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DETERMINANTS AND OUTCOMES OF CERVICAL CANCER SCREENING IN NYANGA DISTRICT, MANICALAND, ZIMBABWE 2024

BY

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Abstract

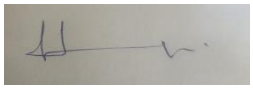
Cervical cancer remains a significant public health challenge in low- and middle-income countries, ranking as the fourth most diagnosed malignancy among women worldwide. Sub-Saharan Africa bears a disproportionate burden of cervical cancer, with Zimbabwe among the countries most severely affected. The World Health Organization estimates that Zimbabwe experiences a cervical cancer mortality rate of 17.6%, primarily impacting poor, rural women. Importantly, cervical cancer is treatable if detected early.This study investigates the determinants and outcomes of cervical cancer screening in Nyanga District, Manicaland, Zimbabwe, in 2024. Prompted by persistently low uptake of Visual Inspection with Acetic Acid and Cervicography (VIAC) screening, which has hindered the district from meeting its annual screening targets, this research aimed to identify factors influencing screening behaviors and outcomes. VIAC is the district's sole cervical cancer screening method, complemented by cryotherapy for treating precancerous lesions.A 1:1 case-control study design was utilized to examine demographic, socio-economic, socio-cultural, and health-related factors affecting cervical cancer screening. Data were collected through interviewer-administered questionnaires and analyzed using Epi Info, with additional insights gathered from key informants.The findings revealed that all participants were aware of cervical cancer screening, with 87.5% demonstrating knowledge of cervical cancer risk factors. The mean age of participants was 37 years, and screening uptake increased with increasing age and parity. Educational attainment significantly influenced screening, with higher rates observed among women with secondary or tertiary education. Socio-economic barriers, including financial constraints (47%) and inadequate healthcare facilities (64.2%), were major impediments to screening, as only two facilities in the district provided VIAC services. Additional barriers included fear of diagnosis, stigma, and lack of awareness.This study underscores the urgent need to address structural, socio-economic, and cultural barriers to enhance cervical cancer screening uptake in Nyanga District. Improved healthcare infrastructure, targeted awareness campaigns, and financial support are critical to reducing the cervical cancer burden and achieving equitable access to screening cervical cancer.

Key words

Determinants of cervical cancer screening , Cervical cancer ,VIAC

Declaration

I, Majoni John Muungani, do hereby declare that this proposal is my original work except where sources have been cited and acknowledged. This work has never been submitted, nor will it ever be submitted to another university for the award of a Masters' degree.

Majoni John Muungani  25/03/25

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LIST OF ACRONYMS

AU:	Africa University
AUREC:	Africa University Research Ethics Committee
CCa:	Cervical Cancer
CI:	Confidence Interval
CT:	Computed Tomography
DNA:	Deoxyribonucleic acid
HCWs:	Health Care Workers
HIV:	Human Immunodeficiency Virus
HPV:	Human Papilloma Virus
ICE:	Information Communication and Education
LEEP:	Loop Electrosurgical Excision Procedure
LMICs:	Low and Middle-Income Countries
MRI:	Magnetic Resonance Imaging
NCDs:	Non-communicable Diseases
OR:	Odds Ratio
PET:	Positron Resonance Imaging
UK:	United Kingdoms
SES:	Social Economic Status
SSA:	Sub-Saharan Africa
WHO:	World Health Organization

Definition of terms

1. Visual inspection with acetic acid and Cervicography

Visual Inspection With Acetic Acid (VIA) is a method that is used to screen cervical cancer , it involves the application of 3-5% acetic acid to the cervix to identify precancerous cells.

Cervicography is the photographic dicumentation of the cervix after application of acetic acid this improves visualization of the cervix (Sankaranarayanan & Nene, 2001)

2. **Cervical** Cancer malignant tumour that occurs on the cervix (World Health Organistation [WHO], 2020)

3. **Human papilloma virus** is a group of viruses that are associated with various cancers and genital warts (Centres for disease control and prevention [CDC],2021)

4. **Cryotherapy** apllication of extreme cold to destroy precancerous cells (O'Leary & O'Leary ,2018)

5. **Histology** study of the microscopic structures of tissues , cellular composition and organization (Janqueira &Carneiro , 2013)

TABLE OF CONTENTS

List of figures

List of tables

List of Appendices

CHAPTER ONE INTRODUCTION

1.1 Introduction

Cervical cancer (CCa) is the seventh most commonly diagnosed cancer in the world after breast, lung, colorectal, prostate, stomach, and liver cancer respectively (Thistle et al., 2020). It is the fourth most diagnosed malignancy in women worldwide with an estimated 604,000 new cases and 342,000 deaths annually (Zibako et al., 2022). About 85% of the global burden occurs in the less developed regions and third world countries (Chen, 2022). Cervical cancer accounts for about 3.3% of all female cancer deaths worldwide. Most CCa deaths occur in less developed countries with prevalence highest in Asia (59.5%) and Africa (15%) (Bray et al., 2018). Every year across Africa, 76,745 deaths are recorded in women who are diagnosed with cervical cancer (Fentie et al., 2020) with Sub-Saharan Africa (SSA), having the highest burden of disease.

According to World Health Organisation (WHO), Zimbabwe has CCa mortality rates of 17.6 % (Taghavi et al., 2022), the majority being poor, rural women. Of all the most common cancers in Zimbabwe, CCa has the highest mortality, followed by prostate cancer, oesophageal cancer and breast cancer respectively (Taghavi et al., 2022). The incidence of cervical cancer is the highest at 18.3%, followed by breast cancer (10.8%) and Kaposi sarcoma (9.0%) respectively (Deo et al., 2022). Most cervical cancers are attributable to Human Papilloma Virus (Thistle et al., 2020) which is sexually transmitted hence most women (greater than 80%) will acquire it during their lifetime (Tapera, Dreyer, et al., 2019).

The risk factors for CCa include sexual intercourse at an early age, multiple sexual partners, multi-parity, sexually transmitted diseases, tobacco smoking, long-term combined oral contraceptive use, immunosuppressive therapy and micronutrient

deficiency (Zibako et al., 2021). Social predisposing factors such as lack of education, poverty, living further from a health facility or never having had a Human Immunodeficiency Virus (HIV) test are also significantly associated with lack of awareness of cervical cancer (Zibako et al., 2021).

The main strategies of CCa prevention include immunization with the Human Papilloma Virus (HPV) vaccine and screening for cervical cancer to detect and remove pre-cancerous lesions (Chin'Ombe et al., 2014). HPV vaccines can prevent HPV infection, the cause of cervical cancer. Approximately 70% of cervical cancers are caused by HPV 16 and HPV 18 subtypes (12, 13). HPV vaccines are recommended for girls aged 9 to 14 years (Zibako et al., 2021), before coitarche. All women, especially those aged 25–49 years, should undergo a screening test to determine if they have pre-cancerous cervical lesions or if there is a high risk of developing one due to an HPV infection. Three different early detection tests are currently available; HPV DNA test, PAP (Papanicolaou) test and Visual Inspection with Acetic Acid (VIA) or lugols iodine. The type of test used may vary from country to country, depending on the national guidelines (American Cancer Association, 2016).

This study aims to analyze the determinants and outcomes of cervical cancer screening in Nyanga District to provide evidence-based recommendations for improving screening uptake and outcomes. By identifying the factors influencing screening behaviors and evaluating the effectiveness of current screening initiatives, this research will contribute to the development of targeted interventions to reduce the burden of cervical cancer in the district.

1.2 Background

In May 2018, the WHO issued a call for the elimination of CCa globally and many countries as well as international academic societies acted positively. Thereafter, in 2020 WHO released the global strategy to accelerate the elimination of CCa as a public health problem and to spearhead cervical cancer prevention and control in the future. Regular screening and early treatment, which is called screen and treat, significantly decreases the incidence of cervical cancer (Taghavi et al., 2022).

In Zimbabwe, the "See, Screen, and Treat" strategy was adopted in 2012 as many VIAC clinics across the country had shown the efficacy of this method. Immunization with the Human Papilloma Virus (HPV) vaccine for prepubertal girls has also been rolled out throughout the country of Zimbabwe (Fallala & Mash, 2015).

Visual Inspection with Acetic Acid and Camera (VIAC) entails performing a vaginal speculum examination during which a health care provider applies 3–5% acetic acid or Lugols iodine (VILI) to the cervix. Abnormal pre-cancerous tissue on the cervix temporarily appears white when exposed to acetic acid. In Schiller's test where Lugols iodine is used, pre-cancerous lesions and invasive cancer do not take up iodine (as they lack glycogen) and appear as well-defined, thick, mustard or yellow areas (Fallala & Mash, 2015). Viewing of the cervix can be done with the naked eye or with a digital camera to identify changes on the cervix. Patients who have a VIAC positive result can then undergo one of the treatment modalities offered. These treatment modalities include Loop Electrosurgical Excision Procedure (LEEP) and ablation techniques such as cryotherapy, cone biopsy and cauterization (Moran, 2021).

In many LMICs, screening programs do exist in some form, however, they tend to be opportunistic and not organised. Consequently, these programs are failing to achieve

a major impact in most settings with low screening uptake (World Health Organization, 2012; Sankaranarayanan et al., 2015; Islam et al., 2018). Numerous studies have reported a broad range of barriers to CCa screening uptake in LMICs in which socio-cultural, religious and structural barriers are foremost (Rajaram and Rashidi, 1999; Anderson, 2010; Harford, 2011; Story et al., 2012; Garrett and Barrington, 2013; Khazaee-Pool et al., 2014). Many of the barriers are based on speculation rather than on research-derived evidence (Harford, 2011). Given the high disease burden from CCa, a more detailed understanding of the barriers is urgently needed to help in prevention and the planning of interventions to improve participation in screening.

Cervical cancer is the most preventable type of human cancer because of its slow progression, cytological identifiable precursors, and effective treatment (Nakisige et al., 2017; Bray et al., 2018). A comprehensive approach that includes prevention, early diagnosis, effective screening and treatment programs has widely been acknowledged as the most effective method for cervical cancer control for it is associated with reduced incidence, morbidity and mortality from the disease (Maine et al., 2011; Sankaranarayanan et al., 2013). The Visual inspection with 3–5% acetic acid (VIAC) is one of the most widely used low-cost screening techniques which can be performed with modest equipment and does not require laboratory infrastructure as well as can be performed by trained doctors, nurses and midwives (Maree et al., 2012; Huchko et al., 2015).

In Zimbabwe, in order to make cervical cancer screening affordable to the majority of women in the country, VIAC is offered for free in public hospitals (Kuguyo et al., 2017). Yet, despite these efforts, the uptake of cervical cancer screening in Zimbabwe is still quite low. The uptake of cervical cancer screening stands at 9.4% (all women

aged 25–64 years) in the country (Bray et al., 2018). For instance, in Chegutu Rural District which has a population of 47,916 women aged 15–47 years, only 2.1% have been screened for cervical cancer through VIAC since 2014. There is low uptake of cervical cancer screening in Zimbabwe and other Southern African countries (e.g., Swaziland and Malawi), despite the fact that these countries have the highest age-standardized incidence rates globally of 62.3, 75.3 and 72.9 per 100,000, respectively (Msyamboza et al., 2016; Bray et al., 2018; Ngwenya & Huang, 2018).

Nyanga district has low uptake of cervical cancer screening despite these services being offered for free at the Government and Mission hospitals in the district. With this background I have decided to look at the determinants of cervical cancer screening in Nyanga district and also the factors associated with different outcomes of the screening.

1.3 Problem Statement

According to the Ministry of Health and Child Care (MoHCC) at least 70% of women child bearing age (WOCBA) should have undergone cervical cancer screening. In Manicaland Province, according to statistics obtained from the District Health Information System 2 (DHIS2), there has been a gradual increase in the number of women receiving cervical cancer screening and treatment since 2022, however this increase is insignificant as it falls far below the expected 70% of the total women of child bearing age (WOCBA). In 2022, out of the 33385 WOCBA in Nyanga District only 235 (0.70%) received VIAC services and in 2023, out of the 33372 WOCBA only 523 (1.57%) women received VIAC services. The number of women screened in 2022 and 2024 is far below the expected 70% as shown in figure 1 below.

Also, in 2022, there were only 7 positive cases who were treated successfully with Thermocoagulation and 7 suspicious of cancer cases who had punch biopsy collected and referred to Victoria Chitepo Provincial Hospital and in 2023, there were there were 3 positive cases and only 2 were treated successfully with Thermocoagulation and 2 suspicious of cancer cases who had punch biopsy collected and referred to Victoria Chitepo Provincial Hospital for further management. It costs USD 30 for the punch biopsy to be processed and further diagnosis to be made at the secondary or tertiary level. The majority of the women live in poverty and cannot afford the amount leading to poor outcome.

Furthermore, the increase in the number of screening is mainly because HIV positive clients are constantly being reminded to be screened when they come to collect their ART medications as they are expected to be screened yearly.

It is against this background that the researcher wishes to investigate the determinants and outcomes of cervical cancer screening in Nyanga District, Manicaland, Zimbabwe 2024.

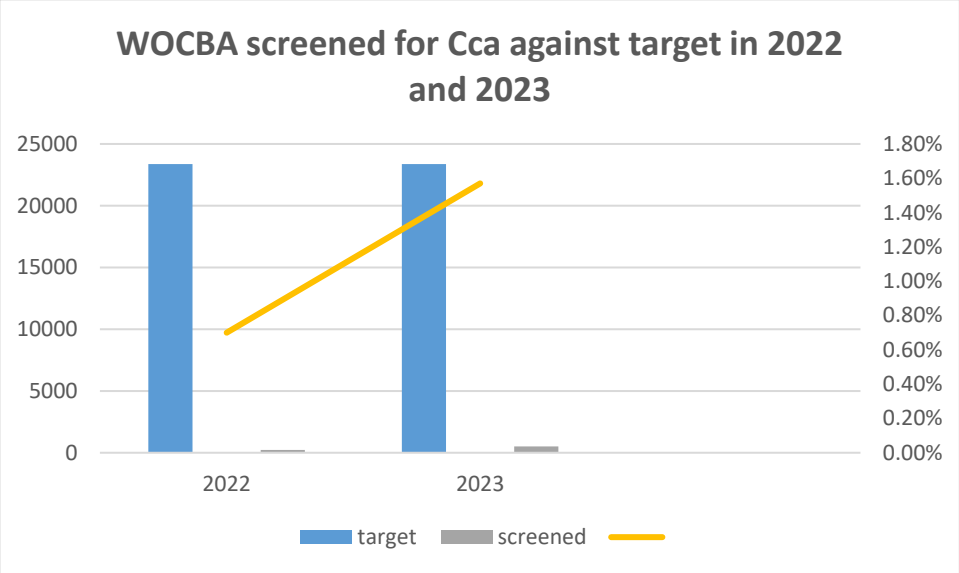

Figure 1: Women screened for cervical cancer against target in Nyanga District, 2022-2023

1.4 Justification

The findings of the study will help clarify the factors that act as facilitators or barriers to CCa screening. Therefore, these factors will inform policy makers, health workers, communities, families and caregivers as well as patients themselves on what needs strengthening and gaps that need to be addressed.

1.5 Research Question

What are the determinants and outcomes of cervical cancer screening in Nyanga District, 2024?

1.6 Research Objectives

1.6.1 Broad Objective

The aim of this study is to investigate the determinants and outcomes of cervical cancer screening among women of child bearing age in Nyanga District, Manicaland Province, 2024.

1.6.2 Specific Objectives

This study seeks to:

- To determine the socio-demographic, socio-cultural and socio-economic factors influencing cervical cancer screening uptake in Nyanga District, 2024.
- To examine the healthcare-related factors affecting cervical cancer screening in Nyanga District, 2024.
- To determine the knowledge and awareness levels about cervical cancer and its screening among women in Nyanga District, 2024.

- To evaluate the outcomes of cervical cancer screening in terms of early detection and treatment in Nyanga District, 2024.
- To identify barriers and facilitators to cervical cancer screening in Nyanga District, 2024.

1.7 Research questions

- What were the socio-demographic, socio-cultural and socio-economic factors influencing cervical cancer screening uptake in Nyanga District, 2024?
- What were the knowledge and awareness levels about cervical cancer and its screening among women in Nyanga District, 2024?
- What were the outcomes of cervical cancer screening in terms of early detection and treatment in Nyanga District, 2024?
- What were the barriers and facilitators to cervical cancer screening in Nyanga District, 2024?

1.8 Delimitations

Geographic location: The research will focus only on population residing in Nyanga District. The participants for the study will come from Nyanga District given that the research period does not allow the researcher to cover the entire province.

Age range: The participants' age range from 18 years and above years and will only be focused on women of child bearing age.

Sample size: The sample size will be calculated using Dobson formula at 95%CI and will not include all the women of child bearing age in the district

Data collection method: The researcher will only use interviewer-administered questionnaires as data collection method

Timeframe: The study will only examine data from 2024

1.9 Limitations

The major limitation of the study will be time to conduct an exhaustive study around the research topic.

Access to key informants will also be a challenge as they will be involved with their daily activities. However, the researcher will make some appointments and sent some briefing interview guides to reduce the time factor.

