu cwaningo oluhlose ukuphenya isimo sokuhlalelwa umdlavuza womlomo wesibeletho nowebele phakathi kwabesifazane ababoshiwe KwaZulu-Natal, eNingizimu Afrika. Lezi zinhloso zocwaningo zihlanganisa:

1. Ukuphenya isimo sokuhlolwa komlomo wesibeetho kanye nezinsizakalo zokunakekelwa kwezempilo komdlavuza wamabele phakathi kwabesifazane ababoshiwe

2. Ukuhlola ukutholakala kwengqalasizinda yokunakekelwa kwempilo, izinsiza, abasebenzi, nezindaba zenhlangano ngaphakathi kwejele ukuze kutholwe ukuba nokwenzeka kokuqaliswa kokuhlolwa komlomo wesibeetho kanye nezinhlelo zokunakekelwa kwezempilo komdlavuza webele.

3. Ukuhlola izinga lokuhlolwa umdlavuza womlomo wesibeetho kwabesifazane ababoshiwe ejele lokuhlunyelelwa kwezimilo lase-Westville, e-KZN, SA esikhathini esiyiminyaka eyi-10 phakathi kuka-2013 kuya ku-2022.

4. Ukuhlola ukusabalala komdlavuza womlomo wesibeetho nowebele kwabesifazane ababoshiwe ejele lokuhlunyelelwa kwezimilo laseWestville, e-KZN, SA esikhathini esiyiminyaka eyi-10 phakathi kuka-2013 kuya ku-2022.

Imininingwane ezoqoqwa izosiza ekuphenduleni izinjongo zocwaningo, okuzoba uhlu lwemibuzo locwaningo olungahlelekile.

Izidingo zakho zezokwelapha cishe ngeke zishaywe indiva kubantu basejele njengoba niyiqembu elincane. Ngokwemigomo Yentuthuko Eqhubekayo kanye neMithetho kaNelson Mandela yeziboshwa, iziboshwa zesifazane kufanele ziqhubeke nokuthola usizo lwezempilo olwanele (uMnyango Wezokuhlunyelelwa Kwezimilo, 2022). Ngaphezu kwalokho, akubanga khona ucwaningo olwanele ngezinsizakalo zokunakekelwa kwezempilo kweziboshwa zesifazane, ikakhulukazi maqondana nokuhlolwa komlomo wesibeetho kanye nemiphumela yomdlavuza webele ngenkathi ziboshiwe.

Lolu cwaningo luzokwenziwa isikhathi esingangenyanga ejele laseWestville. Uhlu lwemibuzo locwaningo uzonikezwa lona, oluzothatha cishe imizuzu engama-30 kuya kwengama-45 yesikhathi sakho. Kufanele ube neminyaka yobudala yokuzala (iminyaka eyi-18 kuye kwengama-49 ubudala) futhi ube usejele okungenani unyaka ukuze ufakwe ocwaningweni locwaningo. Lesi sibalo socwaningo sizobandakanya usayizi wesampula ofanelekile wesilinganiso esincane esingu-157 phakathi kweziboshwa zesifazane ezigwetshiwe ezingama-264 futhi sizosampula kubo bonke abesifazane abazovuma ukubamba iqhaza. Lolu cwaningo luzobandakanya nabasebenzi bezempilo basejele asebesebenze ejele isikhathi esingaphezu konyaka. Uphiko lwabesifazane baseWestville luhlanganisa abasebenzi

bezempilo abahlukeni abalinganiselwa ku-30, ucwaningo luzobandakanya okungenani abasebenzi bokunakekelwa kwezempilo abahlanu ngenhloso yocwaningo (DCS, 2022).

Imiphumela yalolu cwaningo izosetshenziselwa ukwazisa ucwaningo lwangomuso mayelana nemiphumela yesikhathi eside yokuhlolwa komdlavuza womlomo wesibeletso kanye nezinhlelo zokuphuma komdlavuza webele ekuziphatheni kwezempilo kanye nemiphumela phakathi kwabesifazane ababoshiwe lapho bekhululwa ejele futhi baphinde bahlangana nomphakathi.

Izingozi noma ukungaphatheki kahle kobambe iqhaza:

Kungenzeka ukuthi awuvuleleki ukuxoxa ngezindaba eziphathelele nobulili bakho kubacwaningi. Ukuze ugweme lesi simo, uzokwaziswa futhi unikezwe ulwazi olugcwele mayelana nocwaningo nokuthi luyithinta kanjani impilo yakho kanye nempilo yabanye abantu besifazane ababoshiwe, ngaleyo ndlela kukuvumela ukuthi uphendule uhlu lwemibuzo yocwaningo uwedwa, ngaleyo ndlela unciphise ubungozi bokungakhululeki. Uma udinga noma yiluphi usizo lwezempilo, luyatholakala emtholampilo wasejele.

Chazela umhlanganyeli izizathu zokuthi angahoxa Ocwaningweni:

Unelungelo lokuhoxa ocwaningweni nganoma yisiphi isikhathi uma befisa ukwenza kanjalo, futhi uzoqhubeka nokuthola izinga elifanele lokunakekelwa. Ucwaningo locwaningo lunganqanyulwa kusenesikhathi ezimeni ezithile njengokungalandeli umthetho noma ukugula. Ukuhlanganyela kwakho kulolu cwaningo kungokuzithandela ngokuphelele. Kungokuzikhethela ukuthi ubambe iqhaza noma cha futhi ungashintsha umqondo wakho ngokuhamba kwesikhathi futhi uyeke ukubamba iqhaza noma ngabe uvumelene ngaphambili. Ungahoxisa imvume yakho yokubamba iqhaza ocwaningweni nganoma yisiphi isikhathi ngesikhathi sokuqoqwa kwedatha. Uvunyelwe futhi ukuthi uhoxise imvume yokusebenzisa imininingwane yakho siqu noma uma ungasakhululekile ngolwazi lwakho ukuthi lusetshenziswe ocwaningweni. Ukuhoxisa imvume yakho yokubamba iqhaza ocwaningweni noma ukubuza noma yimuphi umbuzo mayelana nocwaningo noma nini phakathi nocwaningo, sicela usebenzise imininingwane yokuxhumana ekugcineni kwale ncwadi yolwazi.