1.10 Summary

The chapter has given an introduction to CCa, background to the study and the statistics of people affected by the disease globally. The broad objective of the study is to analyze the determinants and outcomes of cervical cancer screening in Nyanga District 2024. Justification and the need for the study was specified within the chapter.

CHAPTER TWO REVIEW OF RELATED LITERATURE

2.0 Introduction

Cervical cancer has previously been perceived as a disease that affects western countries. Over the years this has changed rapidly and now the disease is common world over. The chapter closely examines literature on the factors associated with the development of cervical cancer and possible outcomes such as demographic characteristics, socio-economic, healthcare provider related causes, health system causes, lifestyle/behavioural factors and disease related causes.

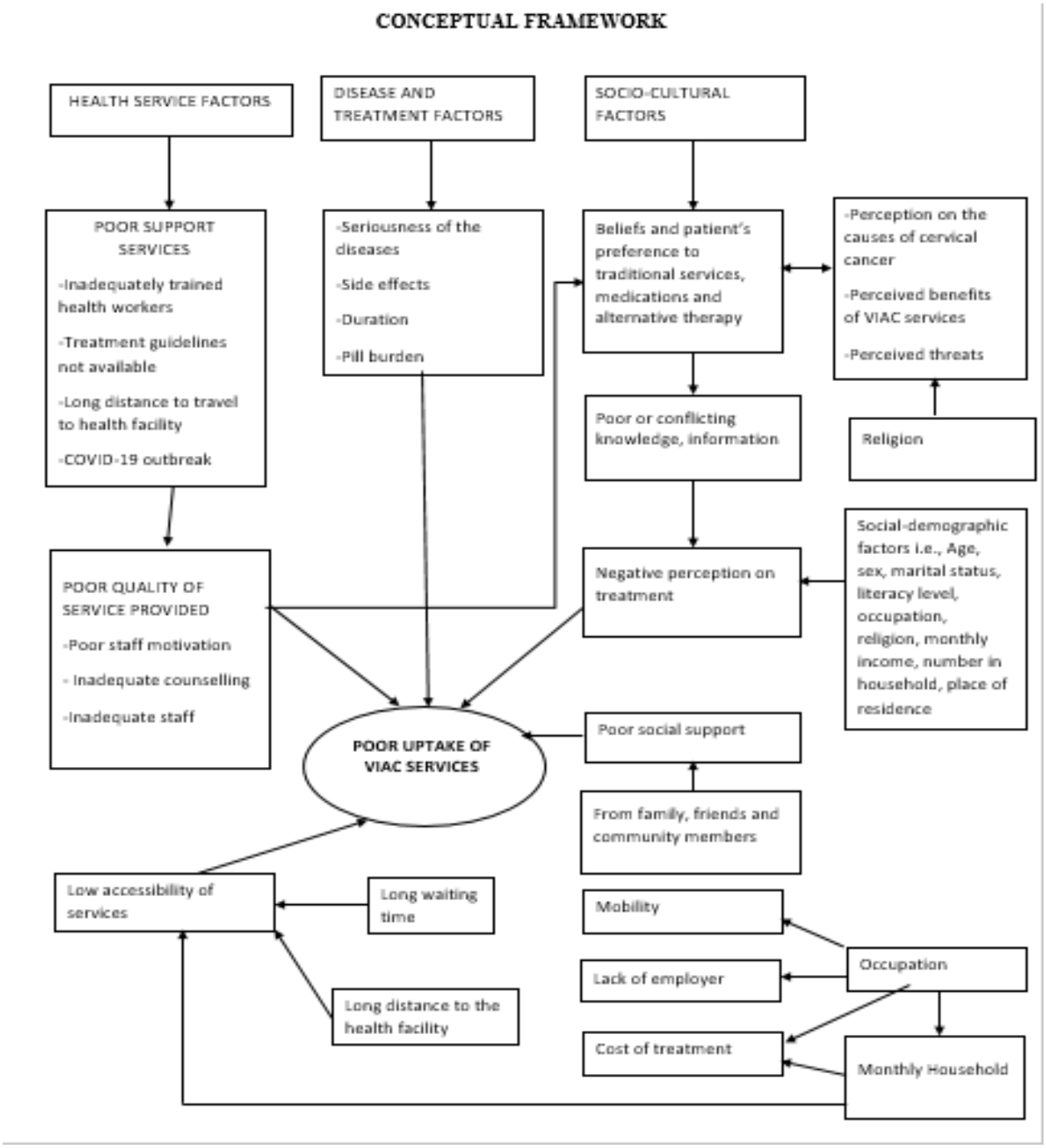

Figure 2: A conceptual framework for factors associated with poor uptake of VIAC services. Adapted and adopted from Mandewo, Doge, Chideme-Munodawafa & Mandewo, 2014.

2.1 Factors contributing to uptake of VIAC services

The factors associated with VIAC services uptake can be broadly classified into socio-demographic, socio-economic, socio- cultural characteristics, healthcare provider

related causes and health system causes (Fentie et al., 2020). The conceptual framework in figure 2 above shows how these factors are related.

2.2.1 Socio-demographic factors

Socio-demographic factors influence VIAC services uptake globally. Studies have shown that high levels of poor VIAC uptake is common in young women. A study done in Tanzania revealed that proportion of poor VIAC uptake was greater in young women than their older counterparts at 45.3% and 31.9% respectively as they cited lack of partner support, fear of discrimination and stigmatization (Pablo, Mohammad Nezhad, Wilson & Khan, 2018). Similar studies have been done which also revealed that young women shun away from VIAC services (Abougalambou, Suleiman & Abougalambou, 2015). In Zimbabwe, in Gwanda District, similar findings were noted as women did not go for VIAC services because men either showed indifference to screening, or for varied reasons openly refuse to support their wives on their decisions to screen (Brier & lia dwi jayanti, 2020). One key informant was noted saying that; *"These young women, are afraid of their husbands. If they are screened and test VIAC positive, they are afraid of what the husband will say. They will be afraid that they will lose their marriages because the husband will ask where she got the disease from."*

In the African context, the majority of families are extended families as such lack of family support can hinder individuals accessing health services such as VIAC services if the family members are against it. Such findings were made in the study carried out in Gwanda where key family members were reported as having a significant influence on women's lack of participation in VIAC screening (Brier & lia dwi jayanti, 2020). One key informant reported that; *"The challenge that we often see is those who stay with their mothers in law. They are the women who will come later in need of such*

services telling you that they couldn't manage to come earlier in fear of explaining the reason for visiting the facility to their mothers in law."

A study carried out in Chegutu showed that unmarried individuals were two times more likely to visit the health facility for VIAC services than their married counterparts as they cited that they had freedom over their choices on health seeking (Nyamambi et al., 2020). Similar findings were made in Bikita were single mothers and sex workers visited the health facility for VIAC screening more that those who were married (Tapera, Kadzatsa, et al., 2019)

2.2.2 Socio-economic factors

Socio-economic factors play a significant role in the uptake of VIAC services amongst women (Wah Oo et al., 2020). The association between low Social Economic Status (SES) and poor uptake of VIAC services is probably a result of three sets of mediating variables such as adverse health-related behaviours, comorbid conditions, and non-adherence to essential health service-related practices (Rahman, Nakamura, Hasan, Seino & Mostafa, 2020).

Economic challenges related to transport costs for travel to the district or provincial hospital where screening is done, and treatment costs for women who test VIAC positive and require LEEP to be performed, was viewed as another hindrance to screening in a study carried out in Gwanda (Brier & lia dwi jayanti, 2020). Whereas screening is free, women are required to pay for associated services such as LEEP and laboratory fees for a specimen collected during the procedure.

According to research investigating the relationship between socio-economic status (SES) and health-seeking behaviours in both developed and developing countries, results found that low SES is associated with poor health-seeking behaviours, tobacco

use, physical inactivity, non-adherence to health appointments, and an unhealthy diet (Rahman et al., 2020). Families that are economically disadvantaged cannot afford to do their laboratory investigations or keep up with their follow-up appointments as they cannot afford it. It is therefore more difficult for this group to partake in health programmes such as the VIAC programme (Ezegbogu, 2018).

A study carried out in Kenya, showed that economic factors manifested themselves in participants' poverty level, which affected the patient's ability to travel to health facilities were services are being offered, food security, access to recommended foods (Abdulrahman et al., 2016).

A cross-sectional study carried out in Ghana noted that 34.4% of the respondents identified financial constraints as the major reason for not getting screened (Akpalu, Yorke, Ainuson-Quampah, Balogun & Yeboah 2018). This corresponds to the findings in Zimbabwe were 59% of the participants were not screened due to lack of finance (Mutowo, 2017). Shortages of trained staff at government hospitals resulted in poor uptake of VIAC programme (Zibako et al., 2022).

2.2.3 Socio-cultural factors

Socio-cultural and religious beliefs are strong barriers to cervical cancer screening. Studies carried out in Gwanda and Bikita identified that certain religious sects that do not allow its members to attend health services as they perceive that to be a demonstration of lack of faith in God's healing powers (Brier & Iia dwi janyanti, 2020; Nyamambi et al., 2020). Cancer is also construed as a traditional illness requiring traditional management. This belief is widespread in the districts inclusive of urban communities.

In a study carried out in Chegutu, it was identified that women shun away from cervical cancer screening as they would be stigmatized (Nyamambi et al., 2020). It was reported that women feared being spotted at VIAC clinics as they could be labelled as having cervical cancer. For outreach services, going for screening is a declaration that one is HIV positive, and that is not acceptable to some people concerned.

VIAC screening is viewed as an intrusion into one's privacy and is reportedly one of the factors that deter women from screening (Brier & lia dwi jayanti, 2020). In a study carried out in Gwanda, women were concerned about exposing their private parts except during labour and delivery because then, they do not have a choice. They found the VIAC procedure embarrassing and culturally inappropriate. If a different method which does not entail exposing one's private parts could be used, more women were willing to be screened. Still related to modesty issues, in the same study, participants reported that women were not comfortable exposing themselves to male doctors, which was highlighted as a barrier to screening.

2.2.4 Health care provider factors

In a study conducted in Kenya, being attended by a male nurse was cited as a factor contributing to women not seeking VIAC screening services at health facilities (Fitzpatrick et al., 2020). Similar findings were made in Zimbabwe in a study carried out in Chegutu District were the women also cited that they would not accept being screened by a male nurse and would rather not get screened (Nyamambi et al., 2020).

The Zimbabwean health sector is being affected by brain drain as trained workers and the more experienced are looking for better paying jobs and migrating to greener pastures such as the United Kingdoms (UK) (Shato, 2021). As such, HCWs trained in VIAC services are in short supply in government hospitals, for instance, in Nyanga,

there are only two nurses trained in VIAC services serving the whole district as such if the nurse is on off days, vacation or falls ill, there will be no VIAC services offered in the district. Studies conducted in Bulawayo and Chegutu, it was also noted that brain drain of trained staff in VIAC services was the major barrier to VIAC services access (Padingani et al, 2018; Nyamambi et al., 2020).

Similarly, in a study carried out in Gwanda, service providers cited that staff shortages are a major hindrance to cervical cancer screening as only a few members of staff are involved in the delivery of the service (Brier & lia dwi jayanti, 2020). In the study, it was noted that there was lack of trained health personnel to meet the demand for screening and this was attributed to the high staff turnover of those trained and lack of proper training to enable available nurses and doctors to conduct screening. Some trained providers were assigned to service areas not related to screening, thus negatively affecting delivery of screening services. At some health facilities, the same personnel who provide screening also provide other maternal and child health services and this increases their workload (Brier & lia dwi jayanti, 2020). The time within which screening sites are operational is hence limited. This has an impact on the number of women who can be screened since women have to wait for the availability of the few skilled staff to access the service.

2.2.5 Health system factors

Poor uptake of VIAC services is attributed to a number of health service factors such as poor support services, inadequate health workers, treatment guidelines not available, poor quality of service provided, poor staff motivation, inadequate counselling. Patients who have to depend on government facilities in Zimbabwe are faced with a

crippled health system which is characterized by shortage of health care workers, shortage of drugs and poor support systems.

The current economic situation prevailing in Zimbabwe has seen the health workforce employed by the government going on industrial action time and again especially nurses and doctors advocating for better working conditions and remuneration. The interruption in service provision results poor running of programmes such as the VIAC programme as service providers will not be available resulting in patients being missed. Due to the hardships in Zimbabwe, brain drain is occurring as health care personnel are looking for greener pastures resulting in poor service provision and poor service delivery.

Due to poor service provision being offered at health facilities, possible cervical cancer patients are turning to traditional medicines such as herbs which would have not been medically proven in terms of pharmacodynamics and pharmacokinetics as well as dosage and frequency (Mabvurira, 2020).

Another study carried out in Gwanda District in Zimbabwe, it was noted that lack of access to screening services was the most cited barrier to screening (Brier & lia dwi jayanti, 2020). In the study, women maintained that screening services were not available at their local health facilities. The long distances they had to travel to reach the nearest screening sites usually located at tertiary levels of health care, were a deterrent to screening. This had financial implications in terms of transport costs and time lost. Some women expressed that the screening facilities' operational times were not amenable with their schedules which posed a challenge and limited their chances of screening. Those who had physical access to screening facilities found it difficult to navigate their way to the right place as information and directions were not readily available. Service providers concurred that health facilities that provide screening were

few and far away from communities. This resulted in women having to travel long distances to get screened, while not all facilities offered the service on a daily basis. Transport to get to screening centers was also a challenge. Access to screening is thus affected by unavailability of local screening facilities, transport and screening operating times which are not user-friendly (Brier & lia dwi jayanti, 2020).

2.3 Cervical cancer prevention and treatment in Zimbabwe

The country has made significant progress towards setting up a national screening programme. Visual inspection methods are available at peripheral health facilities throughout the country, commonly visual inspection with acetic acid and cervicography (VIAC). Trained nurses at the centres screen and offer cryotherapy, thermocoagulation, and refer to the doctor for LEEP services or those suspicious for cervical cancer. At hospitals, conventional Pap smears and colposcopy are offered. Liquid-based cytology, which offers the advantage of reflex HPV deoxyribonucleic acid (DNA) testing, is not yet readily available in the country. Human Papilloma Virus (HPV) DNA testing as primary screening is now being piloted in Makoni District. Patients suspected to have cancer are referred to gynaecologists at higher-level hospitals for diagnosis, evaluation and appropriate treatment, based on stage of disease. Late presentation with very advanced disease is common (Kuguyo et al., 2017; Tapera et al., 2019).

Currently, the country has two gynaecological oncologists, who work at the tertiary Parirenyatwa Group of Hospitals and serve the whole of Zimbabwe (Isabirye et al., 2022). Patients with advanced disease are referred to oncology units, which are constrained with human resources, equipment and medicine shortages (Taghavi et al., 2022). The number of functional radiotherapy machines at any point is limited. Cytotoxic medicines are imported; unfortunately, Zimbabwe is experiencing

hyperinflation and foreign currency shortages. Vaccination with bivalent HPV vaccines is offered for adolescent girls, supported by the GAVI Alliance. Uptake remains low due to availability and acceptability challenges though significant progress has been made in recent years.

2.4 Challenges Experienced

According to a study carried out in Malawi, they faced challenges which included women opting for traditional treatments rather than visiting health facilities, accessing VIAC sites was also a barrier as there were geographical challenges, involvement of male health workers was also a challenge as women would shy away (Masese et al., 2021). Locally, in Zimbabwe, there are several health challenges that are affecting the smooth running of the VIAC programme.

With the current economic challenges, health workers are migrating to greener pastures and these include those trained in VIAC services resulting in brain drain (Kuguyo et al., 2020). Lack of resources is also a major challenge. Lack of financial support is another challenge, lack of financial support to health workers is leading to demotivation which in turn results to poor outputs, lack of financial support to purchase the required materials to perform the procedure is also drawing the programme backwards. Fuel shortages means there are limited outreach programmes to mobilise clients and also to carry health awareness campaign (Humanitarian Country Team, 2019).

Another challenge is lack of Information, Communication and Education (ICE) materials is also a challenge in running the programme. Failure to use the multi-sectorial approach is also a drawback in running the programme. According to Kuguyu et al., 2020, VIAC services are dependent on donor funding and the government has

not fully owned the programme and as such if the donor pulls out, sustainability of the programme become a challenge.

Geographical barriers such as mountains, rivers and dams are also affecting the programme as some communities are hard to reach. Cultural beliefs are also hindering the programme as some believe it is a sin to remove ones flesh or part. Language barrier is another challenge, and it is difficult to communicate with the vernacular language of the local people. Staff shortage is also a major challenge as HCWs are being pooled from their respective areas to work in areas to do with fighting COVID-19 (Ehrlich et al., 2020).

2.5 Strategies used to improve uptake of VIAC

Various strategies can be applied to curb the above challenges. For instance, proper remuneration of healthcare workers can help in preventing brain drain and also educating new staff in issues to do with VIAC services such as carrying out the procedure can help prevent staff shortages (Njeuhmeli et al., 2018). Looking for external financial options to incentivize staff working in VIAC areas will also help in preventing demotivation and burnouts. There is need to apply the multi-disciplinary approach if the programme is to prosper and be sustainable (Njeuhmeli et al., 2018). There is need for the ministry to fully own the programme to avoid donor dependency. The VIAC team should carry outreaches especially to those arrears that are affected by geographical barriers and carry out the procedure in their communities (UNICEF, 2019). Having a local interpreter is an effective way to deal with language barrier.