Izinzuzo:

Azikhona izinzuzo eziqondile ozizuzayo ngokubamba iqhaza kulolu cwaningo. Kodwa-ke, okutholwe kulolu cwaningo kuzohlinzeka ngolwazi olungasiza ukuba nomthelela ekuthathweni kwezinqumo kubenzi bezinqubomgomo kanye nabanye ababambiqhaza emkhakheni wezokunakekelwa kwempilo, ngethemba lokunciphisa isibalo sokufa ngenxa yomdlavuza womlomo wesibeletso nowebele kwabesifazane ababoshiwe.

Inkokhelo:

Ngeke unikezwe noma iyiphi inkokhelo ukuze ubambe iqhaza ocwaningweni.

Izindleko Zocwaningo:

Angeke ulindeleke ukuthi ukhokhele noma yiziphi izindleko ocwaningweni locwaningo.

Ukugcinwa kuyimfihlo:

Ubuwena ngeke kwabelwane ngabo nabangaphandle ngaphandle komcwaningi nabaphathi bocwaningo. Ulwazi oluzoqoqwa kulolu cwaningo luzogcinwa luyimfihlo. Noma yiluphi ulwazi ngawe luzoba nenombolo eyabelwe lona esikhundleni segama lakho. Umcwaningi kuphela ozokwazi ukuthi inombolo yakho ithini, futhi ngeke kwabelwane ngayo noma inikezwe noma ngubani ngaphandle koMnyango we-Biomedical Technology eDurban University of technology.

Imiphumela:

Ulwazi nemiphumela yalolu cwaningo kuzokwabelana noMnyango we-Biomedical Technology e-Durban University of Technology. Okutholakele kuzobuyele kwabelwane ngazo nezikhungo okuzokwenziwa ngaphansi kwazo ucwaningo.

Ukulimala okuhlobene nocwaningo:

Lolu cwaningo locwaningo aluhlosile ukukulimaza ngokomzimba noma ngokomzwelo okungaba khona, ngokwamukela ukuqapha okuvela eceleni ngokuba nezikhulu zejele bekhona ngaso sonke isikhathi ngesikhathi sokuxoxisana. Kodwa-ke, uma udinga noma yiluphi usizo lwezokwelapha luzotholakala kuwena emtholampilo wasejele.

Ukugcinwa kwawo wonke amakhophi e-elektronikhi kanye namakhophi aqinile okuhlanganisa aqoshiwe:

Leminingwane yocwaningo izogcinwa kusizindalwazi se-electronic socwaningo kusetshenziswa ishidi le-Microsoft excel, elizolawulwa ukufinyelela kulo. Umazisi noma igama lakho ngeke lisetshenziswe ocwaningweni. Uzonikezwa izinombolo zikamazisi ezizosetshenziselwa nokufaka izinombolo kuhlu lwemibuzo ngalunye. Amathuluzi okuqoqa imininingwane azoba ngesiNgisi nangesiZulu. Amaphepha e azogcinwa emnyangweni we-Biomedical and Clinical Technology isikhathi esiyiminyaka emihlanu futhi ngemva kwalokho ahlakaziwe futhi amafayela edatha ye-elektronikhi azofakwa ikhodi futhi asuswe ngemva kweminyaka emihlanu.

Abantu ongabathintana nabo Esimeni sanoma Iziphi Izinkinga noma Imibuzo:

Uma unanoma yimiphi imibuzo, ungase uyibuze manje noma kamuva, ngisho nangemva kokuba ucwaningo seluqalile. Uma ufisa ukubuza imibuzo ngokuhamba kwesikhathi, ngicela uthinte umcwaningi (082 264 9793), abaphathi bami uDkt P Pillay (031 373 5423) noDkt BT Mkhize (031 373 5297) noma i-Institutional Research Ethics Administrator ku-031 373 2375 yezikhalazo noma uthumele imeyili kulelikheli researchdirector@dut.ac.za.

Appendix D: Letter of Information – Healthcare Workers



LETTER OF INFORMATION – PRISON HEALTHCARE WORKERS

Title of the Research Study:

The status of cervical screening and breast cancer healthcare services among incarcerated woman in KwaZulu-Natal, South Africa.

Principal Investigator/s/researcher:

Miss Lindokuhle Winnie Dube, Post Graduate diploma in Public Health, and Bachelor of technology in Biomedical technology.

Co-Investigator/s/supervisor/s:

Dr P Pillay, PhD

Dr BT Mkhize, PhD

Brief Introduction and Purpose of the Study:

The best standard of cervical screening and breast cancer health services should be available to all people, including prisoners. Women in prison must continue to receive adequate health treatment in accordance with the Nelson Mandela Rules for Prisoners and the Sustainable Development Goals (Department of Correctional Services, 2022). In the past, South Africa's Department of Correctional Services (DCS), which oversees the healthcare of prisoners, has supplied services separate from those provided by the National Department of Health, which cares for the public. The DCS health system currently serves as perhaps the third largest provider of healthcare in the country, caring for more than 143 223 inmates, even though South Africa's health care system is typically described as a dual system that combines the private and public health sectors (Department of Correctional Services, 2022). It is crucial to understand the state of healthcare delivery and provision in prisons, particularly for a vulnerable and minority group of incarcerated women.

The aim of the study is to investigate the status of cervical screening and breast cancer healthcare services among incarcerated women in Westville correctional prison in KwaZulu-Natal, South Africa.

This study will also assess the rate of cervical screening and the prevalence of cervical and breast cancer among incarcerated women over a five-year period using retrospective

laboratory data from Westville prison. It will also investigate the structural and organizational issues as they relate to service delivery and provision within Westville prison from the perspective of prison healthcare workers.

Greeting:

Hello.

How are you?