2.6 Treatment options and outcomes of cervical cancer

According to WHO, 2018, treatment of CCa is dependent on the staging of the cancer and risk assessment. Staging of the cancer is used to describe its size and position and whether it has spread from where it started.

For cervical cancer, the system used is called 'FIGO staging' and the cancer is staged by assessing tumour size, spread and the presence of any distant metastases (Marth et al., 2017). Staging of cervical cancer may require several investigations, for example, examination under anaesthesia and biopsies are taken from any abnormal areas to check for cancer cells. Chest x-ray which is used to check the lungs and chest cavity for any spread of cervical cancer. Intravenous pyelogram which is an x-ray of the urinary tract taken after a special dye is injected into a vein. This test can find any abnormal areas in the urinary tract caused by the spread of cervical cancer. Other imaging techniques are also available to help with disease staging (increasingly replacing the need for chest x-ray and intravenous pyelogram) and might also be used to help determine the best treatment (Marth et al., 2017). Computed Tomography (CT) scan, Magnetic Resonance Imaging (MRI) scan and Positron Emission Tomography (PET) scan.

Cancer is staged using a sequence of letters and numbers. In the FIGO staging system, there are four stages designated with Roman numerals I to IV. Generally, the lower the stage, the better the prognosis. The TNM system (T – tumour, N – nodes, M – metastases) is used alongside the FIGO system to stage cervical cancer. TNM staging considers how big the cancer is, or tumour size (T), whether the cancer has spread to lymph nodes (N) and whether it has spread to distant sites, known as 'metastases' (M)The different FIGO stages of cervical cancer are described in the table below (Marth et al. 2017).

FIGO STAGE I. Tumour confined to the cervix (T1-any N-M0)	IA	Invasive carcinoma diagnosed only by microscopy. **Stromal invasion** with a maximal depth of 5 mm measured from the base of the epithelium and a horizontal spread of ≤7 mm • IA1: Measured **stromal invasion** ≤3 mm in depth and ≤7 mm in horizontal spread • IA2: Measured **stromal invasion** >3 mm and ≤5 mm with a horizontal spread of ≤7 mm
	IB	Clinically visible lesion confined to the **cervix** or microscopic lesion greater than IA2 • IB1: Clinically visible lesion ≤4 cm in greatest dimension • IB2: Clinically visible lesion >4 cm in greatest dimension
FIGO STAGE II. Tumour invades beyond uterus but not to pelvic wall or to lower third of vagina (T2-any NM0)	IIA	**Tumour** without **parametrial** invasion IIA1: Clinically visible lesion ≤4 cm in greatest dimension IIA2: Clinically visible lesion >4 cm in greatest dimension
	IIB	**Tumour** with **parametrial** invasion
FIGO STAGE III. Tumour involves lower third of beyond vagina, or extends to pelvic wall, or causes hydronephrosis or non-functioning kidney (T3-any N-M0)	IIIA	**Tumour** involves lower third of **vagina**
	IIIB	**Tumour** extends to pelvic wall, or causes **hydronephrosis** or non-functioning kidney
FIGO STAGE IV. Tumour extends beyond the true pelvis or has clinically involved the mucosa of the bladder and/or rectum (T4-any N-M0 or any T-any N-M1)	IVA	**Tumour** invades **mucosa** of the bladder or rectum, or extends beyond true pelvis
	IVB	The cancer has spread to distant organs beyond the pelvic area, such as distant **lymph nodes**, lungs, bones or liver

Figure 3: The different FIGO stages of cervical cancer adopted from Marth et al., 2017

The treatment will depend upon the size, location and stage of the tumour, as well as the general health and level of fitness. One may receive one or more of the following treatments for cervical cancer.

Surgery, the aim of surgery for cervical cancer is to remove all cancer cells. This may involve conisation (removal of a cone-shaped section of the cervix), hysterectomy (in which the uterus and cervix are completely removed) or a trachelectomy (which leaves behind the uterus) (Lin et al., 2016). During surgery for cervical cancer, some lymph nodes in the pelvis may also be removed.

Chemoradiotherapy which is a combination of chemotherapy and radiotherapy. Chemotherapy destroys cancer cells and radiotherapy uses ionising radiation to damage the DNA of cancerous cells, causing them to die. According to a study done by Lin et al., 2016, chemotherapy may be used to treat some patients with locally advanced cervical cancer, and as a palliative treatment in metastatic disease.

Radiotherapy which is used to treat some patients with locally advanced cervical cancer (as an element of chemoradiotherapy) and can also be used to treat some symptoms of metastatic disease (Lin et al., 2016).

Targeted therapies are drugs that block specific signalling pathways in cancer cells that encourage them to grow. The vascular endothelial growth factor (VEGF) inhibitor bevacizumab stops tumours from stimulating blood vessel growth within the tumour, starving them of the oxygen and nutrients they need to continue growing (Marth et al., 2017).

2.7 Summary

The chapter reviews the various factors associated with poor uptake of VIAC services. These include demographic characteristics, socio-economic, healthcare provider related causes and health system causes. Challenges faced in implementing the VIAC programme and strategies to improve them were also addressed. Literature review noted that there is knowledge gape among community members as some think that only those who are HIV positive should go for VIAC, there is no feedback of outcome when clients have been referred to the next level. There is knowledge gapes on the predisposing factors such as early sexual debut, multiple partners, recurrent STIs

CHAPTER THREE METHODOLOGY

3.1 Introduction

This chapter focuses on the methodological strategies that will be utilized in the study. Aspects of the study design, study site, study population, sampling procedure and sample size, data collection methods, reliability, validity and data analysis will be addressed. Ethical considerations will also be addressed.

3.2 Research Design and its Appropriateness

The study will use an unmatched 1:1 case control study.

A case: An adult aged 18 years who has undergone at least one VIAC screening session.

A control: An adult aged 18 years and above, who has not undergone any VIAC screening session

3.3 Study Setting

The study will be done in Nyanga district which is one of the seven districts in Manicaland one of the ten provinces in Zimbabwe. Nyanga district has a small urban area and most part of the district is rural. Nyanga District Hospital is a referral hospital located in Nyanga town serving the whole of Nyanga District. Nyanga District Hospital and Regina Coeli Mission are the only hospitals offering VIAC services in the district. Both hospitals have the VIAC department located their outpatients department. Nyanga District Hospital will be purposively selected as it serves a greater population than Regina Coeli Mission Hospital. The study will be carried out at the outpatients department (OPD), Family Child Health (FCH) department, Opportunistic Infections (OI) department and the VIAC department.

3.4 Study Population

The study will include women of child bearing age aged between 18 years and above seeking health services at the Nyanga District Hospital.

3.5 Inclusion and Exclusion Criteria

3.5.1 Inclusion Criteria

Any woman of child bearing age who is aged 18 years and above attending NDH and has had at least one VIAC session will be included in the study.

3.5.2 Exclusion Criteria

Any woman of child bearing age who is very sick or in an emergency situation attending NDH will be excluded from the study.

Any woman under the age of 18 years attending NDH will be excluded from the study.

Males attending NDH will be excluded from the study.

3.6 Sample Size

According to World Health Organization, (2024) cancer fact sheets, cervical cancer constitutes 34% of the entire cancer cases in females.

Using Dobson formula: $n = Z_a^2 (p) (q)/delta^2$

Z_a =1.96,

p =0.34;

q = 1-p

=1- 0.34

= 0.66

Delta = 0.05 at 95%CI

A non-response rate of 10%;

A minimum sample size of 344 participants was calculated;

Therefore, we selected 172 cases and 172 controls

A total of 9 key informants will be purposively selected into the study (VIAC focal person, DMO, DNO, hospital matron, health promotion officer, community nurse, OPD nurse in charge, OI nurse in charge and FCH nurse in charge).

3.7 Sampling Procedure

Nyanga District, health care is delivered through government, missionary and estate health centers, with five hospitals namely, Avila, Elim, Regina and Mt Mellary Mission Hospitals and Nyanga District Hospital, 27 rural health clinics. Nyanga District Hospital will be purposively selected as it serves the larger community and VIAC trained nurses are found there.

For the selection of the participants, simple random sampling which is probability sampling where each member of the population has an equal chance of being selected will be used. The sampling procedure will be conducted at patients attending the OPD, OI Clinic, FCH and VIAC department at Nyanga District Hospital.

A total of 9 key informants will be purposively selected into the study (VIAC focal person, GMO, DNO, hospital matron, health promotion officer, community nurse, OPD nurse in charge, OI nurse in charge and FCH nurse in charge).

3.8 Data Collection Instruments

An interviewer-administered questionnaire will be used for the research. The questionnaire will be administered by the researcher himself and 2 trained data collectors. The questionnaire will be administered to clients who will be attending

NDH face to face which will be both in English and Shona. The participant will choose the language she would like to respond to. A separate questionnaire will be used for the key informants which will be in English and more detailed. An indicator tracker checklist will be used on a desk review of reports, meeting minutes, attendance registers and activity schedules to see which activities were conducted and how they were carried out with the motive of achieving the program's aims.

3.9 Validity and Reliability

The sample calculation will be based on 95% confidence level and 5% margin of error in order to obtain a sample large enough to limit the probability of chance influencing the results. To ensure reliability, experienced data collectors will be recruited and will be trained for this study in particular. Standard tools of measurement will be utilized especially by adopting many questions that were already validated. Clear operational definitions of the variables will be used and the data collectors will be conversant with the definitions.

3.10 Pretesting of Instruments

Pretesting of the instruments will be done at Rusape General Hospital. Thirty WOCBA attending either the OI, FCH, VIAC or OPD departments will be selected using simple random sampling which is probability sampling. According to central limit theorem that states that as n>30 it starts to follow a normal distribution. Therefore the researcher used a sample size of 30 due to lack of resources, time constraints and also maximize feedback ensuring reliability.

Similarly, for the key informants, a total of 9 key informants holding the same position as those that will be recruited into the study will be purposively selected for the pretesting of the key informants' instrument which include VIAC focal person, GMO,

DNO, hospital matron, health promotion officer, community nurse, OPD nurse in charge, OI nurse in charge and FCH nurse in charge.

Each participant will then be given an informed consent after they have understood it thy will then sign a consent, thereafter, they will be given the questionnaire to answer. The researcher will then check the completeness of the answers for analysis. By so doing, validity and reliability will be checked and corrections or adjustments will be made to the data collection tools.

3.11 Data Collection Procedure

Three data collectors will be enrolled into the study that include the researcher himself and two other individuals (one male and one female). All the data collectors will undergo a 1-2 days online course of Good Clinical Practice (GCP) and obtain a certificate covering ethical principles topics that include privacy and confidentiality, beneficence, non-maleficence, autonomy, justice, how to obtain an informed consent, how to evaluate completeness of data, and how to store data collected among others.

A questionnaire will be used for the research. Before administering the questionnaire, the study participants will first be furnished with an informed consent where they will be told the purpose of the study, their rights. After the participants are well informed they will be then asked to sign a consent form after which a questionnaire will then be administered by a data collector which will be either in English or Shona depending on the participants liking. The data that will be collected will be stored in a locked cardboard were the researcher will only have access to it so as to promote privacy.

3.12 Data Analysis

Data analysis was done using Epi Info Version 7.2, Microsoft Excel and SPSS so as to generate means, proportions and frequencies. Diagrammatic presentations and tables will also be used so as to present the information

3.13 Dissemination of Results

Findings from the study will be shared with the District Health Team (DHT) and the Provincial Health Team (PHT), the VIAC staff at NDH. Written reports will be given to the PMD Manicaland. A manuscript will be developed and will be published in a peer reviewed journal.

3.12 Ethical Considerations

The research proposal was presented to the Africa University Research and Ethics Committee (AUREC) for approval. Permission to conduct the study was sought from the Provincial Medical Director (PMD) and the District Health Team (DHT). Participants wiere informed about the study, its benefits and possible side effects in the language they understand. They were then given time to read the consent form and were free to ask any questions, after they have understood it, they then sign to show that they have agreed to participate in the study. The participants will be free to opt out of the study at any given time and will be allowed not to answer any question during the interview as they please. If participants opt withdraw or not participate, they will not be victimized and this will not affect their service provision at the hospital. Participants' names or addresses of participants will not be used during the study; unique identifiers will be used instead. After notifying the participants on their rights, the interview was then carried out. All the information concerning the study was kept in privacy where confidentiality will be maintained.

3.16 Summary

This chapter has outlined the study methodology outlining study instruments and looked at how data was collected for use in the study. Furthermore, data collection instruments used for the purpose of this study included questionnaires and a checklist. Ethical considerations were also outlined, budget stated, timeline outlined and how the findings will be disseminated to the various authorities.

CHAPTER FOUR DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents the findings from the data collected and analysed using Epi Info version 7.0 and Microsoft Excel 2019. Univariate, bivariate and multivariate analysis was done for the variables. Below is a presentation of the data analysis describing the data in charts and tables.

4.1 Socio-demographic characteristics associated with VIAC uptake among women of child bearing age attending Nyanga District Hospital, 2025

The study recruited a total of 172 cases and 172 controls. The following tables and charts will be showing the composition of the study sample.

Table 1: Summary statistics stratified by Gender of study participants

Parameter	Case		Control	
	Median	Standard Deviation	Median	Standard Deviation
Age	35	16.45	29	11.04

Table 1 above shows that the median age for cases was 35 years and that for controls was 29 years.

4.1.1 Age

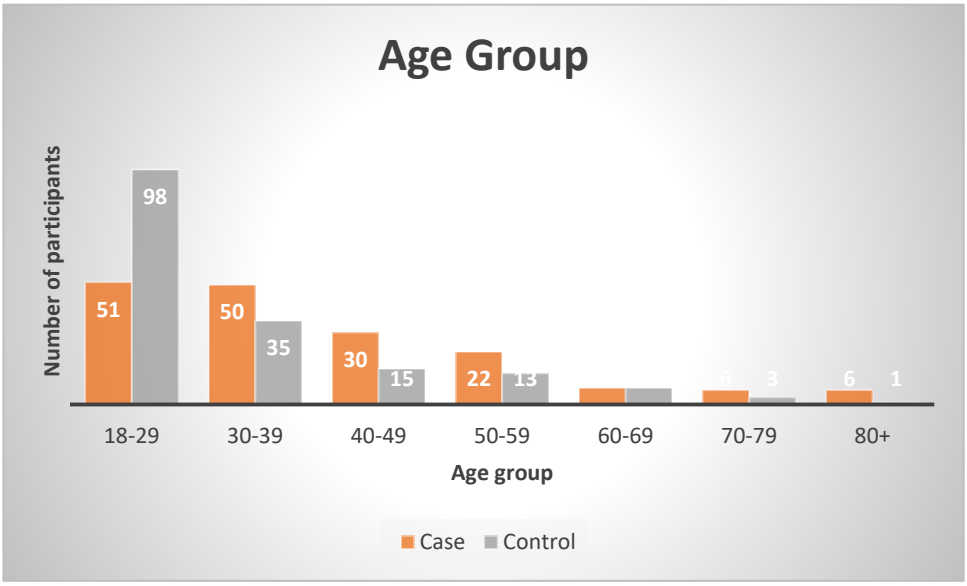

Figure 4: Age distribution of study participants

Figure 4 above shows that the respondents were aged between 18 and 80. The mean age for cases was 41 years whilst that for controls was 32 and the combined mean age was 37 years. The combined IQ range for age was Q1= 26 years and Q3= 44 years. The majority of cases and controls were aged between 18-39 years whereas that for controls was 18-29. Age was statistically not significant in this study ($\chi 2$=82.4 df=46, p=0.0124).

4.1.2 Parity

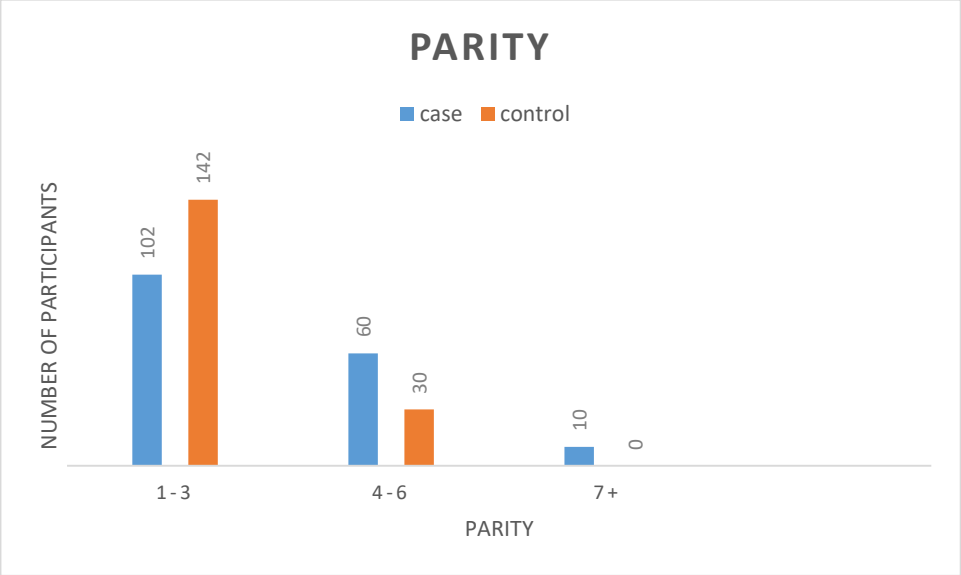

Figure 5: Parity of study participants

Figure 5 above shows that 102(59.3%) cases and 142(82.6%) controls given birth 1-3 times, 60(34.9%) cases and 30(17.4%) controls had given birth 4-6 times and 10(5.8%) cases had given birth more than 7 times. In this study, on bivariate analysis, parity was significantly associated with VIAC uptake. Having given birth more than 3 times improved the odds of VIAC uptake by 70% [OR=0.3, 95%CI (0.2; 0.8), p=0.035]. On multivariate analysis, parity was a predictor of VIAC uptake [aOR=2.1, 95%CI (1.9; 3.3), p=0.001)].

4.1.3 Marital Status

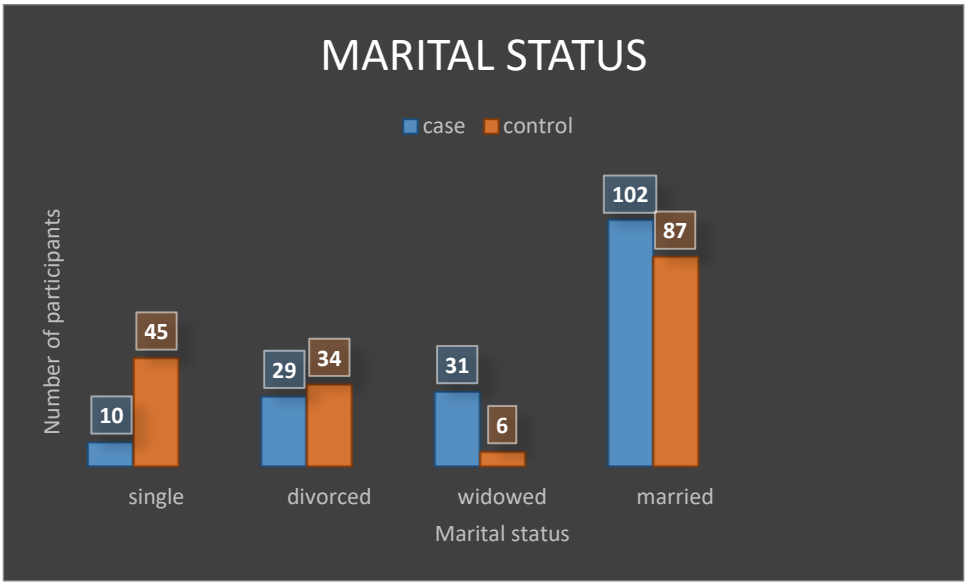

Figure 6: Marital status of study participants

Figure 6 above shows that 10(5.8%) cases and 45(26.2) controls were single, 29(16.9%) cases and 34(19.8%) were divorced, 31(18%) cases and 6(3.5%) controls were widowed and 102(59.3%) cases and 87(50.6) control were married. Marital status was significantly associated with VIAC up take. Those who were married were 2.4 times more likely to up take VIAC screening as compared to those who were not married on bivariate analysis [OR=2.4, 95%CI (1.5; 8.3), p=0.001]. However, this was not a significant predictor of VIAC up take on logistic regression [aOR=8.6, 95%CI (0.8; 19.3) p=0.579].

4.2 Socio-economic characteristics associated with VIAC uptake among women of child bearing age attending Nyanga District Hospital, 2025

4.2.1 Level of education

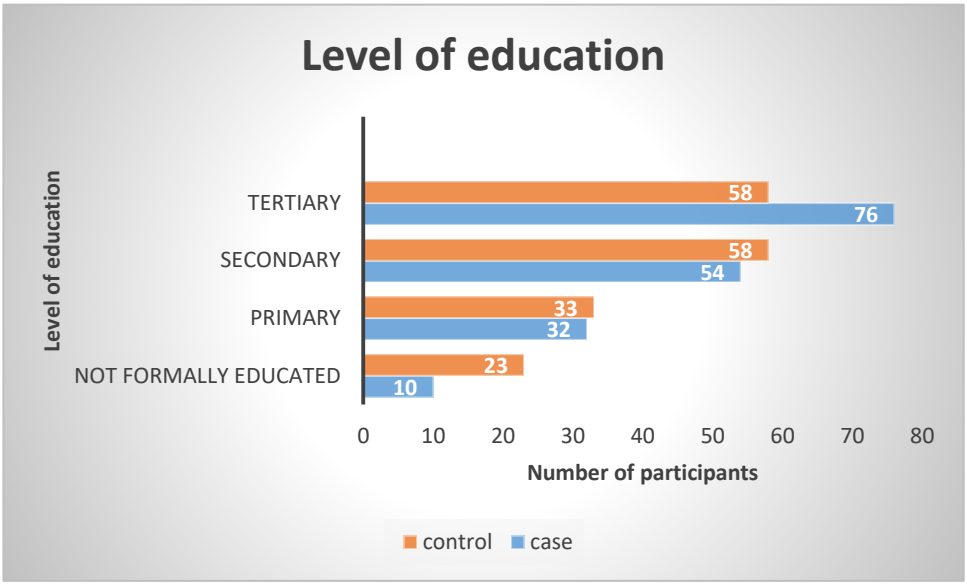

Figure 7: Level of education of study participants

Figure 7 above shows that 10(5.8%) cases and 23(13.4%) were not formally educated, 32(18.6%) cases and 33(19.2%) controls were educated up to primary level, 54(31.4%) cases and 58(33.7%) up to secondary level and 76(44.2%) cases and 58(33.7%) up to tertiary level. Level of education was statistically significant in this study as shown in table 5 below. Being educated up to secondary level and above improved the odds of VIAC uptake by 60% [OR=0.4, 95%CI (0.2; 0.6) p=0.000]. On multivariate analysis, those who were educated up to primary level were 3.2 times more likely not to undergo VIAC screening as compared to those educated up to tertiary level [aOR=3.2, 95%CI (1.2; 3.9), p=0.010].

4.2.2 Employment

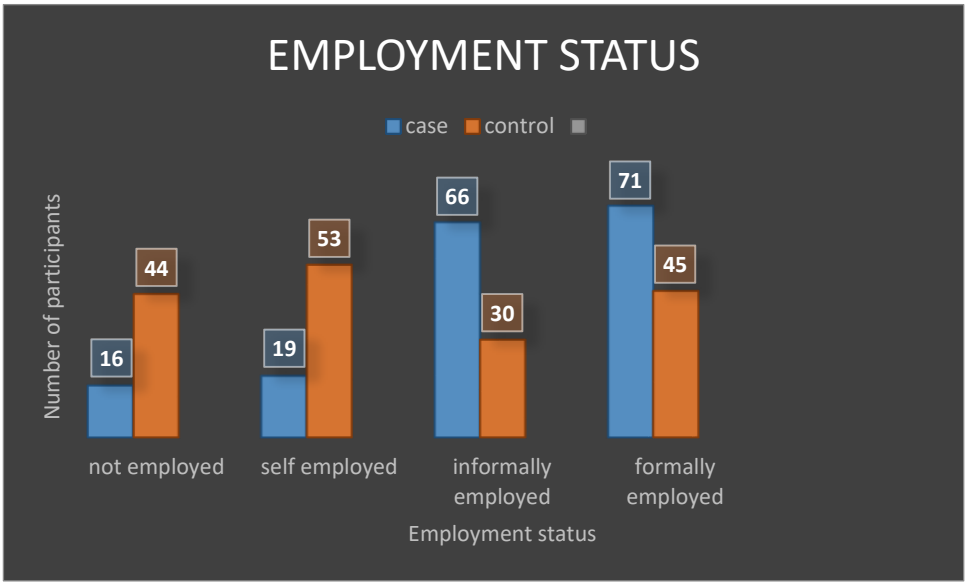

Figure 7: Employment Status of study participants

Figure 7 above shows that 16(9.9%) cases and 44(25.6%) controls were not employed, 19(11%) cases and 53(30.8%) controls were self-employed, 66(38.3%) cases and 30(17.4%) controls were informally employed and 71(41.3%) cases and 45(26.2) controls were formally employed. On bivariate analysis, employment status was significantly associated with VIAC up take. Those who were not employed were 2.3 times more likely not to undergo VIAC screening as compared to those who were employed [OR=2.3, 95%CI (1,3; 4.0), p=0.003]. However, this was not a significant predictor of VIAC up take on logistic regression [aOR=2.6, 95%CI (0.4; 15.3) p=0.279].

4.3 Socio-cultural characteristics associated with VIAC uptake among women of child bearing age attending Nyanga District Hospital, 2025

4.3.1 Where to seek assistance when ill

One hundred and fifty eight (91.9%) cases and 149 (86.6%) controls reported that they seek health assistance at health facilities when they need medical advice. Seeking

treatment at health facilities at health facilities improved the odds cervical cancer screening by 60% 60% [OR=0.4, 95%CI (0.1; 0.6) p=0.001]. However, this was not statistically significant on logistic regression [aOR=2.6, 95%CI (0.9; 10.3) p=0.557].

4.4 Healthcare-related factors affecting VIAC uptake among women of child bearing age attending Nyanga District Hospital, 2025

4.4.1 Comfortable to be screened by a male HCW

A total of 200 (58.1%) participants reported that they were comfortable to be screened by a male HCW, 131 cases and 69 controls as shown in figure 8 below.

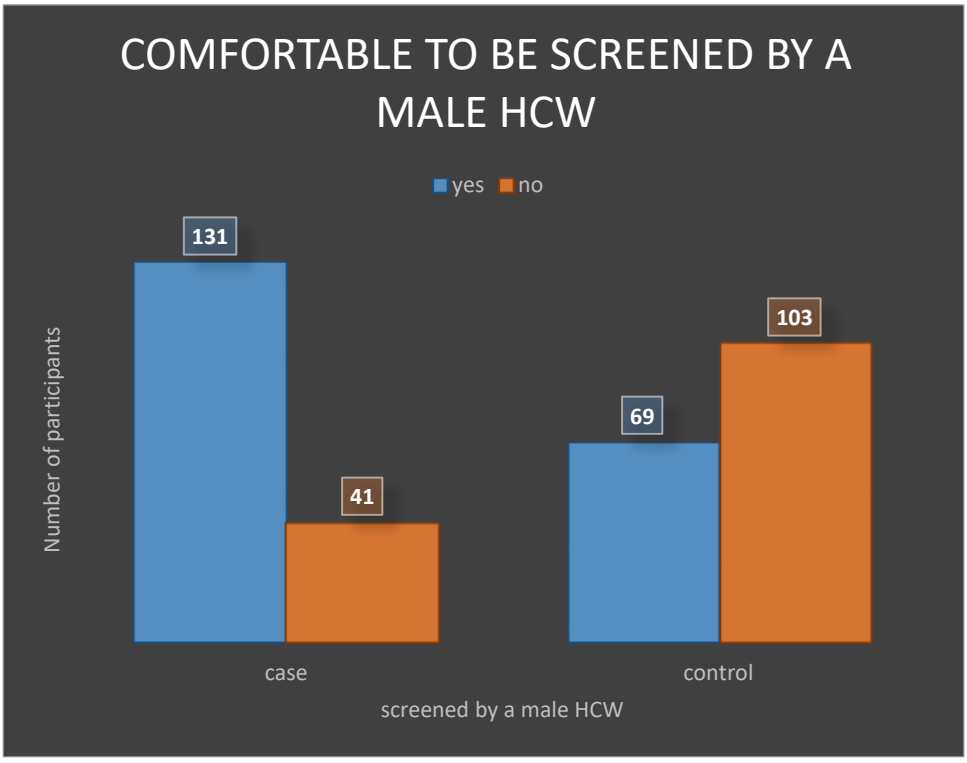

Figure 8: Comfortable to be screened by a male HCW

Multivariate analysis showed that those who were comfortable to be screened by a male HCW were 2.7 times more likely to undergo VIAC screening [OR=2.7, 95%CI (1.7; 4.3), p=0.000]. Being comfortable to be screened by a male HCW was a significant predictor of VIAC up take [aOR=2.8, 95%CI (1.8; 4.4), p=0.000].

Table 5 below show the reasons given by those who were not comfortable to be screened by a male HCWs.

Table 5: Reasons for not to be screened by male HCWs

Reason	Frequency n=144	Percentage %
Afraid of being sexually abuse	120	83.3
Religion/Cultural reasons	55	38.2
Pain or discomfort (afraid of the instruments used	21	14.6
Invasion of privacy (shyness)	133	92.7
Fear of husband reaction	65	45.1
Will not be sick	18	12.5

One hundred and twenty (83.3%) reported that they feared to be sexually abused, 55(38.2%) reported that their religion or culture would not allow them, 21(14.6) were afraid of the procedure, 133(92.7%) are shy, 65(45.1%) fear their husband reactions and 18(12.5%) cited they will not be ill.

4.4.2 Time spent waiting to be screened

One hundred and thirty three of the cases 133 (77.3%) and controls 146 (84.9%) reported spending more than 30 minutes waiting to be served, and 125 (872.6%) cases and 100 (58.1%) controls reported spending over 30 minutes at the pharmacy as shown as well. Time spent waiting to be served and at the pharmacy were statistically significant with VIAC uptake. Spending more than 30 minutes in the consultation room lowered the odds of VIAC uptake by 80% [OR=0.2, 95%CI (0.1; 0.8), p=0.008], also, those who spent more than 30 minutes at the pharmacy were 3.4 times more likely not to uptake the program as compared to those who spend less than 30 minutes

[OR=3.4, 95%CI (2.0; 6.0), p=0.000]. However, on logistic regression, time spent waiting to be served and at the pharmacy were statistically not significant [aOR=11.8, 95%CI (1.0; 13.4) p=0.057] and [aOR=18.8, 95%CI (0.9; 8.4) p=0.087] respectively.

4.4.3 Level of satisfaction with service provided

One hundred and twenty five (72.5%) and 97 (56.4%) of cases and controls respectively reported being satisfied with the service provided as shown in figure 9 below. Multivariate analysis showed that being satisfied with service provided at the health care facility improved the odds of VIAC uptake by 60% [OR=0.4, 95%CI (0.3; 0.9), p=0.000]. However, multivariate analysis showed that level of satisfaction was not a significant predictor of VIAC screening uptake [aOR=1.1, 95%CI (0.2; 3.7), p=0.111].

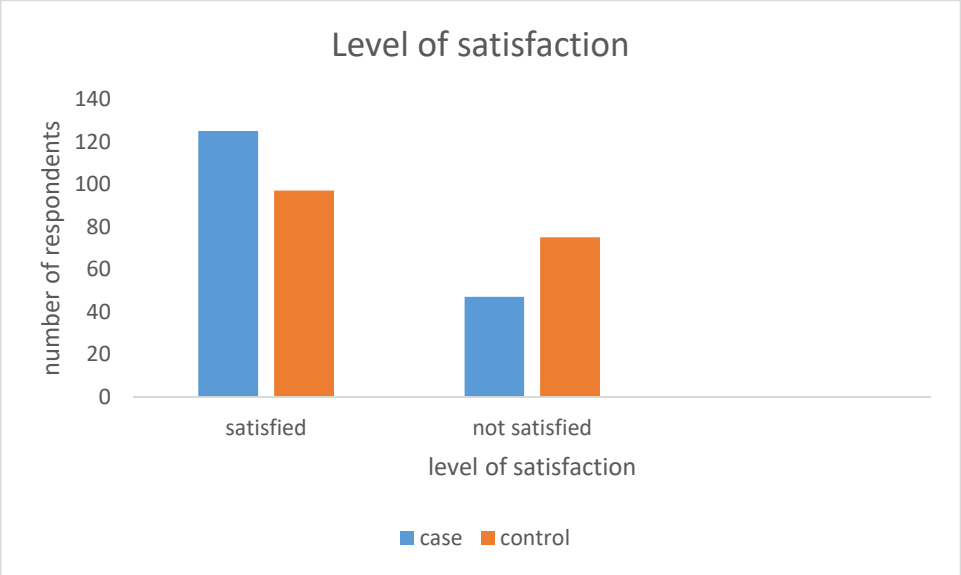

Figure 9: Level of satisfaction

4.4.4 Availability of HCW offering VIAC service

Fifty two (30.2%) of cases and 43 (25%) controls reported that HCWs will be available all the times at the facility, 100 (58.1%) cases and 99 (57.6%) reported that they will

be sometimes available and 20 (11.6%) cases and 30 (17.4%) controls reports that the HCW offering the service will not be available at the facility.

The unavailability of HCWs offering VIAC services at health facilities lowered the odds of VIAC uptake by 70% [OR=0.3, 95%CI (0.1; 0.8), p=0.001]. On logistic regression, availability of health personnel offering VIAC service was a significant predictor of VIAC uptake [aOR=2.7, 95%CI (1.4; 6.5), p=0.000].

4.4.5 Clients experience after being screened

Out of the 172 cases, 100(58.3%) reported receiving very good service, 42(24.1%) receiving good service, 18(10.5%) receiving bad service and 2(1.2%) receiving very bad service as shown in figure 12 below. On bivariate analysis, experience was not statistically significance association between experience and VIAC uptake ($\chi 2$=28.4 df=3, p=0.0000).