I am a student at Durban University of Technology (DUT), pursuing a Master of Health Science in Medical Laboratory Sciences. In fulfilment of the master program, I am required to undertake a research project. My study is entitled " The status of cervical and breast cancer screening among incarcerated woman in KwaZulu-Natal, South Africa".

Invitation to participants:

I would like to invite you to be part of this research study. You do not have to decide today whether you will participate in the research. I wish to inform you that participation is voluntary, and you are free to withdraw at any stage of the study when you wish to. The interview guide will ask you questions relating to cervical screening and breast cancer, awareness and accessibility to cervical screening and breast cancer services, as well as structural and organizational issues. Information shared during this study is confidential and will be treated with high discretion and confidentiality. Your identity will be kept anonymous and used only for and during this research study.

Please read the information letter and feel free to discuss it with me before you sign the informed consent form (Appendix F) to participate in the research study.

What is Research?

This research study is systematic search or enquiry for generalized new knowledge. It is a diligent inquiry to seek or revise facts, principles, theories, and applications.

Research procedures:

You are being invited to take part in this research which aims to investigating the status of cervical and breast cancer screening among incarcerated woman in KwaZulu-Natal, South Africa. The research study objectives include:

1. To investigate the status of cervical screening and breast cancer healthcare services among incarcerated women
2. To evaluate the availability of healthcare infrastructure, resources, personnel, and organisational issues within the prison to determine the feasibility of implementing regular cervical screening and breast cancer healthcare programs.
3. To evaluate the rate of cervical cancer screening among incarcerated women in Westville correctional prison, KZN, SA over a 9-year period between 2013 to 2022.
4. To evaluate the prevalence cervical and breast cancer among incarcerated women in Westville correctional prison, KZN, SA over a 9-year period between 2013 to 2022.

This data that will be collected will help answer the research objectives, which will be semi-structured research questionnaire and interviews.

As a minority group among the prison population, the needs of incarcerated women are easily neglectable. Health care provision to incarcerated women as stipulated in The Sustainable Development Goals and Nelson Mandela rules for prisoners continue to require adequate health care for incarcerated women (Department of Correctional Services, 2022). Additionally, there has not been adequate research regarding the healthcare of female prisoners particularly around the area of cervical screening and breast cancer and its implications during incarceration.

This study will be done over a period of one months at Westville prison. You will be requested to participate in an interview which will take about 30 to 45 minutes of your time. Only official prison healthcare workers, who have worked in the prison for more than year will be included in the research study. The study population will comprise of sample size of minimum of 157 among the 264 sentenced female prisoners and will sample from all those participates that will be willing to participate. Westville female wing comprises of an average 30 different healthcare workers, the study will include a minimum of five healthcare workers for the purpose of the study research (DCS, 2022).

The findings of this study will help influence future works on long-term effects of cervical and breast cancer screening exit program on health behaviours and outcomes among incarcerated women as they leave prison and enter communities.

Risks or Discomforts to the Participant:

Please note that the interviews will be recorded to ensure proper data collection. The recordings will be reviewed latter by the researcher. The procedure for the interview recording

is simple, the researcher will record the interview using a cell phone. The recording time will start at the beginning of the interview. You are advised to speak loud and clear so that the recording will be audible. The interview session will take place at Westville prison, please note the place must not have loud noises as this will affect the recordings.

There is a possibility that you may not be comfortable being recorded. To avoid this circumstance, the researcher will ensure your private information is kept confidential, respecting your right to change your mind, to decide that the research does not match your interests, and to withdraw without penalty.

Explain to the participant the reasons he/she may be withdraw from the Study:

You are entitled to withdraw from the study at any time should they wish to do so. The research study may be terminated early in particular circumstances such as non-compliance or illness. Your participation in this research is entirely voluntary. It is your choice whether to participate or not and you may change your mind later and stop participating even if you agreed earlier. You may withdraw your consent to participate in the study at any time during data collection. You are also allowed to withdraw consent to use your data or if you are no longer comfortable with your data to be used in the research study. To withdraw your consent to participate in the study or to ask any question regarding the research study at any time during the research, kindly use the contact information at the end of this information letter.

|

Benefits:

There are no direct benefits to you for participating in this study. However, the findings of this study will provide information that may help to influence decision making for policy makers and other stakeholders in the healthcare sector, in the hope of reducing the number of deaths due to cervical and breast cancer among incarcerated women.

Remuneration:

You will not be provided with any payment to take part in the research.

Costs of the Study:

You will not be expected to cover any costs towards the research study.

Confidentiality:

Your identity will not be shared with external parties except the researcher and research supervisors. The information that will be collected from the research will be kept confidential. Any information about you will have a number allocated to it instead of your name. Only the

researcher will know what your number is, and it will not be shared with or given to anyone except the Department of Biomedical Technology at Durban University of technology.

Results:

The knowledge and findings of this study will be shared with Department of Biomedical Technology at Durban University of Technology. The findings will also be shared with the institutions under which the research will be conducted.

Research-related Injury:

This research study does not intend to pose any potential physical or emotional harm to you, through adoption of third-party monitoring by having prison officials always present during interactions.

Storage of all electronic and hard copies including tape recordings:

The study data will be stored in the study electronic database using Microsoft excel sheet, which will be access controlled. Your personal identification will not be used in the study. You will be given identification numbers which will also be used to number each interview guide. The data collection tools will be in English. Data sheets and recordings will be store at the department of Biomedical and Clinical Technology for a period of five years and thereafter shredded and electronic data files will be access coded and deleted after five years.

Persons to contact in the Event of Any Problems or Queries:

If you have any questions, you may ask now or later, even after the study has started. If you wish to ask questions later, please contact the researcher (082 264 9793), my supervisors Dr P Pillay (031 373 5423) and Dr BT Mkhize (031 373 5297) or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the Acting Director: Research and Postgraduate Support on researchdirector@dut.ac.za

Appendix E1: English version



INFORMED CONSENT –INCARCERATED WOMEN

Full Title of the Study:

The status of cervical screening and breast cancer healthcare services among incarcerated woman in KwaZulu-Natal, South Africa.

Names of Researcher/s: Ms. Lindokuhle Winnie Dube

Statement of Agreement to Participate in the Research Study:

- ☐ I hereby confirm that I have been informed by the researcher,
(Lindokuhle Winnie Dube),
about the nature, conduct, benefits, and risks of this study - Research Ethics Clearance
Number: 240/23.
- ☐ I have also received, read, and understood the above written information.
(Participant Letter of Information) regarding the study.
- ☐ I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- ☐ In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- ☐ I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- ☐ I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- ☐ I understand that significant new findings developed during this.
research which may relate to my participation will be made available to me.

Full Name of Participant	Date	Time	Signature/Right Thumbprint

I, Lindokuhle Winnie Dube, herewith confirm that the above participant has been full informed about the nature, conduct and risks of the above study.

Full Name of Researcher	Date	Signature

Full Name of Witness (if applicable)	Date	Signature

Full Name of Legal Guardian (if applicable)	Date	Signature

Appendix E2: IsiZulu version



IMVUME – ABESIFAZANE ABABOSHWE

Isihloko Esigcwele Socwaningo:

Isimo sokuhlolwa komlomo wesibeletso kanye nezinsizakalo zokunakekelwa kwempilo yomdlavuzi webele phakathi kwabesifazane ababoshiwe KwaZulu-Natal, eNingizimu Afrika.

Amagama omcwaningi: Lindokuhle Winnie Dube

Isitatimende Sesivumelwano Sokuba Iqhaza Ocwaningweni Locwaningo:

- ☐ Ngiyaqinisekisa ukuthi ngaziswe ngumcwaningi, (Lindokuhle Winnie Dube), mayelana nemvelo, ukuziphatha, izinzuzo, kanye nobungozi balolu cwaningo - Ukucaciswa Kwezimiso Zokucwaninga, Inombolo: 240/23
- ☐ Ngiphinde ngaluthola, ngalufunda, futhi ngaluqonda ulwazi olubhalwe ngenhla. (Incwadi Yolwazi Lombambi qhaza) mayelana nocwaningo.
- ☐ Ngiyazi ukuthi imiphumela yocwaningo, okuhlanganisa imininingwane yomuntu siqu mayelana nobulili bami, ubudala, usuku lokuzalwa, amagama okuqala kanye nokuxilongwa kuzocutshungulwa ngokungaziwa kwenziwe umbiko wocwaningo.
- ☐ Ngokubheka izidingo zocwaningo, ngiyavuma ukuthi idatha eqoqwe phakathi nalolu cwaningo ingacutshungulwa ohlelweni lwekhompuyutha ngumcwaningi.
- ☐ Ngingakwazi, kunoma yisiphi isigaba, ngaphandle kokubandlulula, ngihoxise imvume yami nokubamba iqhaza ocwaningweni.
- ☐ Ngibe nethuba elanele lokubuza imibuzo futhi (ngokuzithandela kwami) ngazitshela ukuthi ngikulungele ukubamba iqhaza ocwaningweni.
- ☐ Ngiyaqonda ukuthi okutholakele okusha okubalulekile kuthuthukiswe phakathi nalokhu ucwaningo olungase luhlobane nokubamba kwami iqhaza luzokwenziwa lutholakale kimi.

Igama Eligcwele Lomhlanganyeli. _____ Usuku _____

Isiginesha / Izigxivizo zesithupha sokudla. _____

Mina, Lindokuhle Winnie Dube, uyaqinisekisa ngalokhu ukuthi umhlanganyeli ongenhla ubegcwele ngokugcwele ukwaziswa ngohlobo, ukuziphatha kanye nobungozi bocwaningo olungenhla.

Igama Eligcwele Lomcwaningi . _____ usuku _____

Isiginesha. _____

Igama Eligcwele Lofakazi (Uma likhona). _____ Usuku _____

Isiginesha. _____

Igama Eligcwele Lomnakekeli Wezomthetho (Uma likhona). _____ Usuku _____

Isiginesha. _____

Appendix F: Informed Consent – Healthcare Workers



Full Title of the Study:

The status of cervical screening and breast cancer healthcare services among incarcerated woman in KwaZulu-Natal, South Africa.

Names of Researcher/s: Ms. Lindokuhle Winnie Dube

Statement of Agreement to Participate in the Research Study:

- ☐ I hereby confirm that I have been informed by the researcher, (Lindokuhle Winnie Dube), about the nature, conduct, benefits, and risks of this study - Research Ethics Clearance Number: 240/23.
- ☐ I have also received, read, and understood the above written information. (Participant Letter of Information) regarding the study.
- ☐ I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- ☐ In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- ☐ I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- ☐ I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- ☐ I understand that significant new findings developed during this research which may relate to my participation will be made available to me.

Full Name of Participant
Thumbprint

Date

Time

Signature/Right

I, Lindokuhle Dube, herewith confirm that the above participant has been fully Winnie

informed about the nature, conduct and risks of the above study.

Full Name of Researcher

Date

Signature

Full Name of Witness (If applicable)

Date

Signature

Full Name of Legal Guardian (If applicable) Date

Signature

Appendix G1: English version



RESEARCH QUESTIONNAIRE (INCARCERATED WOMEN)

Title of the Research Study:

The status of cervical screening and breast cancer healthcare services among incarcerated woman in KwaZulu-Natal, South Africa

Principal Investigator/s/researcher:

Miss Lindokuhle Winnie Dube, Post Graduate diploma in Public Health, and Bachelor of technology in Biomedical technology.

Co-Investigator/s/supervisor/s:

Dr P Pillay, PhD

Dr BT Mkhize, PhD

SECTION A:

SOCIDEMOGRAPHIC PROFILE

1. What is your age?
 - ☐ 18 – 24 years old
 - ☐ 25 – 29-year-old
 - ☐ 30 – 35-year-old
 - ☐ 36 – 44 years old
2. What is your race?
 - ☐ Black
 - ☐ White
 - ☐ Coloured
 - ☐ Indian
3. What is your nationality?
 - ☐ South African
 - ☐ Foreign citizen
4. What is your marital status?
 - ☐ Single
 - ☐ Married
 - ☐ Divorced
5. How long have you been incarcerated?
 - ☐ 1 – 5 years in prison
 - ☐ 6 – 10 years in prison
 - ☐ 11 – 15 years in prison
 - ☐ 16 – 20 years in prison
 - ☐ More than 20 years in prison.
6. Educational background
 - ☐ Primary school education

- ☐ High school education
- ☐ Tertiary or high education
- ☐ Never went to school.