Figure 10: Clients experience with VIAC screening

4.4.6 Follow up visits

Out of the 172 cases that were screened, 58 (33.7%) received follow up. Receiving follow up was not statically significant on bivariate analysis in this study [OR=0.5, 95%CI (0.0; 8.3) p=0.634]. A total of 34 (19.8%) tested VIAC positive and 6 (3.5%) had suspicious lesions and were referred for punch biopsy.

4.5 Knowledge and Awareness levels associated with VIAC uptake among women of child bearing age attending Nyanga District Hospital, 2025

4.5.1 Source of information

All (100%) of the cases and control reported that they had heard about cervical cancer screening. Table 2 below shows the sources they heard the information from.

Table 2: Source of VIAC information of study participants

Source	Frequency n=344	Percentage %
Health facility	302	87.8
Social media	304	88.4
Community outreach programs	323	93.9
Friends/Family	98	28.5

Three hundred and two participants reported that they received information from health facilities, 304 from social media, 323 from community outreach programs and 98 from friends or family. All of the study participants reported obtaining information of cervical cancer screening from more than 2 sources.

4.5.2 Know that precancerous cells can be diagnosed and treated

One hundred and sixty six (96.5%) cases and 160(93%) controls knew that precancerous cells can be detected through VIAC screening and 160(93%) cases and 123(71.5%) controls knew that precancerous sells can be treated. On bivariate analysis, both knowing precancerous cells can be detected through screening and knowing that

they can be treated was statistically significant in this study. Knowing that precancerous cells can be detected through screening improved the odds of VIAC uptake by 5.4 times [OR=5.4, 95%CI (2.1; 13.6), p=0.000] and knowing that precancerous cells can be treated also improved the odds of VIAC uptake by 4.6 times [OR=4.6, 95%CI (2.3; 9.4), p=0.001]. On multivariate analysis (logistic regression) both knowing that precancerous cells can be detected through screening and can be treated were significant predictors of VIAC up take in this study [aOR=5.4, 95%CI (2.1; 13.6), p=0.000] and [aOR=4.7, 95%CI (2.4; 9.5), p=0.000].

4.5.3 Risk factors of cervical cancer

All of the study participants knew at least 3 risk factors of CCa as shown in table 3 below.

Table 3: Risk factors of CCa

Risk factor	Frequency n=344	Percentage %
Multiple sexual partners	301	87.5
Early age of sexual debut	301	87.5
HIV infection	302	87.8
Family history	203	58.7
HPV infection	296	86
Poor Hygiene	126	36.6

Three hundred any one (87.5%) participants knew that having multiple sex partners or early age of sexual debut were risk factors of developing CCa, 302(87.8%) mentioned HIV infection, 203(58.7%) mentioned family history, 296(86%) mentioned HPV infection and 126(36,6%) mentioned poor hygiene as risk factors of developing CCa.

On bivariate analysis, knowing the risk factors improved the odds of VIAC up take by 1.6 times but was statistically not significant [OR=1.6, 95%CI (0.6; 4.3), p=0.280].

4.5.4 Frequency of screening

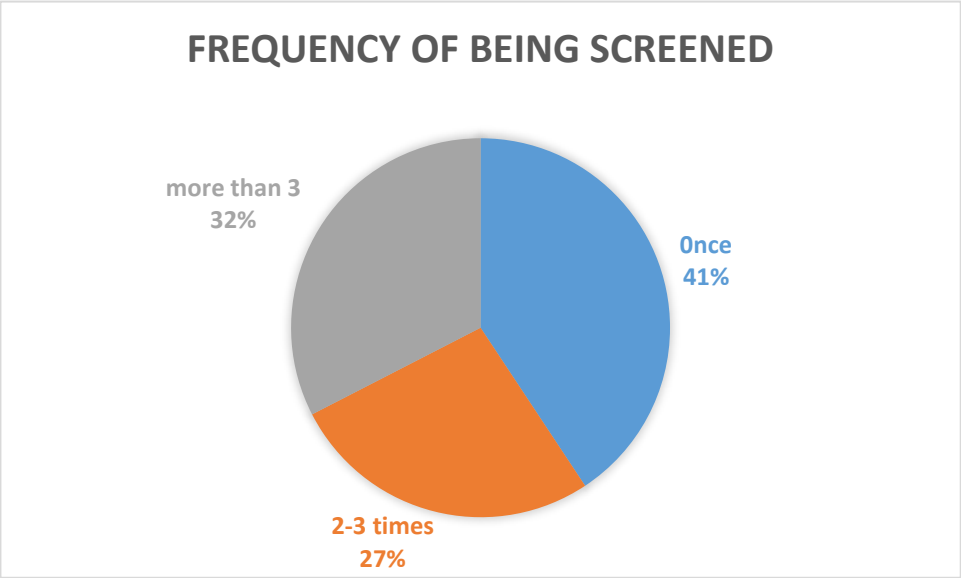

Figure 11: Frequency of VIAC screening

Figure 11 above shows that out of the 172 cases that were screened, 70(41%) were screened once, 46(27%) were screed 2-3 times and 56(32%) were screened more than 3 times. Table 4 below shows the reasons given by those that were not screened.

Table 4: Reasons for not getting screened

Reason	Frequency n=172	Percentage %
Religious/cultural	110	64.0
Lack of access of screening facilities	115	66.9
Costs associated with screening	43	25.0
Fear of the procedure	145	84.3
Lack of awareness	116	67.4

Out of the 147 controls, 110(64%) reported that they did not get screened due to cultural reasons, 115(66.9%) due to lack of access of screening facilities, 43(25%) due to costs associated with screening, 145 (84.3%) due to fear of the procedure and 116 (67.4%) due to lack of awareness.

4.5.5 Importance of being screened

Figure 12 below shows that 209 (61%) believed that VIAC screening is very important, 109 (30%) it is important and 33 (9%) it is not important. On bivariate analysis, believing that VIAC screening is not important lowered the odd of screening by 60% and was statistically significance [OR=0.4, 95%CI (0.2; 0.4) p=0.000]. On logistic regression, those who believed that VIAC screening is important were 3.9 times more likely to undergo the screening process [aOR=3.9, 95%CI (2.0; 13.0), p=0.041].

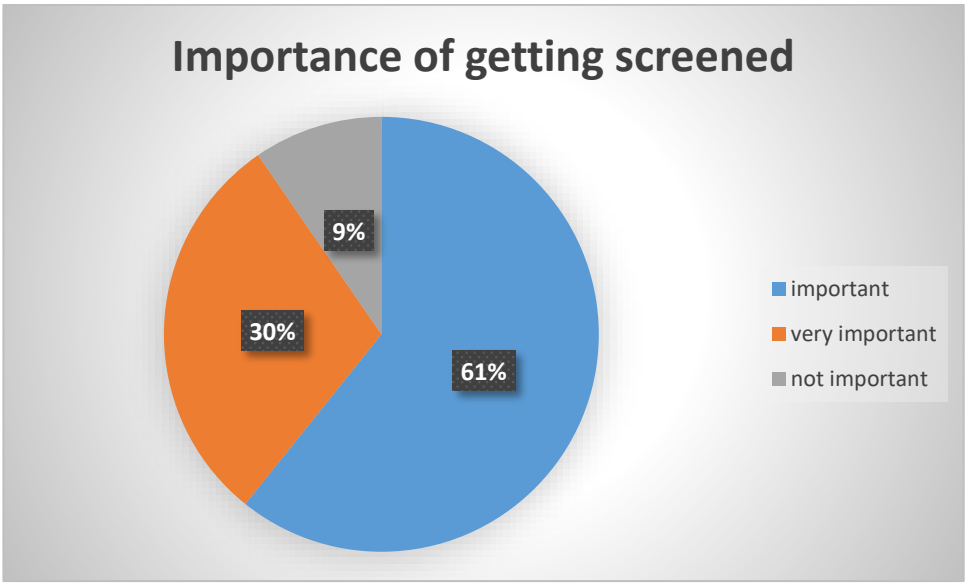

Figure 12 Importance of getting screened

Table 6 below shows the concerns that the study participants had towards VIAC screening

Table 6: Concerns of study participants had towards VIAC screening

Concern	Frequency n=344	Percentage %
Poor service delivery	144	41.9
Cost of travelling to the health facility	130	37.8
Lack of privacy	177	51.5
Pain or discomfort	293	85.2
Fear of results	299	86.9

Out of the 344 participants, 144 (41.9%) were concerned with poor service delivery, 130 (37.8%) were concerned with cost of travel to the health facility, 177 (51.5%) concerned with lack of privacy, 293 (85.2%) were concerned with the pain or discomfort during the procedure and 299 (86.9%) feared the results. On bivariate analysis, having concerns lowered the odds of VIAC uptake by 40% but was not statistically significant in this study [OR=0.6, 95%CI (0.2; 1.2) p=0.164].

4.6 Outcome of cervical cancer screening in terms of early detection and treatment associated with VIAC screening among women of child bearing age in Nyanga District, 2025

4.6.1 VIAC positive

Out of the 172 cases, 34 (19.8%) tested VIAC positive and 6 (3.5%) had suspicious lesions. Out of the 34 who tested VIAC positive, 25 (71.4%) underwent thermocoagulation (Cryotherapy) at NDH and 15 (60%) out of the 25 came for review after 6 months for repeat VIAC and tested VIAC negative, 10 (40%) were lost to follow up. Out of the 34, 4 (11.8%) were referred to Victoria Chitepo Provincial Hospital (VCPH) for LEEP, 2 (8%) suggested to use herbal treatment, 1 (4%) underwent the procedure and recovered and the other one (4%) is still looking for funds. Five (14.7%) out of the 34 were also referred to VCHP for cervical warts cauterisation, only 1 (20%)

underwent the procedure and recovered fully and the other 4 suggested that they are still sourcing funds.

Out of the 6 (17.4%) who had punch biopsy, they were entered in the palliative care register, and only 2 (33.3%) brought feedback and are being attended at Sally Mugabe Central Hospital where they are receiving specialised care. One (16.7%) was diagnosed as being in stage being in stage 3A and is undergoing radiotherapy.

4.7 Barriers and facilitators to cervical cancer screening associated with VIAC screening among women of child bearing age in Nyanga District, 2025

4.7.1 Barriers to VIAC uptake

Figure 13 below shows the barriers to VIAC uptake by the study participants

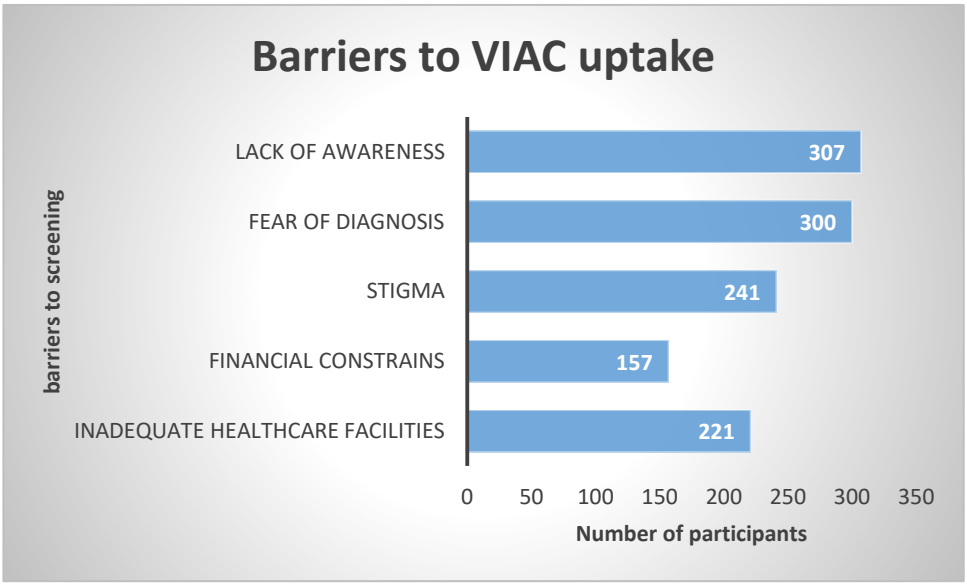

Figure 13 Barriers to VIAC uptake by the study participants

Three hundred and seven participants (89.2%) reported lack of awareness as a barrier to VIAC screening, 300(87.2%) cited fear of diagnosis, 241(70.1%) cited stigma, 157(45.6%) cited financial constraints and 221(64.2%) cited inadequate healthcare facilities as barriers to access to VIAC services in communities. On bivariate analysis,

reporting barriers was not statistically associated with VIAC uptake [OR=3.4, 95%CI (0.7; 12.6) p=0.129].

4.7.2 Facilitators to VIAC uptake

Figure 14 below shows the suggestions given by the study participants so as to increase the uptake of the VIAC programme.

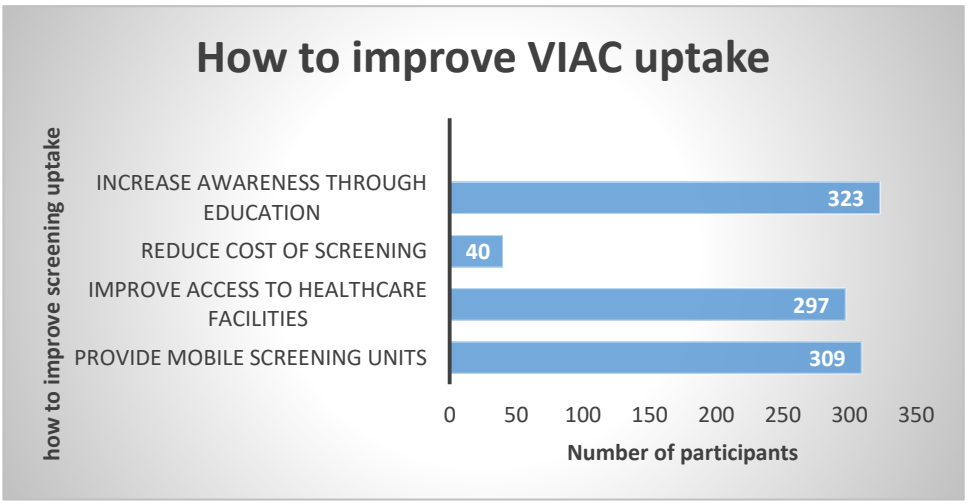

Figure 14 How to improve VIAC uptake

Out of the 344 participants, 323(93.9%) suggested that increasing awareness through education, 40(11.6%) suggested to reduce cost of screening, 297(86.3%) suggested improving access to health facilities and 309(89.8) suggested that providing mobile screening facilities would improve the uptake of VIAC services as shown if figure 14 above.

Table 7 below shows the suggestions brought up by the study participants so as to promote the uptake of cervical cancer screening.

Table 7: Ways to promote VIAC uptake

Suggestion	**Frequency n=344**	**Percentage %**
Engage gate keepers in community outreach programs	220	64
Carry out awareness in schools and engage the ministries of education	215	62.5
Cancer drugs should be for free	334	97.1
Capacitate staff more than one nurse offering the service	300	87.2
Provide mobile screening units	289	84
Involve males in the program	145	42.2
Screening should be done by females only	100	29.1
Explain the procedure in detail	89	25.9
Find better instruments to use	32	9.3
Reduce time spent waiting for the service	278	80.8
Improve remuneration to the service provider	327	95.1
Tests should be done locally at an affordable price	279	81.1
HCWs should improve their attitudes	267	77.6
Provide IEC materials	313	91
Incentivize the program	138	40.1
Service should be available all the time	284	82.6
Decentralize services to clinics	213	61.9

Two hundred and twenty (64%) participants cited that engaging community gate keeper such as the local headman's, religious leader, ward leaders or community, 215 (62.5%) cited that carrying out awareness campaigns in community and in schools

tailoring the information to suit the recipients will promote the uptake of the program, 334 (97.1%) noted that drugs to treat CCa should be given for free, 300 (87.2%) reported that instruments required to perform the process should be available all the time, HCWs should be capacitated and to have more cadres offering the service at the facility, 289 (84%) cited that mobile screening units can promote the uptake of VIAC, 145 (42.2%) indicated the involvement of the opposite sex (males) in the program, 100 (29.1%) cited that females only should carry out the screening procedure, 89 (25.9%) cited that explanation of the procedure in detail is needed, 32 (9.3%) suggested that the instruments should be changed, 278 (80.8%) suggested to reduce the time spent waiting for the service at health facilities, 327 (95.1%) suggested that HCWs be remunerated better, 279 (81.1%) suggested that laboratory tests should be done locally or at government facilities, 267 (77.6%) cited that HCWs should improve their attitudes, 313 (91%) noted that IEC materials should be made available, 138 (40.1%) noted that the VIAC program should be incentivized, 213 (61.9%) cited 284 (82.6%) suggested that the service should be available all the time and that the program should be decentralized.

4.8 Findings from key informants

A total of 10 key informants were interviewed

4.8.1 Demographic characteristics of key informants

Table 8 Demographic characteristics of key informants

Variable		Frequency n=10
Gender	Male	1
	Female	9
Designation	Medical doctor	1
	District VIAC focal person	1

	District Nursing officer	1
	Matron	1
	Nurse in Charge Community	1
	Nurse in charge OI	1
	Nurse in charge OPD	1
	Nurse in charge FCH	1
	Community nurse	2
Median years in service 8 (Q_1=3; Q_3=19)		

A total of 10 key informants were interviewed with 9 (90%) being females. The median years in service was 8 (Q1=3; Q3=19)

Figure 15 below shows the responses from the key informants on the knowledge levels of Nyanga population on cervical cancer screening.