SEXUAL HISTORY

1. How many sexual partners did you have in your lifetime?
 - ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5 or more
 - ☐ I do not wish to disclose.
2. What was the age of first sexual encounter?
 - ☐ Less than 15 years of age
 - ☐ Between the ages 16 – 21 years
 - ☐ Between the ages of 22 – 29
 - ☐ 30 years and older
 - ☐ I do not wish to disclose.
3. What is your HIV status?
 - ☐ Tested HIV+
 - ☐ Tested HIV-
 - ☐ HIV status unknown
 - ☐ I do not wish to disclose status.
4. What is your screening history?
 - ☐ Had pap smear prior to being incarcerated.
 - ☐ Had a mammogram prior to being incarcerated.
 - ☐ Had a pap smear while in prison.
 - ☐ Had mammogram while in prison.
 - ☐ Never had pap smear or mammogram before.
5. How many children do you have?
 - ☐ 1
 - ☐ 2
 - ☐ 3
 - ☐ 4
 - ☐ 5 or more
 - ☐ I do not wish to disclose.
 - ☐

SECTION B: CERVICAL AND BREAST CANCER KNOWLEDGE

CERVICAL CANCER

1. What are the risk factors for cervical cancer?
 - ☐ Sexual transmission
 - ☐ HPV infection
 - ☐ Multiple sexual partners
 - ☐ Not using condoms
 - ☐ I do not know.
2. What are the signs and symptoms of cervical cancer?
 - ☐ Vaginal discharge
 - ☐ Vaginal discharge
 - ☐ Pelvic pain
 - ☐ Loss of weight
 - ☐ I do not know.

3. How do you prevent cervical cancer?
 - ☐ Wearing a condom
 - ☐ HPV vaccination
 - ☐ Early cervical cancer screening
 - ☐ I do not know.
4. What is the method of cervical cancer screening?
 - ☐ Pap smear
 - ☐ HPV testing
 - ☐ Blood test
 - ☐ I do not know.
5. How is cervical cancer treated?
 - ☐ Surgical removal of cancer cells
 - ☐ Hysterectomy
 - ☐ Chemotherapy or radiation therapy
 - ☐ I do not know.

BREAST CANCER:

1. What are the risk factors for breast cancer?
 - ☐ Menopause
 - ☐ Smoking
 - ☐ Family history
 - ☐ I do not know
2. What are the signs and symptoms of breast cancer?
 - ☐ Pain
 - ☐ Palpable mass
 - ☐ Change in colour of the breast.
 - ☐ I do not know
3. How do you prevent breast cancer?
 - ☐ Early breast cancer screening
 - ☐ Changes in lifestyle
 - ☐ I do not know.
4. What is the method of breast cancer screening?
 - ☐ Mammogram
 - ☐ Fine needle biopsy aspiration
 - ☐ Blood test
 - ☐ I do not know.
5. How is breast cancer treated?
 - ☐ Surgical removal of cancer cells
 - ☐ Chemotherapy or radiation therapy
 - ☐ I do not know.

SECTION C: CERVICAL AND BREAST CANCER PERCEPTION

1. If a close friend had cervical or breast cancer, how would your relationship change?
 - ☐ I would support or help them.
 - ☐ I would reject them.
 - ☐ I do not know.

2. In prison, how is a woman with cervical or breast cancer treated?
 - ☐ Most people reject them.
 - ☐ Most people are friendly but generally try to avoid them.
 - ☐ The prison mostly supports and helps them.
 - ☐ I do not know.
3. How would you access the quality of life of a woman with cervical and breast cancer in prison?
 - ☐ Good
 - ☐ Average
 - ☐ Poor
 - ☐ I do not know.
4. In comparison to HIV, the stigma towards cervical and breast cancer is.
 - ☐ The same
 - ☐ Less
 - ☐ More
 - ☐ There is no stigma towards cervical and breast cancer.
 - ☐ I do not know.
5. How would you access cervical and breast cancer screening services while in incarceration?
 - ☐ Good
 - ☐ Average
 - ☐ poor
 - ☐ I do not know.
6. How often would you utilize cervical and breast cancer screening services when available?
 - ☐ Always
 - ☐ Often
 - ☐ Never
 - ☐ I do not know.
7. Can you describe the reason you would utilize cervical and breast cancer screening services when available.
 - ☐
8. Can you describe the reason/s you would not utilize cervical and breast cancer screening services when available.
 - ☐

Appendix G2: IsiZulu version



Isihloko soncwango:

Isimo sokuhlolwa komlomo wesibeetho kanye nezinsizakalo zokunakekelwa kwempilo yomdlavuzwa webele phakathi kwabesifazane ababoshiwe KwaZulu-Natal, eNingizimu Afrika.

Umphenyi omkhulu:

Nkosazane Lindokuhle Winnie Dube, Post-Graduate Diploma in Public Health, kanye ne-Bachelor of Technology in Biomedical Technology.

Abaqondisi:

Dr P Pillay, PhD

Dr BT Mkhize, PhD

ISIQEPHU A:

ISOCIODEMOGRAPHIC PROFILE

1. Ingakanani iminyaka yakho?

- ☐ Iminyaka engu-18 – 24 ubudala
- ☐ Iminyaka engu-25 – 30 ubudala
- ☐ Iminyaka engu-30 – 36 ubudala
- ☐ Iminyaka engu-36 – 44 ubudala

2. Luluphi uhlanga lwakho?

- ☐ Omnyama
- ☐ Okumhlophe
- ☐ AbeKhaladi
- ☐ iNdiya

3. Uthini ubuzwe bakho?

- ☐ eNingizimu Afrika
- ☐ Isakhamuzi sangaphandle

4. Sinjani isimo sakho somshado?

- ☐ Abangashadile
- ☐ Ushadile
- ☐ Uhlukanisile

5. Unesikhathi esingakanani uboshiwe?

- ☐ Iminyaka engu-1 – 5 ejele
- ☐ Iminyaka engu-6 – 10 ejele

- ☐ Iminyaka eyi-11 – 15 ejele
- ☐ Iminyaka engu-16 – 20 ejele
- ☐ Iminyaka engaphezu kwama-20 ejele.

6. Isizinda semfundo

- ☐ Imfundo yasesikoleni samabanga aphansi
- ☐ Imfundo yasesikoleni esiphakeme
- ☐ Imfundo ephakeme noma ephakeme
- ☐ Angikaze ngiye esikoleni.

UMLANDO WEZOCANSI

1. Bangaki abantu ocansini nabo empilweni yakho?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 noma ngaphezulu
- ☐ Angifuni ukudalula.

2. Yayingakanani iminyaka yokuya ocansini kokuqala?

- ☐ Ubudala obungaphansi kweminyaka eyi-15
- ☐ Phakathi kweminyaka eyi-16 – 21
- ☐ Phakathi kweminyaka engu-22 – 29
- ☐ Iminyaka engu-30 nangaphezulu
- ☐ Angifuni ukudalula.

3. Siyini isimo sakho se-HIV?

- ☐ Uhlolwe i-HIV+
- ☐ Uhlolwe i-HIV-
- ☐ Isimo se-HIV asaziwa
- ☐ Angifisi ukudalula isimo.

4. Uthini umlando wakho wokuhlaza?

- ☐ Wenza i-pap smear ngaphambi kokuboshwa.
- ☐ Wenza i-mammogram ngaphambi kokuboshwa.
- ☐ Wenza i-pap smear ngesikhathi esejele.
- ☐ Wathola i-mammogram ngesikhathi esejele.
- ☐ Angikaze ngiyenze i-pap smear noma i-mammogram ngaphambilini.

5. Unezingane ezingaki?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4

- ☐ 5 noma ngaphezulu
- ☐ Angifuni ukudalula.

ISIQEPHU B: ULWAZI LOMDLAVUZA WESIBELEKO NOWEBELE

UMDLAVUZA WESIBALO

1. Yiziphi izici eziyingozi zomdlavuza womlomo wesibeletso?
 - ☐ Ukutheleleka ngokocansi
 - ☐ Ukutheleleka nge-HPV
 - ☐ Abalingani bocansi abaningi
 - ☐ Ukungawasebenzisi amakhondomu
 - ☐ Angazi.
2. Yiziphi izimpawu nezimpawu zomdlavuza womlomo wesibeletso?
 - ☐ Ukukhipha isitho sangasese sowesifazane
 - ☐ Ukukhipha isitho sangasese sowesifazane
 - ☐ Ubuhlungu be-pelvic.
 - ☐ Ukuncipha kwesisindo somzimba
 - ☐ Angazi.
3. Uwuvikela kanjani umdlavuza womlomo wesibeletso?
 - ☐ Ukugqoka ikhondomu
 - ☐ Ukugonyelwa i-HPV
 - ☐ Ukuhlolwa umdlavuza womlomo wesibeletso kusenesikhathi
 - ☐ Angazi.
4. Iyiphi indlela yokuhlola umdlavuza womlomo wesibeletso?
 - ☐ I-Pap smear
 - ☐ Ukuhlolwa kwe-HPV
 - ☐ Ukuhlolwa kwegazi
 - ☐ Angazi.
5. Welashwa kanjani umdlavuza womlomo wesibeletso?
 - ☐ Ukususwa ngokuhlinzwa kwamangqamuzana omdlavuza
 - ☐ I-Hysterectomy
 - ☐ Ikhemotherapy noma ukwelashwa ngemisebe
 - ☐ Angazi.

UMDLAVUZA WEBELE:

1. Yiziphi izici eziyingozi zomdlavuza webele?
 - ☐ Ukunqamuka kokuya esikhathini
 - ☐ Ukubhema
 - ☐ Umlando womndeni

- ☐ Angazi.
- 2. Yiziphi izimpawu nezimpawu zomdlavuza webele?
 - ☐ Ubuhlungu
 - ☐ Isisindo esizwakalayo
 - ☐ Shintsha umbala webele.
 - ☐ Angazi.
- 3. Uwuvikela kanjani umdlavuza webele?
 - ☐ Ukuhlolwa umdlavuza webele kusenesikhathi
 - ☐ Izinguquko endleleni yokuphila
 - ☐ Angazi.
- 4. Iyiphi indlela yokuhlolwa komdlavuza webele?
 - ☐ I-Mammogram
 - ☐ Fine needle biopsy aspiration
 - ☐ Ukuhlolwa kwegazi
 - ☐ Angazi.
- 5. Welashwa kanjani umdlavuza webele?
 - ☐ Ukususwa ngokuhlinzwa kwamangqamuzana omdlavuza
 - ☐ Ikhemotherapy noma ukwelashwa ngemisebe
 - ☐ Angazi.

ISIQEPHU C: UKUBONA KOMDLALO WESIBELEKO NOWAMABELE

- 1. Uma umngane wakho onomdlavuza womlomo wesibeletso noma webele, ubudlelwano benu bungashintsha kanjani?
 - ☐ Ngingabasekela noma ngibasize.
 - ☐ Ngizobenqaba.
 - ☐ Angazi.
- 2. Ejele wephathwa kanjani owesifazane onomdlavuza wesibeletso noma webele?
 - ☐ Abantu abaningi bayabenqaba.
 - ☐ Abantu abaningi banobungane, kodwa ngokuvamile bayazama ukubagwema.
 - ☐ Ijele liyabeseka futhi liyabasiza.
 - ☐ Angazi.
- 3. Ungalifinyelela kanjani izinga lempilo yowesifazane onomdlavuza womlomo wesibeletso nowebele ejele?
 - ☐ Kuhle
 - ☐ Isilinganiso
 - ☐ Abampofu
 - ☐ Angazi.