4.8.2 Knowledge levels of cervical cancer screening of Nyanga district population

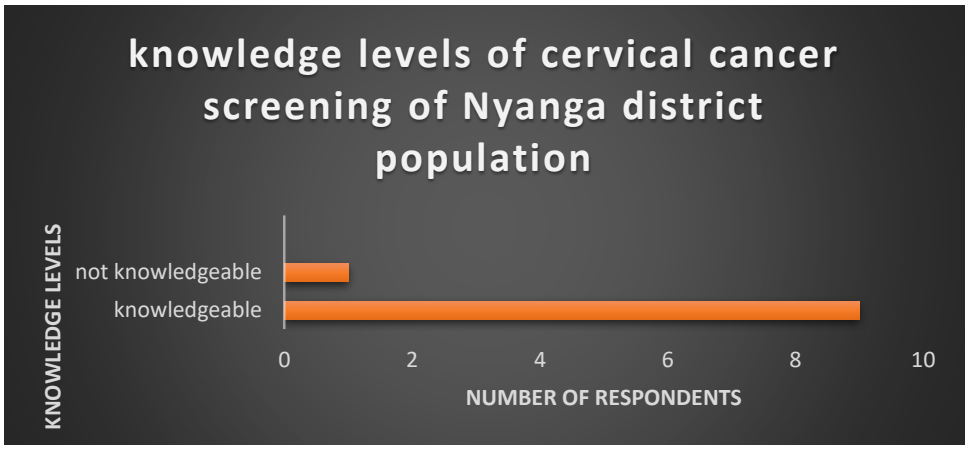

Figure 15 Knowledge levels of cervical cancer screening of Nyanga district population

Nine (90%) of the key informants reported that the population in Nyanga district was knowledgeable.

Table 8 below shows the misconception about cervical cancer and screening among the community reported by the key informants

4.8.3 Misconceptions in the community

Table 9: Misconceptions in the community about cervical screening among the community

Misconception
Cancer can be cured by herbs
Cancer is sexually transmitted
Being diagnosed with cervical cancer it's a death sentence
No need to be screened if you have one sexual partner
Cervical cancer is a disease of the old people
Screening is a painful procedure
No need to be screened if above 65 years

Table 9 above shows the misconceptions circulating in Nyanga district concerning cervical cancer screening as reported by the key informants.

All (100%) of the key informants reported that the current awareness campaigns are very effective in educating women about cervical cancer screening.

4.8.4 Access to cervical cancer screening as reported by key informants

All of the key facilities reported that there are only 2 facilities offering VIAC screening services in the whole district and they all reported that there was no adequate staff offering the service in the district as only 3 nurses are trained one at Regina Coli Mission Hospital and 2 at Nyanga District Hospital. Furthermore, the nurses that are trained are seconded to other department thus interrupting the continuity of the program. Also, all of the key informants reported that the health care facilities are not adequately equipped to perform cervical cancer screening.

4.8.5 Barriers to VIAC uptake

Figure 16 below shows the barriers women in Nyanga district face in accessing cervical cancer screening services reported by key informants.

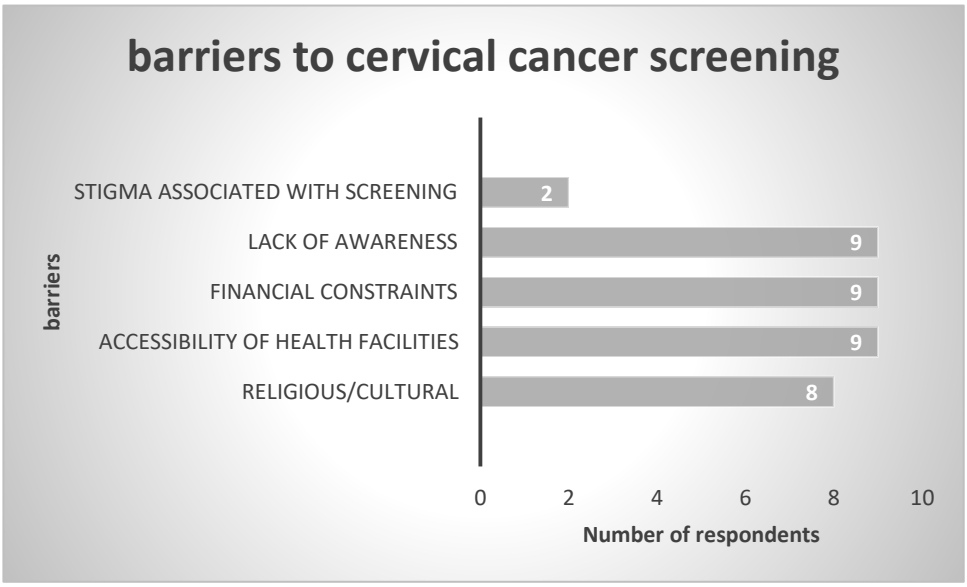

Figure 16 Barriers to cervical cancer screening

Figure 16 above show that 2(20%) of the key informants reported that stigma associated with being diagnosed with cancer, 9 (90%) cited lack of awareness, financial constraints and accessibility to health facilities and 8 (80%) cited that religious or cultural beliefs as barriers to cervical cancer screening.

4.8.6 Strategies to improve VIAC uptake

Table 10 below outlines the strategies suggested by the key informants to improve VIAC uptake

Table 10: Strategies to improve VIAC uptake

Strategy	Frequency
Train more HCWs in VIAC	10

Provide adequate equipment all the times	10
Histology to be done for free	6
Provide ICE materials	9
Carryout awareness campaigns in communities	10
Implement telemedicine	7
Increase screening sites	10
Carry out mobile screening especially too hard to reach areas	8
Decentralize the activity to local clinics	9

All of the key informants cited that those who are diagnosed with cervical cancer are counselled, referred to the next level (Provincial) were specialists are found and be treated, if the condition is beyond correction, palliative care is offered where there is pain management and promoting quality of life till death. All the key informants reported that samples collected are sent to private laboratories such as Lancet in Mutare for processing and costs USD 20-30. All the key informants knew the risk factors of cervical cancer.

4.8.7 Possible reasons why patients who tested positive had barriers to early screening and treatment.

Table 11 below shows the possible reasons suggested by key informants why patients who tested positive had barriers to early screening and treatment.

Table 11 Barriers to early screening and treatment by patients who tested positive to cervical cancer

Barrier	Frequency

Limited access to health facilities	3
Religious/cultural beliefs	2
Knowledge deficit	6
Fear of costs of treatment	6
Fear of stigma	2

Table 12 Socio-demographic Characteristics associated with Cervical Cancer Screening Uptake of Women of Child Bearing Age attending Nyanga District Hospital, 2024

Variable	**Cervical cancer screening uptake**		**Chi square p-value**	**Odds ratio (OR)**	**95% CI of OR**	
	Cases N=172 n(%)	**Control N=172 n(%)**			**Lower**	**Upper**
Age						
18-29	51	98	82.4			
30-39	50	35				
40-49	30	15				
50-59	22	13				
60-69	7	7				
70-79	6	3				
80+	6	1				
Parity						
1-3	102(59.3)	142(82.6)	0.008	0.3	0.3	0.8*
4+	70(40.7)	30(17.4)				
Level of education						
Primary level	42	56	0.000	0.4	0.2	0.6*
Secondary level and above	130	116				
Employment status						
Employed	137	75	0.003	5.1	3.3	7.7*
Not employed	35	97				

Marital status						
Married	102(59.3)	87(50.6)	0.04	1.4	1.0	1.9
Not married	70(40.7)	85(49.4)				

The * represents statistically significant results

Table 13 Knowledge and awareness associated with Cervical Cancer Screening Uptake of Women of Child Bearing Age attending Nyanga District Hospital, 2025

Variable	**Cervical cancer screening uptake**		**Chi square p-value**	**Odds ratio (OR)**	**95% CI of OR**	
	Cases N=172 n(%)	**Control N=172 n(%)**			**Lower**	**Upper**
Know cancerous cells can be diagnosed through screening						
Yes	166	160	0.000	2.1	1.8	9.6*
No	6	12				
Know that cancerous cells can be treated						
Yes	160	123	0.001	5.3	1.3	9.4*
No	12	49				

The * represents statistically significant results

Table 13 Screening practices associated with women of child bearing age attending Nyanga District Hospital, 2025

Variable	**Cervical cancer screening uptake**		**Chi square p-value**	**Odds ratio (OR)**	**95% CI of OR**	
	Cases N=172 n(%)	**Control N=172 n(%)**			**Lower**	**Upper**
Comfortable to be screened by a male nurse						
1-3	131	69	0.000	2.7	1.7	4.3*
4+	41	103				

VIAC important						
Important	155	157	0.001	0.4	0.3	0.8*
Not important	17	15				

The * represents statistically significant results

Table 14 Predictors of VIAC uptake among WOCBA in Nyanga District

Cervical cancer screening	(aOR)	Z	95% CI	P value
Parity	1.1	1.7	0.9 – 3.3	0.061
Level of education	3.2	2.2	1.2 – 3.9	0.010*
Employment status	2.6	0.7	0.4 – 15.3	0.279
Know cancerous cells can be diagnosed	5.4	3.1	2.1 – 13.6	0.000*
Know cancerous cells can be treated	4.7	1.9	2.4 – 9.5	0.000*
Marital status	8.6	2.0	0.8 – 19.3	0.579
Believe cervical cancer screening is important	3.9	3.2	2.0 – 31.0	0.041*
Comfortable to be screened by a male nurse	2.8	2.0	1.8 – 4.4	0.000*

The * represents statistically significant results.

Controlling for all variables that were statistically significant in bivariate analysis, the multivariate analysis revealed that only level of education [aOR=3.2, 95%CI (1.2 – 3.9, p=0.010)]; knowing cancerous cells can be diagnosed [aOR=5.4, 95%CI (2.1. - 13.6, p=0.000)]; knowing cancerous cells can be treated [aOR=4.7, 95%CI (2.4 – 9.5, p=0.000)]; knowing that screening is important [aOR=3.9, 95%CI (2.0 -31.0), p=0.041] and being comfortable to be screened by a male nurse [aOR=2.8, 95%CI (1.8 - 4.4, p=0.000)] to be statistically significant predictors of VIAC uptake.

CHAPTER FIVE DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The chapter includes the discussion, limitations to the study, study summary and conclusion, implications, recommendations and dissemination of results and the actions taken in response to the findings.

5.1 Discussion

In this case control study conducted at Nyanga District Hospital investigating the determinants of cervical cancer screening and outcomes

5.2 Socio-demographic characteristics associated with VIAC uptake among women of child bearing age attending Nyanga District Hospital

5.2.1 Age

The mean age of participants was 37 years and majority of participants were aged between 18 and 39 years. Similar results were made in a study conducted in Bikita District were the majority of the study participants were aged 18 and 35 years (Tapera et al., 2019) In developing countries, women tend to be sexually active at a younger age thus the lower mean age (Tabatabaei, Asadi, Moghaddasi, Khayami, & Niroomand, 2018). In developed countries, WOCBA tend to have children after

accomplishing their studies thus tend to have a higher mean age of WOCBA. There was no statistically significant difference in VIAC uptake and age, however, there was a trend of increasing VIAC uptake with increasing age. NYamambi et al., 2020, made similar findings in Nigeria were VIAC uptake increased with increasing age. As CCa increases with multiparty and increase in age, older women are encouraged to undergo regular screening thus an increase in older women been screened.

5.2.2 Parity

In this study, majority of the cases and controls had given birth 1-3 times. As mothers are encouraged to get screened 6 weeks after giving birth, thus a high number of first mothers getting screened in this study. Also, giving birth more than 3 times was statistically significant in this study. As giving birth to multiple children is associated with CCa, women who have given birth more times tend to partake and have positive attitudes towards VIAC screening. Similar findings were made in studies done in Bikita and Chekutu Districts were VIAC uptake increased with an increase in the number children one has given birth to (Tapera et al., 2019; Nyamambi et al., 2020).

5.2.3 Education

Majority of the cases and controls were educated up to secondary education, however more cases were educated up to tertiary level. The high level of education can be attributed to the decentralised of both primary and secondary schools which have been made easily accessible, acceptable, affordable and efficient (Ministry of Primary and Secondary Education, 2019). Education was significantly associated with VIAC uptake in this study. Being educated to secondary level or tertiary level improved the uptake of VIAC services by 60% and was a predictor of VIAC uptake on logistic regression.

Different findings were made by Al-Hassan et al., (2017) and Casmir (2017) in their studies were they noted trends of poor VIAC uptake amongst educated participants. They cited that educated individuals tend to be stubborn when it comes to screening services especially when they do not feel sick and tend to prioritise their work time.

Possible explanations to the findings of this study is that schools are incorporating issues to do with NCDs such as diabetic, cancer, blood pressure and how to prevent and control them in their curriculum from primary level to tertiary level. Educated individuals tend to understand more teachings from healthcare providers and are more likely to follow instructions.

5.2.4 Employment status

Majority of study participants reported being employed. In this study, being employed improved the odds of VIAC uptake as compared to their counterparts and was statistically significant. A possible explanation to these findings is that being employed and spending the day associating with others tends to act as a motivator as they encourage each other to have better health seeking behaviour.

Similar findings were made by Al-Hassan et al., (2017) and Casmir (2017) who noted a trend of good VIAC uptake amongst employed individuals and they attributed it to their high level of education and also they will tend to encourage each other to have a positive attitude towards their health. Also, HCWs carry health campaigns at work areas thus they tend to be well informed thus encouraging positive health seeking behaviours.

5.2.5 Marital status

Majority of the study participants were married. Since VIAC screening is done to women who have given birth mostly, married individuals tend to have given birth mostly (Ahlqvist et al., 2018).

In this study, being married improved the odds of VIAC uptake and was statistically significant, however, this was not a predictor of VIAC uptake. Adisa, Fakeye, & Fasanmade (2011) found out a significant correlation between VIAC uptake marital statuses, they noted that married patients took up the VIAC program better than single individuals. Similar findings were made in a study to ascertain the associations of marital status and VIAC uptake, it was noted that being widowed, single or divorced was associated with poor VIAC uptake (Ramezankhani, Azizi & Hadaegh, 2019). A possible explanation to these findings is that married couples or cohabiting individuals tend to encourage each other to undergo the screening procedure which might improve the odds of VIAC uptake as compared to widowed or divorced or single individuals.

5.3 Knowledge and Awareness levels associated with VIAC uptake among women of child bearing age attending Nyanga District Hospital

In this study, all the cases and controls reported receiving VIAC information from more than 2 sources. Sources that were reported included health facility, social media, community outreach programmes and friends or family. As HCWs are expected to give health education every morning before starting their routine activities, they teach various topics from communicable diseases to non-communicable diseases CCa information is bound to be disseminated thus promoting its uptake and capacitating the community. Owing to globalisation the world has become one, people are able to access information over the internet and data bundles have been made cheap and readily available thus making it easy for one to look for information. Also, the local broadcasting networks such as ZBC, and radio are caring out health talks which also include CCa screening thus empowering the nation with health knowledge. The Ministry of Health and Child Care (MoHCC) carries out various health outreach

campaigns including mobile VIAC screening services, through these outreach campaigns, information on CCa screening is disseminated into the community.

Through engaging other ministries and integrating services for example collaborating with the ministry of Home affairs, Primary and Secondary Education, Ministry of Youth Sports and Culture, Ministry of Higher Tertiary Education amongst other Ministries, the MoHCC can carry out health campaigns together with these ministries thus promoting information dissemination and uptake of VIAC services. Similar findings were made in a study conducted in Hurungwe District, it was noted that the study participants had received information on CCa from more than two different sources (Mundagowa, Tapera, Guzha, Fitzpatrick, Mandishora & Kanyangarara, 2024). Having multiple sources of information acts a positive reinforcement as one gets to know more on the importance of VIAC screening thus promoting its uptake.

In this study, knowing that precancerous cells can be identified through screening and can be fully treated if diagnosed early improved the odds of VIAC screening uptake. Similar findings were made in a study done in Gwanda District were the study participants knew that early diagnosis and treatment could yield positive results (Mantula, Toefy & Sewram, 2025). A possible explanation to these findings is that when one is equipped with information and the positive facts they are more likely to lead a positive life style. Contrasting findings to this study were made in a study done in in Chegutu District were the study participant were knowledgeable on the importance of VIAC screening but they still did not uptake the procedure (Nyamambi, Murendo, Sibanda & Mazinyane, 2020). A possible explanation is that even though one is equipped with the knowledge they still want to wait for the last minute till they feel that they are ill since CCa takes a while for one to notice it, one can take long to undergo the screening process.

In this study, participants knew at least half of the risk factors associated with CCa, 87.5% knew that having multiple sex partners or early sexual debut were risk factors, 87.8% knew that HIV infection was a risk factor, 58.7% knew that family history was a risk factor, 86% knew that HPV infection was a risk factor and 36.6% cited poor hygiene as risk factor for developing CCA. Although knowing the risk factors was statistically not significant in this study, knowing the risk factors tend to act as a positive reinforcement as one tends to avoid them or seek treatment early. A study conducted in Hurungwe district showed that HIV positive women tend to uptake the VIAC screening more as compared to those who are not immunocompromised (Mundagowa et al., 2024). Also, a study in Gwanda district showed that women with a family history of cervical cancer and those with high parity seek VIAC screening more than their counterparts (Mantula et al., 2025). Therefore if one knows her risk category one is prone to be more proactive in seeking health assistance.

The high knowledge levels in this study can be attributed to the multi-sectorial approach being employed in the district, morning health educations done by health workers in the morning at health facilities and outreach programs conducted, also through social media, health information is one click away thus promoting knowledge levels.

5.4 Screening practices associated with women of child bearing age attending Nyanga District Hospital, 2025

In this study, majority of the study participants who were screened had been screened once, followed by those who had been screened more than 3 times and lastly those who were screened 2-3 times. A possible explanation to these findings is that 1st time mothers tend to follow health care advices to the dot as such they are expected to undergo VIAC screening 6 weeks after they have given birth thus the high number of

first time mothers. Also, as women with high parity are at a greater risk of developing cervical cancer they tend to be proactive and seek health care services more as shown in this study. Similar findings were made in studied conducted in Bikita, Gwanda and Hurungwe districts were there was a large number of 1st mothers or those with high parity seeking VIAC services (Nyamambi et al., 2020; Mundagowa et al., 2024; Mantula et al., 2025).

Reasons for not getting screened cited in this study included religious/cultural reasons, lack of access of screening facilities, costs associated with screening, fear of the procedure, lack of awareness. A study done in Tanzania revealed that proportion of poor VIAC uptake was greater in those who reported two or more reasons (Pablo, Mohammad Nezhad, Wilson & Khan, 2018). Similar studies have been done which also revealed that women who tend to have a reason not to be screened shun away from VIAC services (Abougalambou, Suleiman & Abougalambou, 2015). In Zimbabwe, in Gwanda District, similar findings were noted as women who had reasons or fears did not go for VIAC (Brier & lia dwi jayanti, 2020).

One hundred and twenty participants cited that they were not comfortable to be screened by a male HCW citing various reasons. Fear of sexual abuse was cited, since the women seeking VIAC services might necessarily not be ill and are afraid to be taken advantage of thus they shy away from the procedure if offered by a male health worked. Similar findings were made by Brier & Iia, 2020 in their study in Gwanda were they noted that VIAC uptake was low during the period were the service will be offered by a male HCW as compared to the periods were the service will be carried out by a female HCW. Religion and cultural reasons were also cited as barriers to be screened by a male HCW, some religions such as Muslim do not allow their congregants to be seen naked by the opposite sex other than their husband as such the

will not uptake the procedure if offered by the opposite sex. One hundred and thirty three cited that they were shy and feared their husbands reaction if they knew they were screened by a male HCW when they were not ill. As Nyanga district is a small district were the majority of the population knows each other it is understandable for one to be shy to have their private parts viewed by the opposite sex you interact with daily in the community also some men are overprotective or jealousy and would start a social dispute if they heard that their wives have been screened by a male health care worker.

Three hundred and eighteen participants reported that VIAC screening was important and was statistically significant on bivariate analysis, according to the HBM, if one views that taking a certain action is important in preserving their health he/she is more likely to take that action as opposed to doing nothing (Rosenstock, Strecher & Becker, 1988), as such there is need to emphasize on the importance of getting CCa screening periodically so as to create demand. A study done in Bikita showed that there was poor VIAC uptake to those who believed screening is not important (Tapera et al., 2019). A possible explanation to this finding is that if one views something as important, he/she is more likely to take action and if one views something as not important he or she will not take action.

Fear of results, pain/discomfort during procedure, lack of privacy, costs of travelling, poor service delivery by HCWs were some of the concerns raised by the study participants. In Zimbabwe, in Gwanda District, similar findings were noted as women did not go for VIAC services because they feared the results and pain during the procedure it was also reported that due to lack of privacy, their men openly refused to support their wives on their decisions to go for screening (Brier & lia dwi jayanti, 2020). Socio-economic factors play a significant role in the uptake of VIAC services

amongst women (Wah Oo et al., 2020). Economic challenges related to transport costs for travel to the district or provincial hospital where screening is done, and treatment costs for women who test VIAC positive and require LEEP to be performed, was viewed as another hindrance to screening in a study carried out in Gwanda (Brier & lia dwi jayanti, 2020). Whereas screening is free, women are required to pay for associated services such as LEEP and laboratory fees for a specimen collected during the procedure.

The Zimbabwean health sector is being affected by brain drain as trained workers and the more experienced are looking for better paying jobs and migrating to greener pastures such as the United Kingdoms (UK) (Shato, 2021). As such, HCWs trained in VIAC services are in short supply in government hospitals, for instance, in Nyanga, there is only one nurse trained in VIAC services serving the whole district as such if the nurse is on off days, vacation or falls ill, there will be no VIAC services offered in the district. Studies conducted in Bulawayo and Chegutu, it was also noted that brain drain of trained staff in VIAC services was the major barrier to VIAC services access (Padingani et al, 2018; Nyamambi et al., 2020).

Similarly, in a study carried out in Gwanda, service providers cited that staff shortages are a major hindrance to cervical cancer screening as only a few members of staff are involved in the delivery of the service (Brier & lia dwi jayanti, 2020). In the study, it was noted that there was lack of trained health personnel to meet the demand for screening and this was attributed to the high staff turnover of those trained and lack of proper training to enable available nurses and doctors to conduct screening. Some trained providers were assigned to service areas not related to screening, thus negatively affecting delivery of screening services. At some health facilities, the same personnel who provide screening also provide other maternal and child health services

and this increases their workload (Brier & lia dwi jayanti, 2020). The time within which screening sites are operational is hence limited. This has an impact on the number of women who can be screened since women have to wait for the availability of the few skilled staff to access the service.

5.5 Outcome and barriers associated with VIAC screening among women of child bearing age in Nyanga District, 2025

In this study, 20 participants reported that they received bad serve provision whilst undergoing VIAC service. Similar findings were made in Nigeria were participants received bad health care services (Casmir, 2017). Receiving bad service at health care facilities lowers the uptake of any program as such needs to be avoided. As women who seek VIAC services will not be ill giving the bad reception or treatment will prevent them and others from seeking the service further. These days everyone has access to the internet and can post anything, if one receives bad service and posts it online, these can further deter others who might be seeking the service negatively impacting the programme.

This study reviled that HCWs are only following up those that test VIAC positive mainly 33.7%. Mantula et al., 2025, notes that equal emphasis need to be done to those that test positive and linked to treatment services and those that test negative need to be linked to various services offered such as STI treatment so as to ensure they stay VIAC negative. In a study conducted by Murewanhema, 2021 receiving some kind of follow up motivated clients to further seek health services and refer their friends or relatives. Brier and lia dwi jayanti, 2020 note that receiving some feedback boots the self-confidence of an individual and promotes healthy seeking behavior. Receiving some sort of feedback serves as a positive feedback and promotes further good health

seeking behavior. In this study, 40 tested VIAC positive and 34 had punch biopsy collected which required between USD 20-30 for the samples to be processed. Sixteen fully recovered, 16 are still on treatment and the rest did not have money to buy medications. Those that recovered act as living proof that early diagnosed and treatment can be done yielding positive results.

5.6 Study limitations

- The study included only women of child bearing age (WOCBA) who attended Nyanga District Hospital only, because of time constraints and limited funds. It would have been better to also include Mission hospitals offering VIAC services as well.

5.7 Recommendations.

Recommendation	**Responsible person**	**Timeframe**
Decentralize CCa screening services to health centers and mission hospitals to improve accessibility for all.	DMO	Dec 2025
Expand training for healthcare workers in VIAC to enhance service delivery.	DMO	Dec 2025
Implement consistent integrated outreach programs to serve hard-to-reach communities in the district	DNO	July 2025
Strengthen health education initiatives to dispel myths and promote awareness about cervical cancer prevention.	DHPO	July 2025
Collaborate with traditional and religious leaders to foster community engagement and support for cervical cancer initiatives.	DHPO	July 2025
MOHCC to adopt other screening methods like HPV screening	PMD	Dec 2025
Upgrade government laboratories to provide histology services at subsidised prices .	DirectorLabSciences HQ MOHCC	Dec 2025

5.8 Communication and dissemination

The research results will be communicated and dissemination to the key stakeholders of Nyanga District Hospital, Manicaland Medical Provincial Directorate, and to the Africa University Community through a Brownbag series. The research findings will be disseminated at the Annual Medical Research Day. Nevertheless, the research results will be sent for publication in an identified journal, as well as being kept in the Africa University Research Database and library.

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Appendix 1: Study Budget

RESEARCH EXPENSES	QUANTITY	UNIT COST (USD$)	TOTAL COST (USD$)
Printing & photocopying (data collection tools, final report)	1 batch	50.00	50.00
Stationery (notepads, A3 envelops & ballpoints)	1 set	5.00	5.00
Internet bundles	10	8.00	80.00
Travelling costs (fuel)	50L	1.20	60.00
Researcher's Allowance	1 evaluation	200.00	200.00
Miscellaneous			100.00
TOTAL			495.00

The study is expected to require USD 495

Appendix 2: Study Timeline

This research should be done within the 1st week of March 2025.

Table 1.0 Work plan/Gannt Chart

Activity	January 2025			February 2025				March 2025
	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1
Proposal finalization								
Seeking authority								
Data collection and analysis								
Report writing								
Development of manuscript								
Dissemination of findings								

Presentation at the monthly meeting								

Appendix 3: English Informed Consent Form

My name is Majoni John Muungani (Reg No: 221015), a final year (Masters in Public Health) student from AU. I am carrying out a study on the determinants and outcomes of cervical cancer screening in Nyanga District, Manicaland, Zimbabwe 2024. I am kindly asking you to participate in this study by answering questions which I will be asking or filling in the questionnaire. This study is expected to take 30 minutes of your time.

Purpose of the study:

The purpose of the study is to determinants and outcomes of cervical cancer screening in Nyanga District, Manicaland, Zimbabwe 2024. The researcher will then come up with possible solutions to deal with low uptake of cancer screening services. You were selected for the study because you are a resident of Nyanga District and attending Nyanga District Hospital and you are a woman of child bearing age

Procedures and duration

If you decide to participate you are free to choose whether to not answer some questions and you will participate on the basis of anonymity. It is expected that the interview will take about twenty (20) minutes.

Risks and discomforts

There are no risks, discomforts or inconveniences expected to arise from participating in this study.

Benefits and/or compensation

There is no compensation that will be given by participating in this study. However, the results from this study will benefit the healthcare personnel at Nyanga district and the health sector at large by knowing the causes of low uptake of cancer screening services and will have ways to mitigate them.

Confidentiality

Information that is obtained in this study will be stored under lock and key and only the researcher will have access to it and will only share it with his supervisor and those related in the study. Information that can be identified with you will not be disclosed without your permission. Your name and any other identification will not be asked for in the questionnaire hence you are not required to write your and other identifications on the questionnaire.

Voluntary participation

Participation in this study is voluntary. If you decides not to participate in this study, your decision will not affect your future relationship with Nyanga District Hospital or Africa University. If you chose to participate, you are free to withdraw your consent and discontinue participation without penalty.

Offer to answer questions

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

Authorization

If you have decided to participate in this study please sign this form in the space provided below as an indication that you have read and understood the information provided above and have agreed to participate.

---------- ----------

Name of Research Participant (please print) Date

Signature of Research Participant or legally authorized representative

If you have any questions concerning this study or consent form beyond those answered by the researcher including questions about the research, your rights as a

research participant, or if you feel that you have been treated unfairly and would like to talk to someone other than the researcher, please feel free to contact the Africa University Research Ethics Committee on telephone (020) 60075 or 60026 extension 1156 email aurec@africau.edu

Name of Researcher ----------

Appendix 4: Shona Informed Consent Form

Ini zita rangu ndinonzi Majoni John Muungani (Reg No: 221015) ndiri mudzidzi ari mugore rekupedzisira weMaster's in Public Health paAfrica University. Ndiri kuitawo tsvakurudzo yekuda kuziwa zvinoita wanhukadzi wari pazera rekuita wana wade kana kusada kuongororwa zvibereko zvawo uye mabudiro azvo mudunhu reNyanga district, Manicaland, Zimbabwe, pachipatara cheNyanga District, 2024. Ndinokumbirawo kuti muite chikamu nekupindura mibvunzo inotevera yandichabvunza.

Chinangwa chetsvagurudzo iyi

Chinangwa chetsvagurudzo iyi ndechekuda kubuditsa pachena zvinokonzera kuti munhu kadzi ade kana kusada kuongororwa muromo wechibereko chake mudunhu re Nyanga. Izvi zvinozoita kuti wana chiremba nana mukoti wakwanise kuzozvigadzirisa. Imi masarudzwa kuti mupe ruzivo rwenyu mutsvagurudzo iyi nekuti munowana rubatsiro rwekurapiwa paNyanga Hospital uye muri mukadzi achiri kukwanisa kuzvara.

Maitiro nenguva

Kana muchinge matora danho rekupindura mibvunzo, muchange muchita zvekubvunzwa mibvunzo. Kana mava kupindura mibvunzo iyi munotenderwa kusiya imwe mibvunzo yamunoona yamusingakwanisi kupindura. Kupindura mibvunzo iyi kunogona kutora maminitsi makumi maviri.

Njodzi dzingawanikwa patsvagurudzo

Apana njodzi inogona kuvepo inoenderana neongororo iyi.

Zvakanakira chidzidzo ichi uye muripo

Apana mubairo wamuchapuhwa mukupindura mibvunzo iyi. Asi zvichabuda mutsvakurudzo iyi zvichabatsira vana chiremba nana mukoti kuti wave neruzivo maererano nezvinokonzera kuti wanhu kadzi wachiri kukwanisa kuzvara kuti vade kana kuti vasade kutariswa muromo wechibereko chawo uye zvinozobuda kana watariswa.

Kuvanzika

Ruzivo rupi zvarwo ruchawanikwa kubva kutsvagurudzo iyi ruchachengetwa pakakavanzika uye haruzoratidzwa pachena pasina mvumo yenyu. Mazita uye humbowo pamusoro pehupenyu hwenyu hazvisi kuzobvunzwa patsvagurudzo yatiri kuita iyi.

Kuzvipira kutora chikamu pasina muripo

Kutora chikamu mune iyi tsvagurudzo hakusi kwekumaninkidzwa. Sevatori vechikamu, mune kodzero yekusatora mukana zvachose kana kusiya tsvagurudzo chero nguva. Kana mukasarudza kusatora chikamu kana kusarudza kusiya tsvagurudzo iyi pakati hazvizounza chero upi mutongo kana chirango kana kurasikirwa kwebatsiro yamunokodzera uye hazvizokuvadza hukama hwenyu nechipatara chenyu kana hukama neAfrica University.

henyu nguwa yamungada muchinyatso funga.

Mvumo kupindura mibvunzo

Musati masaina fomu iri, ndokumbirawo mubvunze chero mibvunzo yamunoda pane chero chikamu chetsvagurudzo ichi chisina kujeka kwamuri. Munokwanisa kutora nguva kuti mufunge nezvazvo

Mushure mekunge munhu awana nguwa yakakwana yekufunga kuti anoda kupindura mibvunzo here?

- Munondipa mvumo yekutora nguwa yenyu ndichikubvunzai here nekukutapai

Hongu [ ] Kwete [ ]

Zvichemo

Kana muine zvichemo zvatandzwa kunyatso pindurwa, iwai makasununguka kubata chikoro chedu panhamba dzinoti (020) 60075 kana 60026 kana paemail inoti aurec@africau.edu.

Zita remu fundi ----------

Appendix 5: Participants English Questionnaire

Questionnaire number……

Topic: Determinants and outcomes of cervical cancer screening in Nyanga District, Manicaland, Zimbabwe 2024.

Please fill in the gaps or place a tick in the questions below

Section A: Demographic Information

1 Age ---------- Parity……

2. Level of education

Primary ☐ Secondary ☐ Tertiary ☐ Not Educated ☐

3 Occupation----------

4 Marital status

Single ☐ Married ☐ Divorced ☐ Widowed ☐

Section B: Knowledge and Awareness

5 Have you ever heard about cervical cancer?

[ ] Yes [ ] No

6 If yes, where did you hear about it? (Select all that apply)

[ ] Health facility

[ ] Media (TV, radio, newspapers, internet)

[ ] Community outreach programs

[ ] Friends/Family

[ ] Other (please specify): _____

7 Do you know that cervical cancer can be prevented through screening?

[ ] Yes

[ ] No

8 Do you know that pre-cancerous lesions can be treated YES [ ] NO [ ]

9 The risk factors for cervical cancer include (select appropriate responses)

Multiple sexual partners [ ]

Early age of sexual debut [ ]

HIV infection [ ]

Family history [ ]

HPV infection [ ]

Poor Hygiene [ ]

Section C: Screening Practices

10 Have you ever been screened for cervical cancer?[ ] Yes [ ] No

11 If yes, how many times have you been screened?

[ ] Once [ ] 2-3 Times [ ] More than 3 times

12 If no to question 11, what are the reasons for not getting screened? (Select all that apply)

[ ] Lack of awareness

[ ] Fear of the procedure

[ ] Cost of screening

[ ] Lack of access to screening facilities

[ ] Cultural/religious beliefs

[ ] Other (please specify): _____

13 Are you comfortable to have cervical cancer screening(VIAC) done on you by a male nurse YES [ ] NO [ ]

14 If NO on question 14, why?

….……

…….