4. Uma kuqhathaniswa ne-HIV, ingabe ukucwaswa kumdlavuza womlomo wesibekeletho nowebele kuyafana na?

- ☐ Okufanayo
- ☐ Okuncane
- ☐ Okuningi
- ☐ Akukho ukucwaswa kumdlavuza womlomo wesibekeletho nowebele.
- ☐ Angazi.

5. Ungafinyelela kanjani ezinsizakalweni zokuhlola umdlavuza womlomo wesibekeletho nowebele ngenkathi uboshiwe?

- ☐ Kuhle
- ☐ Isilinganiso
- ☐ abampofu
- ☐ Angazi.

6. Ungazisebenzisa kangaki izinsiza zokuhlola umdlavuza womlomo wesibekeletho nowebele uma zikhona?

- ☐ Njalo
- ☐ Ngokuvamile
- ☐ Ungalokothi
- ☐ Angazi.

7. Ungakwazi yini ukuchaza izizathu sokuthi usebenzise izinsiza zokuhlola umdlavuza womlomo wesibekeletho nowebele uma zikhona.

☐

8. Ungakwazi yini ukuchaza izizathu zokuthi ungeke ukwazi ukusebenzisa izinsiza zokuhlola umdlavuza womlomo wesibekeletho nowebele uma zikhona.

☐

Appendix H: Interview Guide (HCW)



Full Title of the Study:

The status of cervical screening and breast cancer healthcare services among incarcerated woman in KwaZulu-Natal, South Africa

Principal Investigator/s/researcher:

Miss Lindokuhle Winnie Dube, Post Graduate diploma in Public Health, and Bachelor of technology in Biomedical technology.

Co-Investigator/s/supervisor/s:

Dr P Pillay, PhD

Dr BT Mkhize, PhD

SECTION A: SOCIDEMOGRAPHIC PROFILE

1. What is your age?

- ☐ 18 – 24 years old
- ☐ 25 – 30-year-old
- ☐ 30 – 36-year-old
- ☐ 36 – 44 years old

2. What is your race?

- ☐ Black
- ☐ White
- ☐ Coloured
- ☐ Indian

3. What is your nationality?

- ☐ South African
- ☐ Foreign citizen

4. Educational background.

- ☐ Doctor
- ☐ Nurses or sister
- ☐ Support staff or clerical staff

SECTION B:

1. What general health care services do you provide for the female inmates?

2. What healthcare is available for women who complain of symptoms such as irregular menstrual bleeding, lower abdominal pain, vaginal discharge, or other similar gynaecological symptoms?

3. How are women who complain of breast related symptoms such as breast lumps, pain or nipple discharge get treated?

4. Are you adequately equipped to treat or manage such health concerns (breast and gynaecological) among the inmates?

5. Does the prison have adequate support structures and healthcare for women with cervical or breast cancer? (Leading questions about challenges experienced and how they could be addressed)

6. Does the prison have basic educational and healthcare promotion programs for incarcerated woman?

7. How would you access cervical screening and breast cancer services among incarceration?

8. What do you suggest should be done to improve utilization of cervical screening and breast cancer services among incarcerated women?

9. Have you ever encountered a case of a women with cervical or breast cancer before?

10. How was that case handled

Appendix I: Cytology Laboratory Data Collection Tool



Patient information

Patients accession number:

Date of birth:

Gender

Cervical Cancer Screening:

1. Date of Pap Smear Test:

2. Type of Test (e.g., Pap Smear, HPV Test, etc.):

3. Result of Pap Smear Test:

- Negative
- Atypical Squamous Cells of Undetermined Significance (ASC-US)
- Low-grade Squamous Intraepithelial Lesion (LSIL)
- High-grade Squamous Intraepithelial Lesion (HSIL)
- Squamous Cell Carcinoma
- Endocervical adenocarcinoma
- Endometrial adenocarcinoma

4. Additional Comments/Notes:

- Infection results

Breast Cancer healthcare services:

1. Result of Mammogram/Test:

- Negative
- Benign Finding
- Suspicious Finding
- Highly Suggestive of Malignancy
- Malignant
- Other (Specify)

2. Follow-up Information (if applicable):

- Reason for Follow-up:
 - Outcome of Follow-up:
 - Normal/Clear
 - Abnormal Finding Resolved
 - Further Testing Required
 - Referral to Specialist
-

Appendix J: Research Ethics Certificate



Zertifikat Certificat Certificado Certificate

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

Certificat de formation - Training Certificate

Ce document atteste que - this document certifies that

 lindokuhle dube

a complété avec succès - has successfully completed

Introduction to Research Ethics

du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

Release Date: 2019/02/07
CID: NC5qHbXk

Professeur Dominique Sprumont
Coordonnateur TRREE Coordinator

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[REV: 202/017]

Appendix K1: IREC Provisional Approval Letter



Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Barwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P.O. Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375

Email: lavishadi@dut.ac.za

http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

4 April 2024

Ms L W Dube
P.O. Box 11689
Merryvale
Pietermaritzburg

Dear Ms Dube

The status of cervical screening and breast cancer healthcare services among incarcerated women in KwaZulu-Natal, South Africa

I am pleased to inform you that **PROVISIONAL APPROVAL** has been granted to your proposal subject to:

- Piloting of the data collection tools. Please note that should there be any changes to the data collection tools, in a letter signed by the researcher and supervisor, list the changes to the document and submit to DUT-IREC with the final data collection tools. Even when there are no changes to the data collection tools, DUT-IREC has to be notified.
- Obtaining and submitting the necessary gatekeeper permission/s to DUT-Institutional Research Ethics Committee (DUT-IREC).

PLEASE NOTE THAT THIS IS NOT A FINAL APPROVAL LETTER. KINDLY SUBMIT THE ABOVE MENTIONED DOCUMENTS WITHIN THREE MONTHS TO THE DUT-IREC OFFICE. DATA COLLECTION CAN ONLY COMMENCE WHEN DUT-IREC ISSUES FULL APPROVAL

The Proposal has been allocated the following Ethical Clearance number **IREC 240/23**. Please use this number in all communication with this office.

Approval has been granted for a period of **ONE YEAR**, before the expiry of which you are required to apply for safety monitoring and annual recertification. Please use the Safety Monitoring and Annual Recertification Report form which can be found in the Standard Operating Procedures [SOP's] of the DUT-IREC. This form must be submitted to the DUT-IREC at least 3 months before the ethics approval for the study expires.

It is compulsory for a student or researcher to apply for recertification on an annual basis. The failure to do so will result in withdrawal of ethics clearance. It is the responsibility of the researcher and the supervisor to apply for recertification.

Yours Sincerely

Prof J K Adam
Chairperson: DUT-IREC

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transparency • honesty • integrity • respect • accountability
fairness • professionalism • commitment • compassion • excellence



Appendix K2: IREC Approval, Ethics Clearance Number: IREC 240/23



11 September 2024

Ms L W Dube
P.O Box 11689
Merryvale
Pietermaritzburg

Dear Ms Dube

The status of cervical screening and breast cancer healthcare services among incarcerated woman in KwaZulu-Natal, South Africa
Ethics Clearance Number: IREC 240/23

The DUT-Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the DUT-IREC acknowledges receipt of your gatekeeper permission letters.

Please note that **FULL APPROVAL** is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the DUT-IREC according to the DUT-IREC SOP's.

Please note that any deviations from the approved proposal require the approval of the DUT-IREC as outlined in the DUT-IREC SOP's.

It is compulsory for a student or researcher to apply for recertification on an annual basis. The failure to do so will result in withdrawal of ethics clearance. It is the responsibility of the researcher and the supervisor to apply for recertification.

Please note that you are required to submit a **Notification of Completion of Study** form together with an abstract to the **DUT-IREC** office on completion of your study.

Yours Sincerely

Professor P Mashau
Chairperson: DUT-IREC

Appendix L: Social worker appointment letter

P O Box 11689
Merryvale, Howick
Pietermaritzburg, 3209
Lindokuhle Winnie Dube, dub.lw.16@gmail.com, 082 264 9793

Date: 09 September 2024

To
Ms Yonela Mncane
Email address: mncaney18@gmail.com
Qualification: Bachelor's degree Honors in Psychology
Contact no: 073 409 2663

LETTER OF APPOINTMENT

Dear Ms Mncane,

Referring to your recent interview for the position of social worker, I am pleased to offer you the position within our research study titled, **The status of cervical screening and breast cancer healthcare services among incarcerated women in KwaZulu Natal, South Africa** effective from 05 September 2024 under the following terms and conditions:

Responsibilities and duties

- Assist the researcher with the recruitment process of participants during data collection process.
- Assist the researcher with debriefing and counselling services to the research participant during information section.
- The counselling/psychology services provided are free of charge as agreed upon by the researcher and appointee herewith undersigned in the appointment letter.

Duration/working hours

- Your services will be required for the whole duration of data collection.

We are looking forward to working with you.

Regards

Researcher: Lindokuhle Winnie Dube

signature: ✓

Date: 09/09/24

Appointee:

Name: Ms. Yonela Mncane.

Signature:

Date: 09/09/2024 |

Appendix M: Supplementary Results

Table M1: Significant Associations between Cervix Condition and Retrovirus Status (Based on Adjusted Residuals)

Cervical Screening Outcome	Retrovirus Status	Adjusted	p-value	Interpretation
Healthy	Not indicated	-5.8	< 0.001	Significant Under-Representation
Healthy	ARV Treatment	+3.5	< 0.001	Significant Over-Representation
Unknown	Not indicated	+6.5	< 0.001	Significant Over-Representation
Unknown	Positive	-2.3	0.024	Significant Under-Representation
Unknown	ARV Treatment	-4.1	< 0.001	Significant Under-Representation

Only cells with a significant adjusted residual ($|z| > 1.96$, $*p^* < .05$) are shown

Table M2: Significant Associations between Cervix Condition and Cultured Pathogens (Based on Adjusted Residuals)

Cervical Screening Outcome	Cultured Pathogens	Adjusted	p-value	Interpretation
Healthy	Candida Species (Fungal Organisms Morphology)	-4.8	< 0.001	Significant Under-Representation
Unknown	Candida Species (Fungal Organisms Morphology)	+4.8	< 0.001	Significant Over-Representation

Only cells with a significant adjusted residual ($|z| > 1.96$, $*p^* < .05$) are shown

Table M3: Significant Associations between Cervix Condition and Retrovirus Status (Based on Adjusted Residuals)

Cervical Screening Outcome	Cervical cytological findings	Adjusted	p-value	Interpretation
Inflammatory	Atypical Cells-Warrant Further Investigation (NB: Quality Limiting Factor)	+4.0	< 0.001	Significant Over-Representation
Inflammatory	Cytological Diagnosis Deferred	+4.0	< 0.001	Significant Over-Representation

Only cells with a significant adjusted residual ($|z| > 1.96$, $*p^* < .05$) are shown

Appendix N: Proofreading Certificate



Proofreading Certificate

It is hereby certified that this dissertation has been proofread and edited for spelling, grammar and punctuation by a professional English language editor from www.OneStopSolution.co.za

Client

LINDOKUHLE WINNIE DUBE

THE STATUS OF CERVICAL SCREENING AND BREAST CANCER HEALTHCARE SERVICES AMONG INCARCERATED WOMEN IN WESTVILLE CORRECTIONAL FACILITY KZN, SOUTH AFRICA

Editor

Dr. Thoko Batyi

.....
Name

.....
Signature

16 June 2026

.....
Date

I cannot guarantee that the changes that I have suggested have been implemented nor do I take responsibility for any other changes or additions that may have been made subsequently. The track changes of the language editing will be available for inspection upon enquiry, for a period of one year.

Contact

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