15 How important do you think regular cervical cancer screening is?

Very important [ ] Important [ ] Not important [ ]

16 What are your main concerns about cervical cancer screening

Fear of results [ ]

Pain or discomfort during the procedure [ ]

Lack of Privacy [ ]

Cost of travelling to the health facility where screening is done [ ]

Poor service delivery by healthcare staff [ ]

Other ……

……

…..

Section D: Outcomes and Barriers

17 If you have been screened before, how would you describe your experience?

Very good [ ] Good [ ] Bad [ ] Very bad [ ]

18 Did you receive any follow up care after screening YES [ ] NO [ ]

19 Have you ever been diagnosed/suspected to have cervical cancer?

[ ] Yes [ ] No

20 Did you have punch biopsy done YES [ ] NO [ ]

21 If yes was there any associated cost and also the cost for the histology

YES [ ] NO[ ]

22 If yes how much …….

23 If you were diagnosed of cervical cancer, what was the outcome of the treatment?

[ ] Fully recovered

[ ] Currently undergoing treatment

[ ] Did not recover

Other (please specify) ……

25 What are the main barriers to cervical cancer screening in your community? (Select all that apply)

[ ] Lack of awareness

[ ] Fear of diagnosiss

[ ] Stigma associated with cancer

[ ] Financial constraints

[ ] Inadequate healthcare facilities

[ ] Other (please specify): _____

26 What can be done to improve cervical cancer screening in your community? (Select all that apply)

[ ] Increase awareness through education

[ ] Reduce cost of screening

[ ] Improve access to healthcare facilities

[ ] Provide mobile screening units

[ ] Other (please specify): _____

Section E: Additional Comments

27 Do you have any additional comments or suggestions regarding cervical cancer screening and outcomes?

…..……

……

……

Appendix 6: **Participants Shona Questionnaire**

Questionnaire number……

Topic: Determinants and outcomes of cervical cancer screening in Nyanga District, Manicaland, Zimbabwe 2024.

Zadzisai pamikana yakasiiwa kana kumaka muma bhokisi akaiswa mhinduro dzenyu

Chikamu chekutanga:

1. Makore……..

2. Makadzidza Kusvika papi?

Handina kuenda kuchikoro [ ]

Zvifundo zvemaprimary [ ]

Zvifundo zvemasekondari [ ]

Zvifundo zvematertiary [ ]

3. Moita basa rei?.....

4. Makaroorwa here?

Ndakaroorwa [ ]

Handisati ndaroorwa [ ]

Takarambana [ ]

Ndakafirwa [ ]

Chikamu Chepiri: Ruziwo

5. Makambonzwa nezve gomarara rechibereko here?

Hongu [ ] kwete [ ]

6. Kana mhinduro yenyu iri hongu pamusoro, makazvinzwepi? (Makai zvese zvinoenderana)

Kuzvipatara [ ]

Social media [ ]

Panofamba ana mukoti munharaunda [ ]

Kuva kuhama neshamwari [ ]

Kumwewo (tsanangurai)

…….……

7. Munoziwa here kuti gomarara rechibereko rinokwanisa kudziwirirwa nekuongororwa chibereko? Hongu [ ] Kwete [ ]

8. Moziwa here kuti ma pre-cancerous lesions anokwanisa kurapika?

Hongu [ ] Kwete [ ]

9. Zvinoisa wanhukadzi panjodzi rekuita gomarara rechibereko ndezvipi? (Makai zvese zvinoenderana)

Kuita warome wakawanda waunoita bonde nawo [ ]

Kukurumidza kuita bonde [ ]

Kuwa nehutachiwana hwe HIV [ ]

Kuwa nehama dzepedyo dzinorwara nacho [ ]

HPV infection [ ]

Kuva nehutsvina [ ]

Chikamu Chetatu: Kuongororwa

10. Makamboongororwa chibereko chenyu here?

Hongu [ ] Kwete [ ]

11. Kana mhinduro yenyu iri pa 11 iri hongu, makaongororwa kangani?

Kamwechete [ ] Kairi kna katatu [ ] Kanopfuura katatu [ ]

12. Kana mhinduro yenyu pa 11 iri kwete, nei musina kuongororwa? (Makai zvese zvinoenderana)

Kusaziwa [ ]

Kutya zvinoitwa [ ]

Kushaya mari yekubhadhara [ ]

Kutadza kuenda kwazvinoitirwa [ ]

Chitenderonchangu hachibvumidze [ ]

Zvimwewo (tanangurai)

……....

13. Makasununguka here kutariswa chibereko chenyu nemukoti wechi rume?

Hongu [ ] Kwete [ ]

14. Kana mhinduro yenyu iri pa 14 iri kwete, ndendawa yei?

.....

.....

15. Mutoti kugara muchiongororwa chibereko chenyu kwakakosha sei?

Kwakakoshesa [ ] Kwakakosha [ ] Hakuna kukosha [ ]

16. Chii chamonyanyotya pakuongororwa chibereko?

Kutya zvinozobudapo [ ]

Kutya kurwadziwa pakuongororwa [ ]

Kunyara kutariswa nhengo yangu [ ]

Kushaya mari yekuendesa kuchipatara [ ]

Kusabatwa zvakanaka kuchipatara [ ]

Zvimwewo (tsanangurai)

……

Chikamu Chechina: Mabudiro nezvino Dzivirira

17. Kana makamboongororwa chibereke chenyu, munoti makabatwa sei?

Zvakanakisisa [ ] Zvakanaka [ ] Zvakashata [ ] Zvakashatisisia [ ]

18. Pane wakazombokuteraiwo here mushure mekunge maongororwa chibereko chenyu?

Hongu [ ] Kwete [ ]

19. Makambobatwa kana kufungidzirwa kuti mune gomarara rechibereko here?

Hongu [ ] Kwete [ ]

20. Makaitwa punch biopsy here?

Hongu [ ] Kwete [ ]

21. Kana mhinduro yenyu pa 21 iri hongu, pane mari dzaidiwa here?

Hongu [ ] Kwete [ ]

22. Kana mhinduro yenyu pa 22 iri hongu, marii?.....

23. Kana makanzi mune gomarara rechibereko, makarapwa here

Hongu [ ] Kwete [ ]

24. Kana mhinduro pa 24 iri hongu, makarapika here?

Ndakapora [ ]

Ndichiri pamuchonga [ ]

Handina kupora [ ]

Zvimwewo (tsanangurai) [ ]

……

……

…….

25. chinyi chinokutadzisai kuongororwa chibereko munharaunda yenyu? (Makai zvese zvinoenderana)

Kusaziwa [ ]

Kutya kubatwa nechirwere chacho [ ]

Kutya zvinozotaura wanhu kana ndabatwa nechirwere [ ]

Kushaya mari [ ]

Zvipatara zvinoongorora zvibereko zvishoma [ ]

Zvimwewo (tsanangurai)

……

……

26. Chii chinokwanisa kuitwa kuti kuongororwa kwezvibereko kufambezvakanaka munharaunda yenyu? (Makai zvese zvinoenderana)

Kututsira ruziwo rwewanhu nekuwadzidzisa [ ]

Kuderedza mari dzinobhadharwa pakuongororwa [ ]

Kuvaka zvipatara pedyo nekunogara wanhu [ ]

Kufambira wanhu munharaunda wachiongororwa [ ]

Zvimwewo (tsanangurai)

……

……

Chikamu Chechishanu: Wedzeredzo

27. Munewo zvimwe zvamugada kutaurawo here maererano nekuongororwa chibereko uye zvinozobuda kana maongororwa?

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Appendix 7: Key Informant Interview Guide

Questionnaire number……

Topic: Determinants and outcomes of cervical cancer screening in Nyanga District, Manicaland, Zimbabwe 2024.

Please fill in the gaps or place a tick in the questions below

Section A: Demographic information

1. Position/Title …… Age ……. Years in service…….

Section B : Knowledge and awareness of cervical cancer

2. In your own opinion how knowledgeable is the general populationin Nyanga District about cervical cancer?

Very knowledgeable [ ]

Somewhat knowlegeable [ ]

Not knowledgeable [ ]

3. What are the common misconceptions about cervical cancer and its screening among the community

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4. How effective do you think current awareness campaigns are in educating women about cervical cancer screening ?

Very effective [ ] Effective [ ] Somewhat effective [ ] Not effective [ ]

Section C Access to cervical cancer screening

5. How many facilities offer cervical cancer screening in Nyanga(VIAC)

…….

6. Do you have adequate staff trained in Cervical Cancer screening YES[ ] NO[ ]

7. Are healthcare facilities adequately equiped to perform cervical cancer screening YES[ ] NO[ ]

8. What barriers do women in Nyanga district face in accessing cervical cancer screening services (tick all that applies)

Lack of awareness /information [ ]

Financial constraints [ ]

Accessibility of healthcare facilities [ ]

Cultural or religious beliefs [ ]

Stigma associated with screening [ ]

Other

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9. What strategies do you think can improve cervical cancer screening in Nyanga district

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Section D Outcomes

10. What services are offered to patients who are diagnosed of cervical cancer

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11. Where are specimens for histology sent

…..……

…….

12. Is there a payment associated with processing of the histology specimen

……

……..

13. What do you think are the risk factors in patients diagnosed with cervical cancer (tick all that applies)

Early age of sexual debut [ ]

Multiple sexual partners [ ]

Multiparity [ ]

Family history [ ]

HIV infection [ ]

Poor hygiene [ ]

14. Of the patients who tested positive , what were their barriers to early screening and treatment

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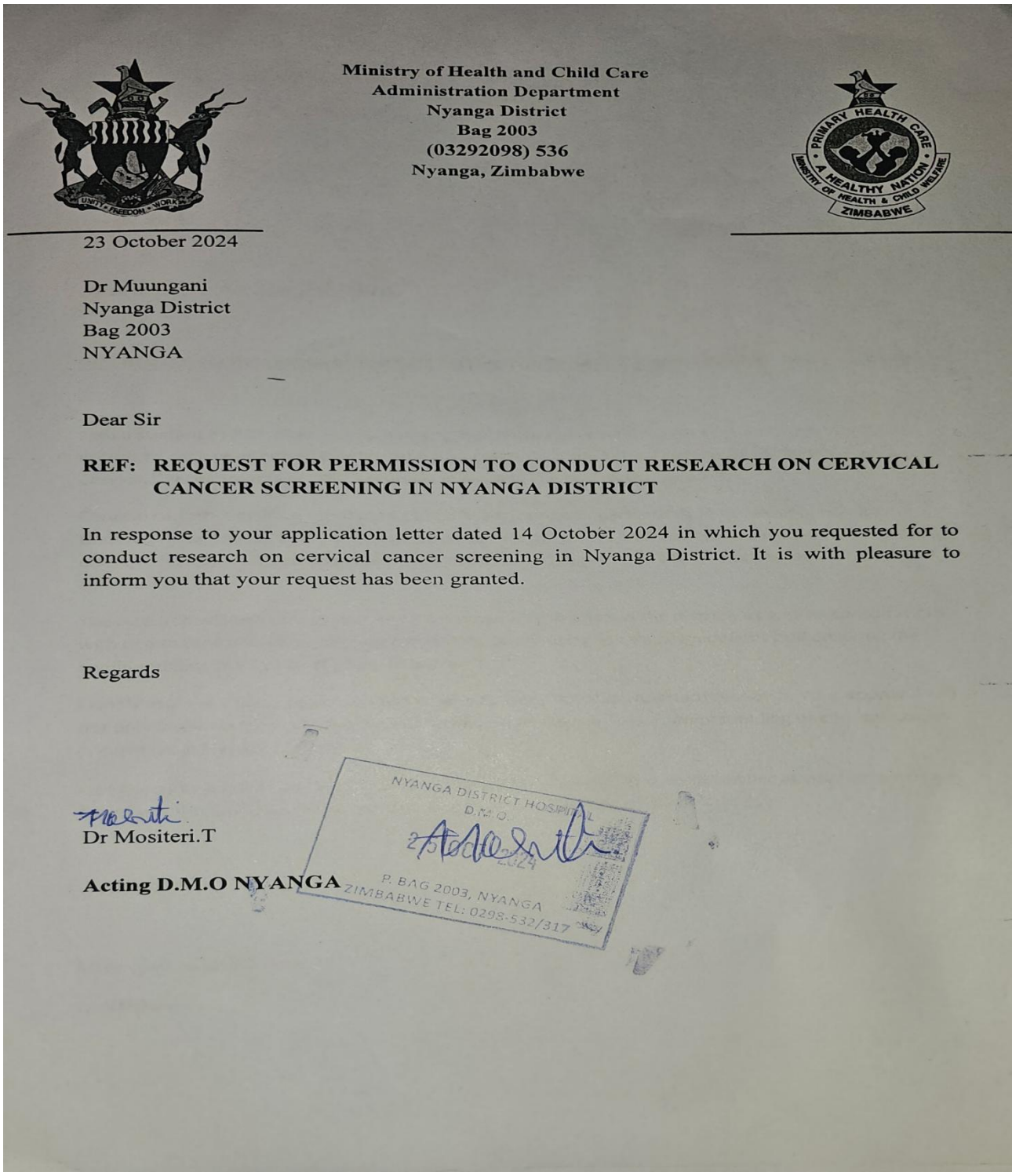
Appendix 8: District Authority Permission to Conduct Research



Ministry of Health and Child Care
Administration Department
Nyanga District
Bag 2003
(03292098) 536
Nyanga, Zimbabwe

23 October 2024

Dr Muungani
Nyanga District
Bag 2003
NYANGA

Dear Sir

REF: REQUEST FOR PERMISSION TO CONDUCT RESEARCH ON CERVICAL CANCER SCREENING IN NYANGA DISTRICT

In response to your application letter dated 14 October 2024 in which you requested for to conduct research on cervical cancer screening in Nyanga District. It is with pleasure to inform you that your request has been granted.

Regards

Dr Mositeri.T

Acting D.M.O NYANGA

NYANGA DISTRICT HOSPITAL
D.M.O.
P. BAG 2003, NYANGA
ZIMBABWE TEL: 0298-532/317

Appendix 8: Provincial Authority Permission to Conduct Research

Telephone: 60624/60655
Fax: 60698/64401

ZIMBABWE

Reference:

PROVINCIAL MEDICAL DIRECTOR
MANICALAND
P.O. Box 323
Mutare

27 November 2024

Dear Dr. Muungani Majoni John

REF: REQUEST FOR APPROVAL TO CARRY OUT A RESEARCH ON THE DETERMINANTS OF CERVICAL CANCER SCREENING AND OUTCOMES IN NYANGA DISTRICT 2024

In response to your application letter dated 25 November 2024 in which you requested for approval to carry out a research on the Determinants of cervical cancer screening and outcomes in Nyanga District 2024.

It is with pleasure to inform you that the PMD has no objection, your request has been granted.

Regards

PROVINCIAL MEDICAL DIRECTOR
MANICALAND
09 DEC 2024
P.O. BOX 323, MUTARE

Dr M Mukuzunga
Acting Provincial Medical Director - Manicaland

"Investing in Africa's future"
AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC)

P.O. Box 1320 Mutare, Zimbabwe, Off Nyanga Road, Old Mutare-Tel (+263-20) 60075/60026/61611 Fax: (+263 20) 61785 Website: www.africau.edu

Ref: AU 3614/25

11 February, 2025

MAJONI JOHN MUUGANI
C/O Africa University
Box 1320
MUTARE

RE: ***DETERMINANTS AND OUTCOMES OF CERVICAL CANCER SCREENING IN NYANGA DISTRICT, MANICALAND, ZIMBABWE 2024***

Thank you for the above-titled proposal you submitted to the Africa University Research Ethics Committee for review. Please be advised that AUREC has reviewed and approved your application to conduct the above research.

The approval is based on the following.

a) Research proposal

- **APPROVAL NUMBER** AUREC 3614/25
  This number should be used on all correspondences, consent forms, and appropriate document
- **AUREC MEETING DATE** NA
- **APPROVAL DATE** February 11, 2025
- **EXPIRATION DATE** February 11, 2026
- **TYPE OF MEETING**: Expedited
  After the expiration date, this research may only continue upon renewal. A progress report on a standard AUREC form should be submitted a month before the expiration date for renewal purposes.
- **SERIOUS ADVERSE EVENTS** All serious problems concerning subject safety must be reported to AUREC within 3 working days on the standard AUREC form.
- **MODIFICATIONS** Prior AUREC approval is required before implementing any changes in the proposal (including changes in the consent documents)
- **TERMINATION OF STUDY** Upon termination of the study a report has to be submitted to AUREC.

AFRICA UNIVERSITY
RESEARCH ETHICS COMMITTEE (AUREC)
APPROVED
P.O. BOX 1320, MUTARE, ZIMBABWE

Yours Faithfully

MARY CHINZOU
FOR CHAIRPERSON
AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE