# DETERMINANTS OF THE CERVICAL CANCER AWARENESS AMONG THE WOMEN LIVING WITH HIV/AIDS IN MAGU DISTRICT, TANZANIA

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN MONITORING AND EVALUATION**

**DEPARTMENT OF ECONOMICS AND COMMUNITY ECONOMIC DEVELOPMENT**

**THE OPEN UNIVERISTY OF TANZANIA**

**2023**

## CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by the Open University of Tanzania a thesis titled: **"Determinants on the Cervical Cancer Awareness Among the Women Living with HIV/AIDS in Magu District, Mwanza region "** in partial fulfilment of the requirements for the degree of Master of Arts in Monitoring and Evaluation (MA M&E).

…….

Dr Harrieth Mtae

(Supervisor)

……

Date

## COPYRIGHT

## DECLARATION

I, **Tausi Saidi,** declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people‘s works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfillment of the requirement for the Degree of Master of Arts in Monitoring and Evaluation.

……

Signature

……

Date

## DEDICATION

This study is dedicated to God who has enabled me to pursue studies up to a higher degree level. Also, I would like to dedicate this work to my brothers Simba Saidi Komagi and Maulidi Saidi Komagi for their unconditional love and financial support throughout all the time that I have been studying. I also dedicate it to my Friend Felister Magare who encouraged me during my academic career.

## ACKNOWLEDGEMENT

First, I would like to extend my thanks to my District Executive Director of Magu DC Mr Lutengano Mwalwiba for allowing for the study. My sincere gratitude should go to my supervisor, Dr Herriet Mtae for the guidance, patience, devotion, and constructive criticisms throughout the research period. I would like to give much appreciation to Mr Maduhu Nindwa (DMO) and Miss Saada Kwikima (DHS) for their encouragement and support until the completion of my studies.

I am equally grateful to all my lecturers of OUT, the faculty of arts and the social sciences department of economics, which together have made me come out not only learned but also educated. The success of this study is a result of the contribution of many people, individuals and organizations that deserve thanks for their contribution. I also express my thanks to the three facilities I used as a sample in my study.

## ABSTRACT

The study aimed to determine cervical cancer awareness among the women living with HIV/AIDS in the Magu district. The study employed a sample of 150 respondents, whereby data for this study was collected using questionnaires and interviews as well as documentary reviews. Data collected were analyzed through SPSS V. 23, whereas the results revealed that most of the respondents proved that lack of awareness among respondents on cervical cancer is a problem which affects women living with HIV in the Magu district. The study also revealed little understanding to the women about the causes, signs, protective measures and availability of the cervical Vaccine. Furthermore, the study established that there was low knowledge of cervical cancer among the women living with HIV/AIDS in the Magu district council. On the issue of risk factors, the study also established the prevalence of several risk factors affecting awareness of cervical cancer. Moreover, there is was challenges with the issue of service utilization which was also found to be low among women living with HIV in the Magu district. The results obtained through regression analysis established that Knowledge of cervical cancer was found to have (Beta = .528, P> .000), Risks factors associated with cervical cancer were found to have Beta = .083, P> .003, while Service utilization had Beta =.225, P> .002), this also means the increase of service utilization by 1 unit lead to the increase of the awareness on cervical cancer by .002. Therefore, this established that there is a positive and significant relationship between the determinant factor and awareness of cervical cancer. The study recommended a need for strong health education mechanisms on cervical cancer awareness and preventive Services at the facility.

**Key words**: *Cancer, Cervical cancer, Knowledge, risk, risk factors.*

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## LIST OF ABBREVIATIONS

| | |
|---|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| CINAHL | Cumulative Index of Nursing and Allied Health Sciences |
| HAART | Highly Active Antiretroviral Therapy |
| HIV | Human Immunodeficiency Virus |
| HPV | Human Papilloma Virus |
| MoH | Ministry of Health |
| WHO | World Health Organization |
| WLHIV | Women Living With Human Immunodeficiency Virus |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |

# CHAPTER ONE

# INTRODUCTION

## 1.0 Overview

This chapter presents an introduction to the research problem, it examines aspects such as the background of the study, the statement of the problem, the research objectives used in this study, and the research question. Also, the chapter covered the significance of the study, the scope of the study, and the limitation and organization of the study as provided in the subsections below.

## 1.1 Background information

Cervical cancer is caused by the human papillomavirus (HPV) 75% globally, the most common viral infection of the reproductive tract (Walboomers et al, 1999). Other risk factors include tobacco consumption, multiple sexual partners, early age of sexual intercourse, increasing parity, prolonged use of oral contraceptive pills, sexually transmitted diseases and immunosuppression (Gadducci et al, 2011). Unlike other cancers, cervical cancer is one of the preventable gynecological cancers with an identifiable etiological factor of infection by human papillomavirus (HPV) which are responsible for approximately 70% of Cervical Cancer cases. Cervical cancer is almost 100% preventable if HPV is detected and identified earlier. Thus, knowledge and awareness about the various risk factors, infection by HPV, early warning signs, and symptoms of cervical cancer are highly crucial for its early diagnosis and prevention (Gadducci et al, 2011, Mikitu 2016). Therefore, if the HPV infection is detected and established early, this cancer is easily curable. Thus, knowledge and awareness about the various risk factors, infection by HPV, early warning signs, and

symptoms of cervical cancer are highly crucial for its early diagnosis (Mitiku and Teferal, 2016).

Women living with HIV are at 4–5 times greater risk of developing cervical cancer (UNAIDS, 2016). The most affected regions by HIV and cervical cancer are southern Africa and eastern Africa (Stelzle et al, 2020). However, cervical cancer intervention is being implemented at a low scale and there is a low level of education on cervical cancer which leads to low utilization of cervical cancer screening (UNAIDS, 2016). Despite the incidence of cervical cancer among PLWHA has significantly decreased after the introduction of Highly Active Antiretroviral Therapy (HAART) but the risk of chronic infections including HPV and progression to high-grade intraepithelial lesions and cervical cancer is still higher among HIV-infected women (Goncalves et al, 2016).

The World Health Organization (WHO) gives estimates of global cervical cancer rates that remain sobering, with more than 500,000 new cases diagnosed and 270.000 deaths occurring worldwide each year of which 85% occur in developing countries (WHO, 2014). In Sub-Saharan Africa (SSA), it is the second leading cause of cancer-related deaths among women (Jemal et al, 2012).

The prevalence of cervical cancer screening rate was 27.8% among 291 Malawi women living with HIV infection (UNAIDS, 2016). Though this prevalence was relatively low, these findings showed that women had a high knowledge level and positive attitude towards screening. Other factors independently associated with cervical cancer screening in HIV-positive women were occupation and access to screening services.

Different countries show differences in women's knowledge and attitude regarding cervical cancer and its prevention. Developed counties have been found to have high knowledge, while in developing countries, women had a poor level of knowledge towards cervical cancer and its prevention (AlMeer et al, 2011; Shrestha et al, 2013; Sancho et al, 2013). Women's age, marital status, occupation, educational status, source of information, knowing someone with cervical cancer and health-seeking behaviour were found to be associated with cervical cancer knowledge in Kenya (Kangmennaang et al, 2018).

An Analysis of data from the 2011-12 Tanzania HIV has revealed that Tanzania ranks second in the region with an estimate of the age-standardized incidence rate (ASR) of 54.9/100,000 women, Similar to other East African countries, cervical cancer is the leading cause of cancer and cancer-related death among Tanzanian women. Each year more than 7,300 Tanzanian women are diagnosed with cervical cancer. More than half of these women die as they are diagnosed at a late stage of the disease,

A cross-sectional survey among Prevention and Awareness Campaign attendees whose Screening revealed a VIA positivity rate of 3.1% in two regions (Kilimanjaro and Arusha) in Northern Tanzania also found significant nescience (lack of knowledge) on cervical cancer regardless of education level, resident status, or several children as well as nescience on HPV in all age groups, especially in urban areas and misconceptions about cancer (Antje et al, 2021).

A study conducted in the Dodoma Region, Central Tanzania by Moshi et al (2019) on knowledge of cervical cancer and utilization of cervical cancer prevention services among women of reproductive age (15 -49) found that the level of

knowledge about cervical cancer was extremely low and poor uptake of screening services for cervical cancer whereby women with less knowledge about cervical cancer were those with less education, those living in rural areas, and those without children (Fabiola et al, 2019). These findings highlight the need for integrating health education about cervical cancer and screening when providing reproductive health care in Tanzania

Increased knowledge of cervical cancer among people living with HIV/AIDS (PLWHA) and utilization of screening services for cervical cancer are critical for cervical cancer prevention (Heena et al, 2019). Yet, the cervical cancer prevention and control program in Tanzania using a multi–prolonged approach in Iringa and Njombe Regions screened the general women population of reproductive age for cervical cancer in 2014 - 2018 only 19% were PLWHA.

Several initiatives to address cervical cancer prevention, care and treatment, have started in Tanzania, over the last several years. These initiatives are still scattered and need to be consolidated in a National Implementation Plan. They will serve as building blocks, to expand screening services, vaccination, care and treatment to the whole country. The strategic plan has been developed with the participation of many partners, including government services, international organizations, non-government organizations working in Tanzania and private partners. Therefore, this study was conducted to establish the level of knowledge on cervical cancer, associated factors and utilization of screening services among women living with HIV/AIDS in Magu District, Tanzania.

## 1.2 Statement of the research problem

Cervical cancer is a very serious health issue affecting women at the reproductive age (Mabelele et al, 2018). Despite of being preventable and treatable if detected early, it remains a leading cause of cancer – related death among women. Knowledge of cervical cancer is an important determinant of women's participation in prevention and screening for cervical cancer services. Majority of women in Magu district lacks comprehensive knowledge of cervical cancer and few of them utilize screening services. Hence Strategies for awareness about cervical cancer may help to improve knowledge and utilization of cancer screening practices in the Magu district (Mabelele et al, 2018)**.** Therefore, this study is conducted to assess the determinants of the cervical cancer awareness among women living with HIV/AIDS in Magu district.

## 1.3 Research objectives

**This study is guided by both general and specific objectives as follows**

### 1.3.1 Main Objective

To determine cervical cancer awareness among the women living with HIV/AIDS in Magu District.

### 1.3.2 Specific Objectives

**i.** To determine the Knowledge of cervical cancer disease among the women living with HIV/AIDS in the Magu District

**ii.** To identify risk factors associated with cervical cancer disease among women of reproductive age in the Magu District

**iii.** To assess the utilization of cervical cancer screening services among women living with HIV/AIDS in the Magu District.

### 1.4 Research questions

i. How is the Knowledge of cervical cancer disease among the women living with HIV/AIDS in Magu District?

ii. What are the effects of risk factors associated with cervical cancer disease among women of reproductive age in the Magu District?

iii. What are the effects of utilization of cervical cancer screening services among women living with HIV/AIDS in the Magu District?

### 1.5. Significance of the Study

The findings from this study will inform decision makers/government/Oncologists and nurse experts toward designing health education programs with suitable information and communication strategies to address the issue of cervical cancer in women of reproductive age groups living with HIV/AIDS in both community and health facility levels with emphasis highlighting the knowledge, risk factors, treatment options for cervical cancer and health care seeking behaviours.

Also, the outcome of this study will highlight gaps in the provision of services and give recommendations to MoH and other stakeholders to take necessary interventions. Add to the knowledge base and literature that will help in the implementation of successful cervical cancer services. Provide solutions for the implementation of cervical cancer services in the districts to increase the uptake.

Increase program uptake and contribute towards the reduction of cervical cancer incidence in the Magu district.

### 1.7 Organization of the Study

This study is organized into five chapters, whereby chapter one focuses on the introduction to the research problem, thus it presents the background of the study, statement of the problem, research objectives, research questions, significance and organization of the study. Chapter two focuses on the literature review by covering both theoretical and empirical literature review, the research gap is established and a conceptual framework is developed. Chapter three is about the research methodology, It is organised into, study approaches and design, study population and sampling specifications, source of data and data collection techniques, data analysis and research ethics. Chapter four is about the presentation analysis and discussions of the findings. Chapter five is the last chapter of the study, it presents the conclusion and recommendations. It first introduces a summary of the major findings which gives a reader an abstract view of what has been done in the research and the attained findings.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Overview

This chapter reviews the related studies that have been conducted by other researchers about the problem being studied. Also review different theories, empirical review concerning the theme with the relative objectives and demonstration of the knowledge gap.

## 2.1 Conceptual definition

### 2.1.1 Cancer

Cancer is a large group of diseases that can start in almost any organ or tissue of the body when abnormal cells grow uncontrollably, go beyond their usual boundaries to invade adjoining parts of the body and /or spread to other organs (WHO 2014). Therefore, cancer is a complex and broad term used to describe a group of diseases characterized by uncontrolled growth and division of abnormal cells in the body. These abnormal cells often have the ability to invade and destroy surrounding health tissues. If not controlled cancer can spread to other parts of the body through metastasis.

### 2.1.2 Cervical Cancer

Cervical cancer is a type of cancer that occurs in the cells of the cervix- the lower part of the uterus that connects to the vagina various strains of the human papillomavirus (HPV), a sexually transmitted infection, plays a role in causing most cervical cancer (https://www.mayoclinic 2021). Cervical cancer is a type of cancer

that develop in the cells of the cervix which is the lower part of the uterus (womb) that connects to the vagina. It is primarily caused by the human papilloma virus, a common sexually transmitted infection. Not all HPV infection lead to cervical cancer but persistent infection with high risk types of HPV can increase the risk significantly.

### 2.1.3 Awareness

The quality or state of being aware of the problem or having a knowledge and understanding of a situation or something that is happening or exists (Merriam-Webster, 2022). Thus, it portrays the state of being conscious or cognizant of something. It is the ability to perceive, understand and be mindful of certain situation, it includes thoughts, emotions and the attentive to what is happening in the respective situation.

## 2.2 Review of the Theories (s)

### 2.2.1 Contemporary Theories of Cervical Carcinogenesis

The theory was first described in (1999) and further advanced by Christopher P. Crum, M.D. (2000). The theory described cervical cancer disease and its associated factors among women. Human Papilloma Virus (HPVs) play a central role in the etiology of cervical cancer neoplasia. However, only a small proportion of cervical intraepithelial lesions infected with high-risk HPVs will progress to invasive cervical carcinoma, which indicates the involvement of additional factors.

As discussed above, certain factors, including age, exposure, and the evolving biology of the transformation zone, may influence the risk for neoplasia after HPV

infection. Adenocarcinoma of the cervix in young women has been associated with prolonged use of oral contraceptives and this means that hormonal factors influence the cell type selected by high-risk HPV infection. An important emerging viral factor is naturally occurring intertypic sequence variation. Such variation has been used to study the geographical spread of HPVs, but there is increasing evidence that it may be important in the early detection of the risk factors for the development of neoplastic disease which can help in early preventive measures.

The assumptions of this theory are as follows; awareness of cervical cancer causes, risk factors and cervical cancer screening services will help in cervical cancer prevention and increase the uptake of cervical cancer screening, reducing morbidity and mortality rate of cervical cancer. Knowledge about cervical cancer is the first step in the process of creating demand for services and preventive measures. Therefore, increased knowledge of cervical cancer among people living with HIV/AIDS and utilization of screening services for cervical cancer are critical for cervical cancer prevention

## 2.3 Empirical Literature REVIEW

### 2.3.1 Knowledge of Cervical Cancer Disease among Women Living with HIV/AIDS

Emru et al (2021) examined the roles of awareness of cervical cancer and screening uptake among HIV-positive women. The findings of this study show that 411 HIV-positive women between the ages of 15 and 49 were the subjects of cross-sectional research at the St. Paul's and Zewditu Hospitals utilising a structured questionnaire. Only 25.5% of women with HIV who are of reproductive age have undergone a

cervical cancer screening. The likelihood of screening decreased by 75% and 78%, respectively, among those who had not heard about cervical cancer or the screening. In the study area, little cervical cancer screening was done. The uptake of cervical cancer screening was favourably correlated with awareness of cervical cancer screening. Implementing targeted awareness campaigns with a focus on HIV-positive women is necessary.

Sarah et, al (2022), in their study on cervical cancer among HIV-positive women in urban Uganda. The majority (n = 201, 98%) of the 205 HIV-positive women who took part in the research, with a mean age of 37.5 8.87, were aware of cervical cancer screening. Only 33 individuals (16.1%) had received a cervical cancer screening in the previous year and 90 participants (44%) who had ever received one. Higher levels of cervical cancer screening were strongly linked with getting information about cervix cancer and screening from medical professionals (adjusted odds ratio = 5.61, 95% confidence interval: 2.50-12.61, p-value 0.001). This study emphasises how uncommon cervical cancer screening is among women who are HIV-positive and emphasises the need for health professionals as reliable sources of information on cervical cancer and cervical cancer screening. programmes for patient education.

Fitzpatrick et al (2020) examined the knowledge, and attitude about cervical cancer among HIV-positive and HIV-negative women participating in human papillomavirus screening in rural Zimbabwe. The poll on knowledge, attitudes, and practices comprised 679 women in total. The majority of women (81%) were aware of cervical cancer, whereas just 12% were aware of HPV. Only 5% of women had previously had a screening for cervical cancer. Regarding awareness of cervical cancer and real overall infection with HR-HPV, HPV 16, and HPV 18/45 test

findings, there were no significant variations between or within groups. In rural Zimbabwe, the majority of women have heard about cervical cancer, but few have had it tested. It is advisable to incorporate cervical cancer/HPV education and screening triage when extending current outreach programmes to include cervical cancer screening, which may also include HPV screening. This strategy would help to close the knowledge and screening availability gap.

Meshack et al (2022) conducted a study on the factors associated with cervical cancer among women living with HIV/AIDS in Kilimanjaro Tanzania. It was revealed that of the 297 WLHIV, 50.2% had ever undergone a cervical cancer screening. The odds of WLHIV ever being screened for cervical cancer were higher for those who had favourable attitudes toward cervical cancer screening (AOR = 3.48, 95% CI 1.86, 6.51) and for those who had received information about the disease from health care providers (HCP) (AOR = 17.31, 95% CI 6.00, 50.22). Women who had received an HIV diagnosis during the previous three years had lower screening chances (AOR = 0.50, 95% CI 0.27, 0.96) than other women. WLHIV were more likely to have had screening if they had a good attitude toward it and had obtained cervical cancer screening information from HCP. Women with recent HIV diagnoses are less likely to have ever had screening. HCPs at CTC are a crucial resource for cervical cancer promotion and information about screening.

Bogale et al (2021) conducted a study on the knowledge, attitude and practice of cervical cancer screening among women infected with HIV in Africa. The study revealed the percentage of knowledge, attitude, and behaviour regarding cervical cancer screening using a systematic review and meta-analysis of studies carried out in Africa. To find works published in the English language up until August 2020, we

searched electronic databases including PubMed/Medline, SCOPUS, ScienceDirect, Web of Science, Cumulative Index of Nursing and Allied Health Sciences (CINAHL), and Google Scholar. It is possible to include eight published articles with 2,186 participants in this review. While the estimated pooled proportions of attitudes and behaviours were 38.0% (95%CI: 1.0-77.0) and 41.0% (95%CI: 4.0-77.0), respectively, the estimated pooled proportion of knowledge was 43.0% (95%CI: 23.0-64.0). With I2 > 98%, the fraction of the outcome variables varied greatly between investigations. Estimates of knowledge, attitude, and practice that were combined were found to be very low among women.

Syed et al (2022) conducted a study at King Saud Bin Abdulaziz University for Health Sciences to examine health professions students' (HPSs) knowledge, awareness, and perceptions (KAP) toward cervical cancer (CC) aetiology, its signs and symptoms, and risk factors. Cervical cancer (CC) is the fourth most common cancer affecting women (KSAU-HS). The study received responses from 580 HPS, with 128 (22.1%) men and 452 (77.9%) women, with a mean age of SD20:36 1:74 years. It's interesting to see that students from medical schools were more knowledgeable and aware of CC (p 0:05). We recognize the urgent need to develop effective education programs, curricular activities, and awareness campaigns for HPSs as well as the general public to enhance the understanding of CC among HPSs.

### 2.3.2 Risk Factors Associated with Cervical Cancer Disease among Women Living with HIV/AIDS

Adoch et al (2020) examined the knowledge of cervical cancer risk factors and symptoms among women in refugee settlements. It was discovered that among those

who had heard, the majority (93%, n = 295; 89%, n = 283; and 86%, n = 271) identified several male sexual partners, early initiation of sexual activity, and HPV infections as risk factors for cervical cancer. The median knowledge score for identifying risk factors is 7. (IQR: 3–9). The median knowledge score for identifying symptoms is 7. (IQR: 1–10). Vaginal bleeding between menstrual cycles, pelvic discomfort, and vaginal bleeding during/after sexual activity was recognized by 58%, 52%, and 54% of the women (n = 409) who correctly identified 7 to 11 signs of cervical cancer. In the Palabek refugee community, many of the women were unaware of cervical cancer. Through health education, refugee health service providers might raise knowledge of cervical cancer risk factors and symptoms.

Singini et al (2021) conducted a study on the ranking of lifestyle risk factors for cervical cancer in Johannesburg, South Africa. The case-control study of mostly women recruited between 1995 and 2016 at Charlotte Maxeke Johannesburg Academic Hospital provided the participant data for the study. 3,450 women in the research had invasive cervical malignancies, with squamous cell carcinoma accounting for 95% of cases. 5,709 women who did not have cancer were considered controls. The population attributable fractions (PAF), which take into account the local prevalence of exposure among the cases and risk, were used in the study to rank these risk variables. HIV positivity (ORadj = 2.83, 95% CI = 2.53-3.14, PAF = 17.6%), poorer educational attainment (ORadj = 1.60, 95% CI = 1.44-1.77, PAF = 16.2%), and higher parity (3+ children versus 2-1 children (ORadj = 1.25, 95% CI = 1.44-1.77, PAF = 1.2%), in that order, were all linked with cervical cancer.

Williams et al (2015) examined the structural and sociocultural factors associated with cervical cancer among African American women. Theoretical frameworks

included the PEN-3 Model and the Health Belief Model. Twenty African American women who were HIV-positive participated in in-depth interviews to learn about their attitudes toward cervical cancer screening, including perceived risks, perceived severity, and perceived benefits. Internal motivation and knowledge of the significance of HIV-infected women receiving Pap tests owing to their impaired immune system were among the most prevalent positive beliefs, facilitators, and nurturers that contributed to cervical cancer screening. Lack of awareness about cervical cancer and screening, as well as a lack of perceived vulnerability to the disease, were among the negative views, facilitators, and nurturers.

Wakwoya et al, (2020) in a study conducted in Eastern Ethiopia on Knowledge of Cervical Cancer and Associated Factors Among Women Attending Public Health Facilities shows that nearly half (574, 48.6%) of the participants have ever heard about cervical cancer. One hundred and thirty-nine (24.2%) of them did not know any of the risk factors. The majority of them mentioned bleeding after intercourse (329, 57.4%) as a symptom of the disease. Overall knowledge assessment revealed that 288 (55.7%) participants had adequate knowledge about cervical cancer. Participants' age in the range of 40–49 years (AOR: 2.58, 95% CI 1.99–5.57), having an educational level above 12th grade (AOR: 12.11, 95% CI 4.57–32.09) and receiving information about the disease from healthcare professionals (AOR: 2.72, 95% CI 1.69–4.37) were independently associated with adequate knowledge of cervical cancer. It concludes that the knowledge of women towards cervical cancer in our study area was inadequate. The respondents' age, educational status and source of information were independently associated with the study participants' knowledge of cervical cancer. Young women with no formal education should get a special

focus on prevention strategies and we also recommend regular and effective counselling and education about cervical cancer at health institutions.

### 2.3.3 Utilization of Cervical Cancer Screening Services among Women Living with HIV/AIDS

Kileo et al. (2015), researched the usage of cervical cancer screening services in Ilala Municipality, Dar es Salaam Tanzania. It was found to be 28% among those aged 20 to 29, 22% among married people, and 24% among people with higher levels of education. Women were more likely to use the cancer-screening service if they reported having more than a one-lifetime sexual partner (age-adjusted OR 2.17, 95% CI 1.04-4.54, P value 0.038), were multiparous (age-adjusted OR = 3.05, 95% CI 1.15-8.06, P value 0.025), did not involve their spouse in making health decisions (adjusted OR 3.56, 95% CI 2.05-6.18, P Support from a spouse or partner was a key element in the study population's usage of cervical cancer screening services.

Research by Anderson et al (2015), evaluated the cervical cancer screening programmes in Côte d'Ivoire. 34,921 female participants in this research underwent VIA. HIV-infected women had higher odds of being VIA positive (OR 1.95, 95% CI 1.76, 2.16, P0.0001) and having large lesions requiring referral (OR 1.93, 95% CI 1.49, 2.51, P0.0001) in multivariate analysis controlling for HIV status, location of the screening clinic, facility location, facility type, and country compared to HIV-uninfected/unknown women. Of the 3,032 women, 19 (0.63%) experienced minor treatment problems; none needed further therapy. According to this study, HIV-infected women had almost double the likelihood of being VIA-positive and needing a referral for big lesions compared to women who were HIV-uninfected or unknown.

In the research study conducted by Ifemelumma et al (2019) to assess how female nurses at the Federal Teaching Hospital in Abakaliki perceive and use cervical cancer screening services materials and procedures On 408 willing female nurses, cross-sectional research was conducted utilising semi-structured questionnaires. Postcoital bleeding was the most prevalent sign of cervical cancer (57%). The majority (73.5%) of sources of cervical cancer knowledge came from nursing training. Only 20.6% of the respondents had ever had the screening in this research, indicating low use of cervical cancer screening. The most frequent excuse given for not screening was that the person had not considered it (28.4%). Although many people are aware of cervical cancer screening, few use it.

Agboola and Bello (2021) opined that screening with cervical cytology alone, primary hrHPV testing alone, or cotesting can detect high-grade precancerous cervical lesions and cervical cancer. Screening women aged 21 to 65 years substantially reduces cervical cancer incidence and mortality. The harms of screening for cervical cancer in women aged 30 to 65 years are moderate. The USPSTF concludes with high certainty that the benefits of screening every 3 years with cytology alone in women aged 21 to 29 years substantially outweigh the harms. The USPSTF concludes with high certainty that the benefits of screening every 3 years with cytology alone, every 5 years with hr HPV testing alone, or every 5 years with both tests (cotesting) in women aged 30 to 65 years outweigh the harms. Screening women older than 65 years who have had adequate prior screening and women younger than 21 years does not provide significant benefits. Screening women who have had a hysterectomy with removal of the cervix for indications other than a high-grade precancerous lesion or cervical cancer provides no benefit.

Moshi et al (2019) examined the uptake of cervical cancer screening services and their association with cervical cancer awareness among women in Dodoma Tanzania. Only 125 people (7.9%) have received cervical cancer screening, it was discovered. Education level (secondary education adjusted odds ratio [AOR] 2.23; 95% confidence interval [CI], 1.030-4.811; P.05; university-level AOR 2.59; 95% CI, 1.179 to 5.669; P.05) was a predictor of awareness of cervical cancer. After controlling for confounding variables, knowledge of cervical cancer substantially increased both cervical cancer screening uptake and awareness (AOR 2.065; 95% CI, 1.238 to 3.444; P=.005). There was a shocking lack of awareness regarding cervical cancer. Women with lower levels of education, those who reside in rural regions, and those who are childless had less knowledge about cervical cancer. The low understanding was linked to poor utilisation of screening services.

Aredo et al (2021) conducted a study on the knowledge of cervical cancer screening and associated factors among women attending maternal health services at Aira Hospital, in Ethiopia. With a 100% response rate and a mean age of 26.0 5.15 (M SD) years, 421 women in total replied. 95.0% of respondents said they had heard about cervical cancer, and 46.8% said they were well-informed on cervical cancer screening. Age, employment, educational attainment, and monthly income all predicted awareness of cervical cancer screening. According to the survey, 46.8% of participants were aware of cervical cancer screening. Knowledge about cervical cancer screening depended on the participant's age, profession, degree of education, and monthly income. According to the study's discovered variables, cervical cancer screening should be the emphasis of prevention campaigns.

## 2.4 Research Gap

The findings attained from the empirical literature reviews have documented that there is low knowledge of cervical cancer among women of reproductive age including PLWHA. Most of the studies have reported a level of knowledge and associated factors on cervical cancer among the general population of women of reproductive age, (Gadducci et al, 2011, Antje Henke et al 2021, Fabiola et al 2019), while limited studies report knowledge on cervical cancer among PLWHA. (Fabiola V Moshi et al 2019, Heena et al, 2019). In addition, few studies were conducted in Tanzania on the assessment of knowledge, awareness and screening services among women of reproductive age and most of the studies have revealed that there is low knowledge of cervical cancer and low uptake of screening services. (Fabiola V Moshi et al 2019, Antje Henke et al 2021). Also, in Magu district hospital, there was a study conducted on knowledge of cervical cancer prevention and screening practices among women who attended reproductive and child health clinics which indicates that there is low knowledge of cervical cancer, (Mabelele et al 2018). Therefore, this study is about - to determine cervical cancer awareness among women living with HIV/AIDS who attended at CTC clinic in the Magu district.

## 2.5 Conceptual Framework

The framework provides a backdrop for the presentation of the individual research questions and explains the concepts and variables involved in the investigation. The conceptual framework is given in (Figure 2.1).

**Independent Variables** **Dependent Variable**

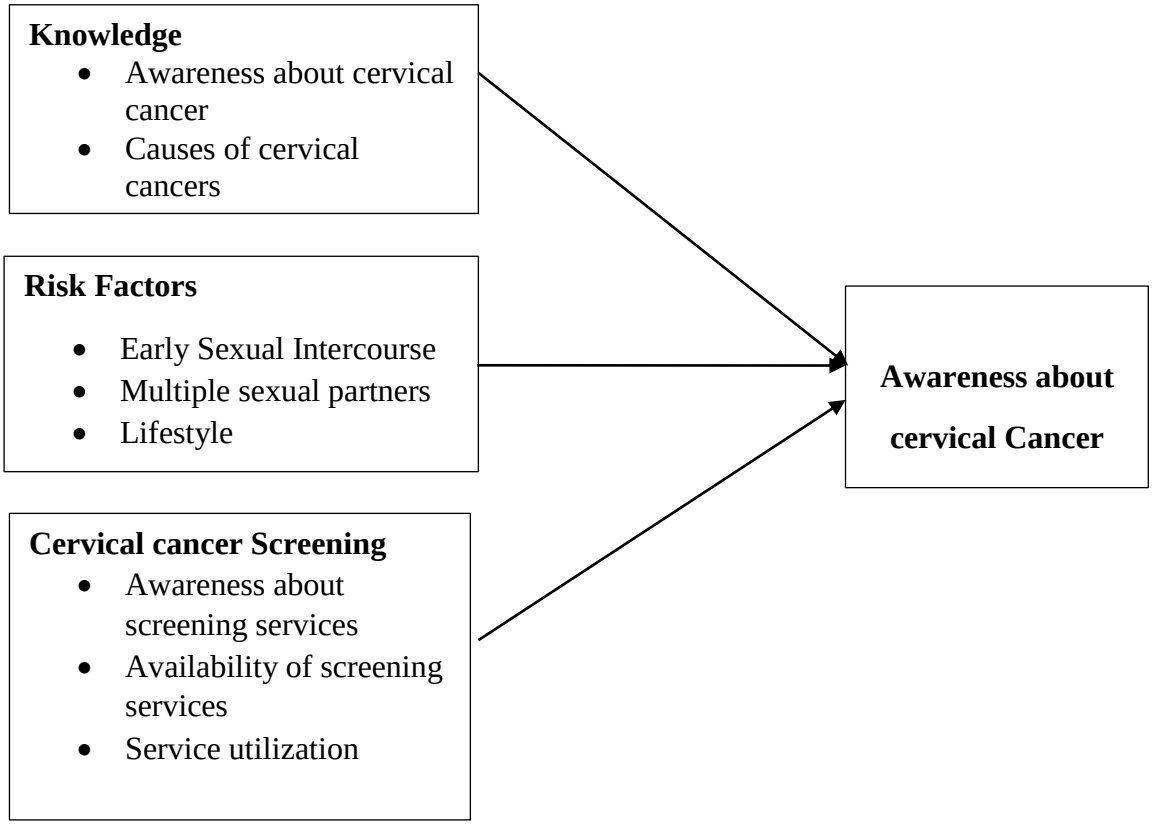



**Figure 2.1 Conceptual Framework**

**Source;** Researcher (2022)

From the conceptual framework, it was shown that the independent variables were three namely knowledge, risk factors and cervical cancer screening as the determinant factors toward the awareness of cervical cancer among women living with HIV/IADS. This conceptual framework tries to solicit the relationship between the variables and establish the extent to which each independent variable affects awareness of cervical cancer.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Overview

This section highlights the strategies for the entire process of conducting research, it describes the area of study, targeted population, research design, sampling procedures, sample size, data collection methods, methods of data analysis, and ethical considerations together with the model description.

## 3.2 Research Design

In this research, the researcher employed a correctional design, a cross-sectional design is a design which is employed in observational research. This design allows the researcher to compare many different variables at the same time. A cross-sectional study design was used to determine whether there is an association between the knowledge and factors regarding cervical cancer and its prevention among HIV women of reproductive age in the Magu District council. This design also enabled the researcher to collect quantitative and qualitative data from different sources.

## 3.3 Research Approach

This research employed a mixed research approach, a mixed research approach is the research approach whereby the researcher collects and analyses both quantitative and qualitative data within the same study. In this study, quantitative research data was collected through a questionnaire and qualitative data were collected through interviews and documentary reviews. Strong emphasis was put on the quantitative

data to assess various socio-economic variables, based on quantitative information such as Age, marital status, occupation, education, Knowledge and risk factors associated with cervical cancer. On the other hand, qualitative data were used to supplement quantitative data and help to arrive at a justifiable conclusion.

### 3.4 Study Area

The study was conducted in the Magu District council in the Mwanza region, one of the regions in Tanzania. The selected unit of analysis was at three health facilities namely Magu district hospital, Kisesa health center and Kabila health center which provide services in HIV Care and Treatment Centers (CTC departments). According to the District Health information system (Dhis2), the HIV-positivity rate in the council was 3.1% (2021). Women of reproductive age who are currently on ARV in the council are 6,564 (Dhis2 data April-June 2022). HIV women are more at risk of getting cervical cancer compared with non-HIV-positive women due to low immunity. However, in the council, there is a study conducted on women of reproductive age who are HIV-negative about knowledge towards cervical cancer prevention and screening practices. But this study concentrated only on the women living with HIV/AIDS who are more at risk of cervical cancer in the Magu district council.

### 3.5 Target Population

The population in this study included all HIV Women between the age of 15 and 49 years visiting the selected facilities during the study period, and consenting to be questioned were included in the study. Women with a history of cervical cancer were

excluded. From the patient register the population of women with HIV in Magu District is as follows Magu Hospital there are 728, at Kisesa health centre there are 454, while at Kabila health centre there were 162 patients, therefore the targeted population of this study was 890 from which the sample size of the study was obtained.

### 3.6 Sampling Frame, Procedure and Sample Size

#### 3.6.1 Sampling Techniques

Simple random sampling techniques and purposive sampling were used to select a representative sample who was involved in the study.

##### 3.6.1.1 Simple Random Sampling

This is a sampling technique in which all participants are given an equal chance to participate in the data collection process (Creswell, 2012). This study employed a simple random sampling technique to select women with HIV who attends services at the selected health centres in the Magu district. This technique enables the researcher to avoid bias in the data collection, also this technique helped the research to collect data from many respondents in a short time. All eligible clients who are new enrollment in the care and those who presented for a follow-up visit at the HIV/AIDS centre in each of the three health facilities were approached for study enrollment. Clients who gave consent for participation were enrolled consecutively until the target sample size was met for each study site.

### 3.6.1.2 Purposive Sampling Technique

This is a sampling technique in which the researcher selects only people who have special knowledge and insight. This technique was used to select respondents among health care to provide in the selected health centres. This method helped the researcher to collect information from the people responsible for health services hence it helped to ensure the validity and reliability of the information collected.

### 3.6.2 Determinants of Sample Size

Since it is not feasible to conduct a research study on the entire population of the study, the sample size must be used to represent the entire population (Kothari, 2004). A sample size of 150 was obtained from the targeted population of women living with HIV/AIDS who are the reproductive age of 15-49 years and attending CTC departments for care and treatment monthly. The population from the three facilities (Magu District hospital, Kisesa health centre and Kabila health centre) was used in calculating the sample size. To ensure the stability and reliability of the results, the sample size was 40% of the population (Katzenellenbogen et al, 2004). The sample size was calculated as population X Percentage / 100. This meant that the sample size was calculated as follows: -

Magu hospital

= 728x10/100

=72.8 ~ 73

Kisesa Health centre

= 454x10/100

=45.4~ 45

Kabila Health centre

= 162x20/100

= 32.4~ 32

**Table 3.1 Sample Size Distribution**

| Name of facilities | Target population | Sample size | percentage |
|---|---|---|---|
| Magu District hospital | 728 | 73 | 10% |
| Kisesa Health centre | 454 | 45 | 10% |
| Kabila Health centre | 162 | 32 | 20% |
| Total | 1,344 | 150 | 40% |

**Source;** Field Data (2022)

### 3.7 Data Collection Tools

According to Mugenda and Mugenda (2008), data collection methods refer to the technique or method used in data collection. On the other hand, Deuscombe (2008) contends that normally the author tends to choose or select a method of data collection depending on the aim of the study as well as the type of research questions governing such a particular study. In this study, therefore, the researcher employed both primary and secondary data collection methods. Primary data are data normally gathered for the first time by the researchers from the field where the research is conducted. Normally primary data are collected through various methods but in this study only questionnaires were employed.

#### 3.7.1 Questionnaire

The Questionnaire was designed to capture relevant information from the field. The questionnaire was composed of closed-ended questions which allowed the respondent to select the appropriate answers. The questionnaire was designed to

elicit information on cervical cancer awareness among women living with HIV/AIDS. The questionnaire was prepared in English and translated into the simplest language (Swahili) for respondents who never understood earlier and those who are not comfortable conversing in English. The research assistant was used to collect the data. The secondary data was collected through documentaries.

### 3.7.2 Documentary Review

This a method of data collection used in research, it involves analyzing and critiquing documents, texts, audiovisual material or any other form of recorded information to gain insight, understand pattern, or draw conclusion about a specific topic or research question. In this study documentary review was employed to collected secondary data of qualitative nature where various reports, journals, guidelines and important information abut cervical cancer were reviewed and analysed. Documentary review was used to supplement primary data.

## 3.8 Data Management and Analysis

This process involved collecting, organizing, storing, cleaning, analyzing and preserving data generated during research study. Data management is crucial for ensuring the accuracy, reliability and security of research findings. In this study data collected from field were systematically checked for the researcher to identify questionnaires which were retuned while filled correctly, the researcher also managed to identify questionnaires which were not properly filled and removed from the analysis process. This process is known as data cleaning. The cleaned data was coded to the SPSS V.23 ready for the analysis process.

In the data analysis process the researcher employed frequency distribution tables, charts, graphs. Moreover, the researcher employed descriptive statistics and for the purposes of relationship between research variables the researcher employed a multiple regression analysis while data from documentary were analysed using explanatory procedures. Information obtained through documentary review were analysed based on theme integration that information obtained from qualitative data was directly place in the specific them of the study.

### 3.9 Validity and Reliability

#### 3.9.1 Validity

Validity is defined as the extent to which a concept is accurately measured in a quantitative study. Also shows how well test measures are supposed to measure. Validity is foremost on the mind of those developing measures and genuine scientific measurement is foremost in the minds of those who seek valid outcomes from assessment. From this above quote, validity can be seen as the core of any form of assessment that is trustworthy and accurate.

#### 3.9.2 Reliability

Reliability relates to the consistency of a measure. This measures the quality of a quantitative study or the accuracy of an instrument. In other words, the extent to which a research instrument consistently has the same results if it is used in the same situation on repeated occasions. A participant completing an instrument meant to measure knowledge should have approximately the same responses each time the test is completed. Although it is not possible to give an exact calculation of reliability, an estimate of reliability can be achieved through different measures.

A test is seen as being reliable when it can be used by several different researchers under stable conditions, with consistent results and the results not varying. Reliability reflects consistency and replicability over time. Furthermore, reliability is seen as the degree to which a test is free from measurement errors since the more measurement errors occur the less reliable the test (Fraenkel & Wallen, 2003; McMillan & Schumacher, 2001,

### 3.10 Ethical considerations

Written consent was obtained from all study participants and data collection permission was issued by the Open University of Tanzania and signed by the respective government (regional) authorities to get the permission for data collection. Participants can withdraw at any time during the data collection or (before or during the introduction of participants' consent).

# CHAPTER FOUR

# PRESENTATION, ANALYSIS AND DISCUSSION OF THE FINDINGS

## 4.0 Overview

This chapter deals with data analysis, where the researcher employed different techniques to analyze information collected from the field. In this study, the researcher employed a questionnaire to collect quantitative data and a documentary to collect qualitative data. Thus, data analysis began with quantitative analysis and the findings obtained were supplemented by qualitative data. Data analysis and presentation firstly examined the response rate, followed by the demographic information of the respondents and research finding based on the research objectives which were; to examine knowledge of cervical cancer among women living with HIV/AIDS, to identify risk factors associated with cervical cancer disease among women living with HIV/AIDS and to assess the utilization of cancer screening services among women living with HIV/AIDS.

## 4.1 Response Rate

In this study, the intended sample size was 150 respondents during data collection the researcher managed to administer a self-administered questionnaire to all 150 respondents hence the respondents' rate for this study was 100% and all questionnaire was filled and retuned.

## 4.2 Demographic Characteristics of the Respondents

This section presents social economic status as shown in Table 4.1 below.

**Table 4. 1 Demographic Information**

| Character | Category | Frequency | Per cent |
|---|---|---|---|
| Age | 15-24 Years | 59 | 39.3 |
| | 25-34 Years | 48 | 32 |
| | 35-49 Years | 43 | 28.7 |
| | Total | 150 | 100 |
| Marital status | Married | 80 | 53.3 |
| | Single | 47 | 31.3 |
| | Divorced/Separated | 10 | 6.7 |
| | Widow | 13 | 8.7 |
| | Total | 150 | 100 |
| Education | Primary school | 95 | 63.3 |
| | Secondary | 51 | 34.0 |
| | Other | 4 | 2.7 |
| | Total | 150 | 100 |
| Average Monthly Income in Tanzania shillings | <5000 | 6 | 4.0 |
| | 5000-10000 | 30 | 20.0 |
| | 16000-2000 | 5 | 3.3 |
| | >21000 | 109 | 72.7 |
| | Total | 150 | 100 |
| Kind of Facility | Magu District Hospital | 73 | 48.7 |
| | Kisesa health centre | 45 | 30.0 |
| | Kabila health center | 32 | 21.3 |
| | Total | 150 | 100 |

**Source;** Field Data (2022)

### 4.2.1 Age of the Respondents

Table 4.1 shows that 39.3% of the respondents were aged between 15 – 24 years, also it was shown that 32% of the respondents had aged between 25 – 34 years. On the other hand, there were 28.7% of the respondents aged 35 – 49 years. These results show that there was effective participation of the respondents aged between 15 -24 years for about 39.3%. The researcher examined the age of the respondents to

determine the age group which is likely to be aware of cervical cancer. The study supported the arguments forwarded by Creswell (2012) who described the significance of the demographic characteristics of the respondents and more importantly, stressed the significance of the age of respondents in determining the maturity level (Kombo and Trop 2006).

### 4.2.2 Marital Status of the Respondents

Table 4.1 shows that there were 53.3% of respondents were married, while 31.3% of the respondents were single. On the other hand, 6.7% of the respondents were divorced/separated and 8.7% of the respondents were widows. Thus, it can be established that most of the respondents who participated in this study were married.

### 4.2.4 Education Level of the Respondents

Table 4.1 shows that 63.3% of the respondents had primary education, 34.0% of the respondents had secondary education and 2.7% of the respondents had other levels of education. The rationale for assessing the education level of the respondents was to assess the ability of the respondents on awareness of cervical cancer disease during the data collection process.

### 4.2.5 Average Monthly Household Income

Table 4.1 revealed that 4.0% of the respondents were those in the group with a monthly income of Tanzania shillings <5000, also it was shown that 20.0% of the respondents were those with a monthly income ranging from Tanzania shillings 5000 – 10000. On the other hand, 3.3% of the respondents in the group with a monthly

income of Tanzania shillings 16000 – 20000. Lastly, 72.7% of the respondents were in the group of those with a monthly income of Tanzania shillings >21000. This is the majority is the situation caused by more than one occupation. Thus, it can be shown that respondents' monthly of their house hold varied in an amount dependent on the nature of their occupation.

### 4.2.6 Health Care Facility Attended

This study revealed that 48.7% of the respondents attended Magu District Hospital, also it was shown that 30.0% of the respondents were from Kisesa health centre and lastly 21.3% of the respondents were from Kabila Health Center. Based on the findings obtained in this study concerning the socio-demographic information of the respondents it can be observed that respondents had varying experiences about self-employment ranging from their age, gender, occupation as well as working something that gives the researcher variety of information and experience from respondents (Kothari, 2004). But also, with these characteristics of the respondents, it is argued that the respondents were in a position to understand the nature of the problem under the study (Creswell, 2012). Therefore, the socio-demographic information of the respondents was useful to the researcher as it allowed the researcher to obtain relevant information around the background profile enabled the researcher to get a better understanding of the nature of the respondents.

## 4.3 Knowledge of Cervical Cancer Disease among Women Living with HIV/AIDS

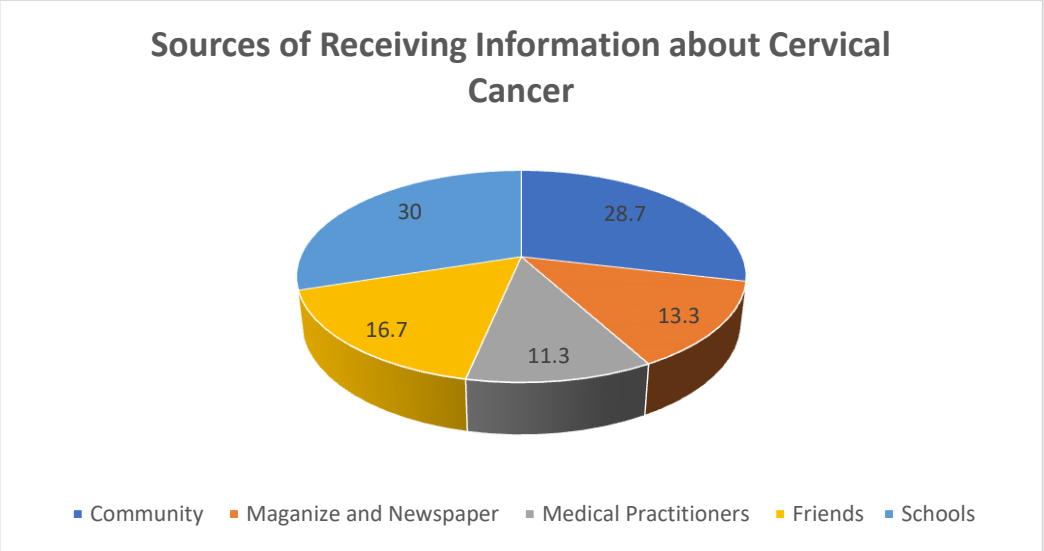
In this objective the aimed concern was the knowledge about cervical cancer, thus

several questions were asked to the respondents as shown in the subsection that follows.

### 4.3.1 Source of Receiving Information about Cervical Cancer

The researcher asked the respondents about the sources they use to receive information about Cervical Cancer. Thus, various sources of information were assessed and the results obtained were shown in Figure 4.1 below.

**Figure 4.1 Sources of Information about Cervical Cancer**




**Source;** Field Data (2022)

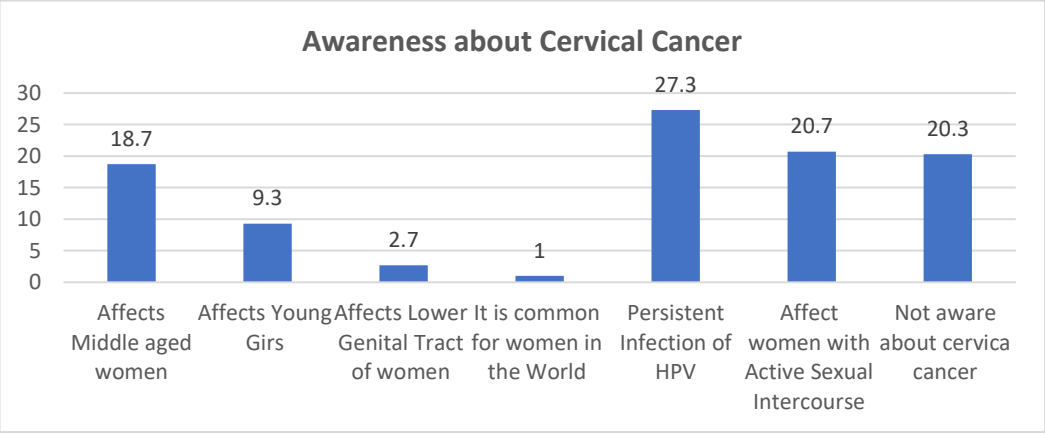
The findings above it were shown that 28.7% have received information about cervical cancer from the community they leave and that they hear people talking about the presence of certain cancer which affects the female reproductive system. In the same vein, 13.3% of the respondents said that they received information about cervical cancer from magazines and newspapers. Other 11.3% of the respondents

received information about cervical cancer from medical practitioners at healthcare facilities. On the other hand, 16.7% of the respondents said that they have received information about cervical from their friends, while 30% of the respondents received information about cervical cancer from other areas such as schools and in their workplaces. Thus, it can be established that sources of information about service cancer can be obtained from different sources namely televisions, from healthcare facilities and so on. The source of information about cervical cancer was also provided in this study conducted by Hoque and Horque 2009) who suggested that the ability to recognize cancer signs and consult a doctor as soon as possible is a requirement for early detection.

### 4.3.2 Awareness of Cervical Cancer

The researcher also asked the respondents about their awareness of cervical cancer, various views and respondents were recorded as presented in Figure 4.2 below as follows;

**Figure 4. 2 Awareness of Cervical Cancer**




**Source;** Field Data (2022)

From the findings obtained it was shown that 18.7% of the respondents said that cervical cancer is known as a cancer which affects middle – aged women, in the same vein 9.3% of the respondents said that they know cervical cancer disease which affects young girls. On the other hand, 2.7% of the respondents said that they know that cervical cancer as a disease which affects the lower genital tract of women, while 1% of the respondents said that cervical cancer is cancer which is the most common in women in the world. Furthermore, it was noted that 27.3% of the respondents said that cervical cancer is a persistent infection of the human papillomavirus. Lastly, it was noted that 20.7% of the respondents said that cervical cancer is cancer which affects women who have active sexual intercourse, while 20.3% of the respondents are not aware of cervical cancer.

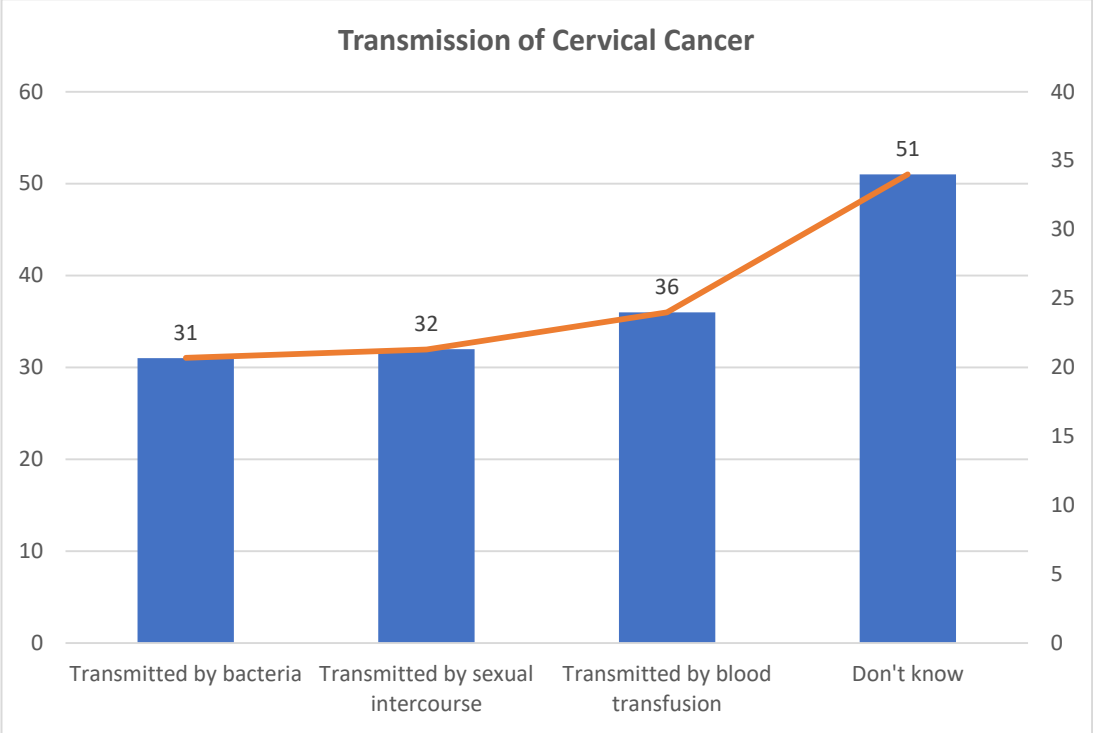
From these findings, it can be established that cervical cancer is not well-known among the respondents who participated in this study. This can be observed based on the nature of the responses that was provided by the respondents most of them were not directly associated with any detailed awareness about cervical cancer (Gadducci,et al 2011). These results were also reported at the post-intervention stage, there was a noticeably higher knowledge of cervical cancer and screening among the intervention group. At the end of the intervention, there was a statistically significant difference between the two groups (Stanley and Sterling 2014).

We discovered that the majority of the women were not aware of the cervical cancer risk factors. Another research made a similar observation. It was shown of women understood what cancer was, but few of them were aware of cervical cancer (Blodt eta al, 2012).

### 4.3.3 Transmission Route to Cervical Cancer

The researcher also assessed the awareness of the respondents about how cervical cancer it transmitted. The respondents provided the response which was presented as shown in Figure 4.3.

**Figure 4. 3 Transmission Route to Cervical Cancer**




**Source;** Field Data (2022)

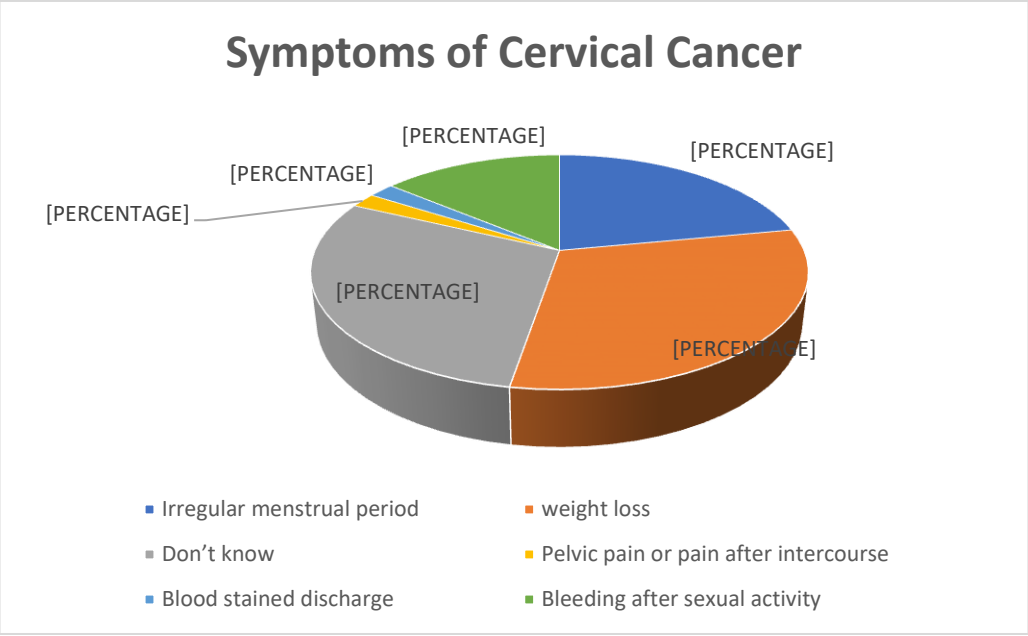
Figure 4.3 shows that 34% of the respondents said that they don't know how cervical cancer is transited, while it was shown that 21.3% of the respondents said that cervical cancer is transmitted through sexual intercourse. On the other hand, 24.0% of the respondents said that cervical cancer is transmitted by blood transfusion and lastly 20.7% of the respondents said that cervical cancer is transmitted by bacteria. Thus, it was also revealed that most of the respondents who participated in this study

said that they don't know how exactly cervical cancer is transmitted (Bray and Forman 2012). While those who are aware of the transmission of cervical cancer still are not sure about what exactly transmits cervical cancer they just relied on the information from people.

### 4.3.4 Symptoms of Cervical Cancer

Thus, the respondents who participated in this study were to give their opinion on what they think could be symptoms of cervical cancer as presented in Figure 4.4 Below.

**Figure 4. 4 Symptoms of Cervical Cancer**




**Source;** Field Data (2022)

From Table 4. It was shown that 22% of the respondents said that one of the symptoms of cervical cancer was an irregular menstrual period, and another 31% of

the respondents said that weight loss is another symptom of cervical cancer. Not only that but also 29% of the respondents don't know exactly the symptoms of cervical cancer, while 2% of the respondents said that pelvic pain or pain after intercourse can be one of the symptoms of cervical cancer. On the other hand, 2% of the respondents said that blood-stained discharge from the female reproductive organ is one of the symptoms of cervical cancer, and lastly, only 14% of the respondents said that cervical cancer has a symptom of bleeding after sexual activity. From these findings, it can be shown that most of the respondents who participated in this study had different opinions on the symptoms of cervical cancer. Thus, from these findings, it can be established that most of the respondents lack awareness about the symptoms of cervical cancer. These findings were highly supported in the study conducted by Syed et al (2022) the urgent need to develop effective education programmes, curricular activities, and awareness campaigns for HPSs as well as the general public to enhance the understanding of CC among HPSs. Kileo et al. (2015), support from a spouse or partner was a key element in the study population's usage of cervical cancer screening services. Anderson et al (2015), HIV-infected women had almost double the likelihood of being VIA-positive and needing a referral for big lesions compared to women who were HIV-uninfected or unknown.

### 3.4.5 Protection Measures for Cervical Cancer

Also, the respondents were asked if they are aware of protection measures against cervical cancer. A different response was obtained about this question as shown in Table 4.2 below.

**Table 4. 2 Protection Measures to Cervical Cancer**

| Response | Frequency | Per cent |
|---|---|---|
| Condom use | 45 | 30.0 |
| Avoiding multiple sexual partners | 7 | 4.7 |
| Be faithful to an uninfected partner | 47 | 31.3 |
| Avoiding early sexual intercourse | 2 | 1.3 |
| Early screening and treatment | 3 | 2.0 |
| Vaccination | 3 | 2.0 |
| Don't smoke | 3 | 2.0 |
| Don't know | 40 | 26.7 |
| **Total** | **150** | **100.0** |

**Source;** Field Data (2022)

From Table 4.3 it was shown that 31.3% of the respondents who participated in this study said that people can protect themselves from cervical cancer by staying faithful to an infected partner. Also, it was revealed that 30.0% of the respondents said that condom use can be helps as a protection measure against cervical cancer. On the other hand, 26.7% of the respondents said that they don't know how they can protect themselves from cervical cancer. Not only that but also 4.7% said that avoiding multiple sexual partners can also help to reduce cervical cancer while 2.0% said that people can protect themselves from cervical cancer by doing the early screening, also other 2.0% said that protection against cervical cancer can be done through vaccination, other 2.0% of the respondents had the opinion that women should not smoke to protect themselves from cervical cancer while only 1.3% of the respondents said that girls should avoid early sexual intercourse to protect themselves. Cervical cancer among PLWHA significantly decreased after the introduction of Highly Active Antiretroviral Therapy (HAART) but the risk of chronic infections including

HPV and progression to high-grade intraepithelial lesions and cervical cancer is still higher among HIV-infected women (Goncalves et al, 2016).

### 3.4.6 Perception of Cervical Cancer Treatment

The respondents in this study were also asked about their perception of cervical cancer, and treatment and their views and perception were summarized and presented in Table 4.3

**Table 4. 3 Perception of Cervical Cancer Treatment**

| Response | Frequency | Per cent |
|---|---|---|
| Treatable disease | 38 | 25.3 |
| Not treatable | 39 | 26.0 |
| Treatable if early identified | 51 | 34.0 |
| Don't know | 22 | 14.7 |
| Total | 150 | 100.0 |

**Source;** Field Data (2022)

From Table 4.4 it was revealed that 34.0% of the respondents said that cervical cancer is treatable if early identified, in the same vein 26.0% of the respondents said that cervical cancer is not treatable while 25.3% of the respondents said that cervical cancer is treatable while 14.7% of the respondents do not know if cervical cancer is treatable. The study also revealed that most of the respondents said that cervical cancer is treatable however they don't know exactly how is it treated. According to Stelzle et, al (2020), There are numerous techniques to treat cervical cancer. The type of cervical cancer and the extent of its spread will determine this. Surgery, chemotherapy, and radiation therapy are all forms of treatment. During an operation, doctors remove cancerous tissue.

### 4.4 Risk Factors Associated with Cervical Cancer Disease among Women Living with HIV/AIDS

This objective aimed to examine the risk factors associated with cervical cancer disease among women of reproductive age. To achieve this objective there were various questions which were asked to the respondents as provided in the following subsections.

#### 4.4.1 Source of Information about Risk Factors for Cervical Cancer Diseases

The respondents were asked how they received information about the risk factors related to cervical cancer disease in women. Their responses were presented in Table 4.4 as follows.

**Table 4. 4 Source of Information about Risk Factors for Cervical Cancer Disease**

| Response | Frequency | Per cent |
|---|---|---|
| At the health facility from the health care provider | 31 | 20.7 |
| At the community | 27 | 18.0 |
| From a friend's explanation | 12 | 8.0 |
| Don't know | 80 | 53.3 |
| **Total** | **150** | **100.0** |

**Source;** Field Data (2022)

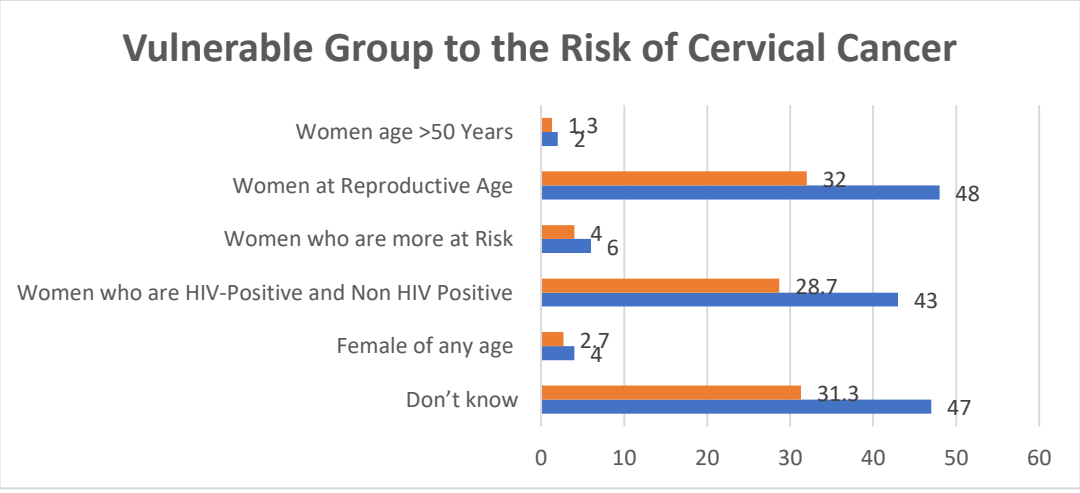
Table 4.5 shows that 20.7% of the respondents said that they have received information about risk factors related to cervical cancer from their health care providers, while 18.0% of the respondents said that they received information about risk factors related to cervical cancer from their community, while 8% of the

respondents received information about risk factors related to cancer from friends. Lastly, 53.3% reported that they haven't received information from any sources about the risk factors related to cervical cancer. This shows that most of the respondents who participated in this study lacked information about the risk factors associated with the risk factors on cervical cancer. According to WHO, (2018) they reported increased incidence rate of cervical malignancies in the nation may be due to a lack of knowledge, ineffective screening programmes, being overshadowed by other health priorities (including AIDS, TB, and malaria), and inadequate focus on women's health. There is a paucity of information on the awareness of cervical cancer among Ethiopian women (Bray et al. (2012).

### 4.4.2 Vulnerable Group to the Risk of Cervical Cancer

The respondents who participated in this study were asked which group is at high risk of cervical cancer as shown in Figure 4.5 below.

**Figure 4. 5 Vulnerable Group to the Risk of Cervical Cancer**



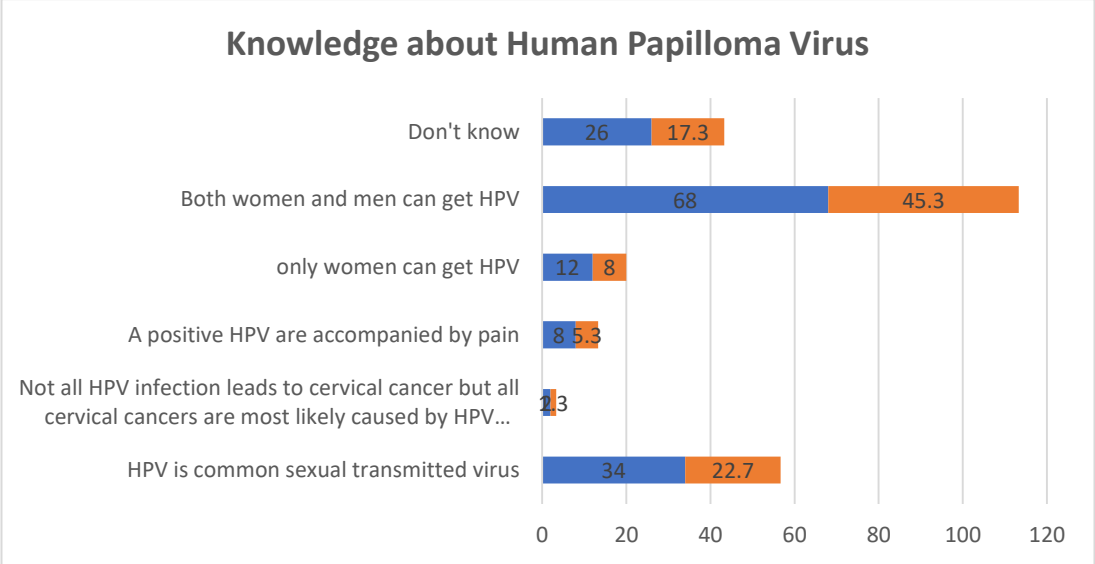

**Source;** Field Data (2022)

Figure 4.5 revealed that 32% of the respondents said that the vulnerable group to cervical cancer is women of reproductive age. In the same vein, it was shown that 28.7% of the respondents said that women who have positive HIV and non-HIV positive. On the other hand, 2.7% of the respondents said that women with any age are more likely to be at risk. Not only that but also 4% of the respondents said that all women are at risk of getting cervical cancer, 1.3% of the respondents said that the women with above 50years are more risk of getting cervical cancer, while 31.3% of the respondents don't know about groups which are vulnerable to cervical cancer. According to Osório et, al (2015) At age 25, women should start getting screened for cervical cancer. Every five years, those from 25 to 65 should get a main HPV test. In the absence of primary HPV testing, screening can be carried out every five years with a co-test that combines an HPV test with a Papanicolaou (Pap) test or every three years with a Pap test alone. Pap tests can identify cervix precancerous abnormalities, allowing for their monitoring or treatment to stop cervical cancer (Nogueira, 2019).

### 4.4.3 Perception of Human Papilloma Virus

In assessing the risk factors associated with cervical cancer the respondents were also asked about their awareness and perception of human papilloma virus as in Figure 4.6

**Figure 4. 6 Perception of Human Papilloma Virus**




**Source;** Field Data (2022)

From Figure 4.6 it was shown that 45.3% of the respondents said that HPV is the virus which can affect both men and women, in the same vein 22.7% of the respondents said that HPV is a common sexual transmitted virus. Not only that but also 8.0% perceived that only women can get HPV while 1.3% of the respondents said that not all HPV infections lead to cervical cancers but all cervical cancers are most likely to be caused by HPV infection. 5.3% of the respondents said that a positive HPV are accompanied by pain. Lastly, the researcher revealed that 17.3% of the respondents don't know about the human papilloma virus. Thus, it can be established most of the respondents lack awareness and don't know about the human papilloma virus. Arbyn et al, 2010) suggested that Human papillomavirus is the main factor in cervical cancer development (HPV). Nearly all occurrences of cervical cancer are caused by infection with one or more of these oncogenic HPV strains. More than 99.7% of cervical malignancies in the globe have been shown to test

positive for HPV DNA. There are 15 identified HPV oncogenic types at the moment. The three HPV genotypes are most often linked to cervical cancer. Most HPV infections are asymptomatic and disappear within a year thanks to the immune system. However, the infection can linger in up to 10% of females, and in a very tiny proportion of females, chronic infection with oncogenic HPV may ultimately result in cervical cancer (Bahmani et al, 2015).

### 4.4.4 Prevention for Human Papilloma Virus (HPV)

The respondents were asked about the prevention of human papilloma virus (HPV), the results obtained from different responses were shown in Table 4.5.

**Table 4. 5 Prevention Measures for Human Papilloma Virus**

| Response | Frequency | Per cent |
|---|---|---|
| Using a condom during sexual intercourse can minimize the risk of HPV | 40 | 26.7 |
| Having few sexual partners | 27 | 18.0 |
| By using HPV vaccination | 32 | 21.3 |
| Having faithful partners | 35 | 23.3 |
| Using a condom helps prevent the sexual transmitted disease | 14 | 9.3 |
| Don't know | 2 | 1.3 |
| **Total** | 150 | 100 |

**Source:** Field Data (2022)

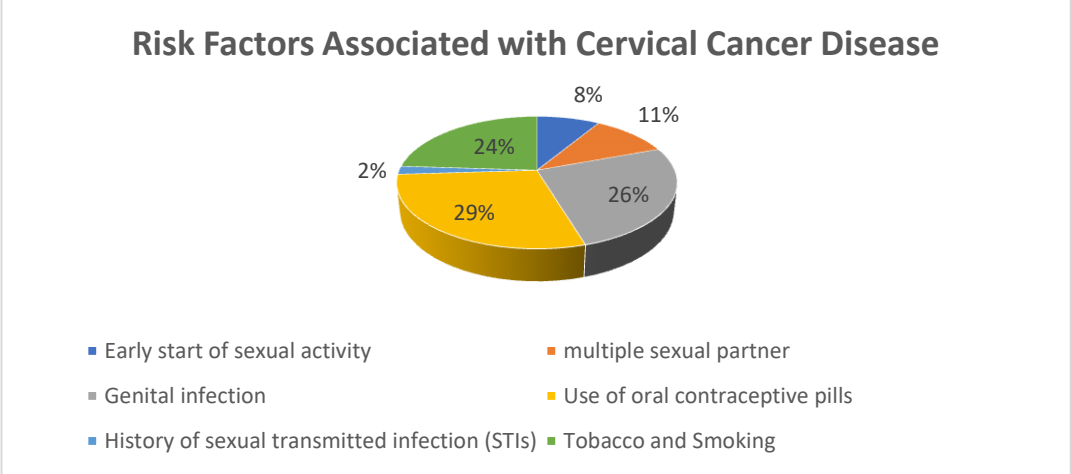
It was revealed that 26.7% of the respondents said that the use of condoms during sexual intercourse can reduce the risk of transmission of the human Papilloma Virus. In the same vein, it was shown that 23.3% of the respondents suggested that having a faithful partner can also help to reduce the risk of HPV. On the other hand, it was revealed that 21.3% said that HPV can be reduced by using vaccines. 9.3% of the

respondents said that Using a condom helps prevent the sexual transmitted disease. Other 18% of the respondents suggested that women should not have multiple sexual partners to reduce the risk of contracting a human papilloma virus. However, 1.3% of the respondents don't know how the preventive measure for human papilloma virus. Karjane and Chelmow (2013) opined that up to 90% of cervical malignancies may be avoided with HPV vaccinations, which offer protection against two to seven high-risk variants of this family of viruses. According to the recommendations, routine Pap testing should continue as long as there is a chance of malignancy. Utilizing condoms and having few or no sexual partners are two more preventative strategies as recommended by Tepus and Yau (2020).

### 4.4.5 Risks Factors Associated with Cervical Cancer Disease

In this subsection, the respondents were required to show the risk factors associated with cervical cancer disease, the results were as in Figure 4.7

**Figure 4. 6 Risks Factors Associated with Cervical Cancer Disease**




**Source;** Field Data (2022)

From the research finding it can be established that 8.% of the respondents indicated early sexual activities are the risk factor towards cervical cancer, in the same vein 11% of the respondents said that having multiple partners is a risk factor for cervical cancer. On the other hand, 26.0% of the respondents said that regular genital infection can be a risk factor towards cervical cancer among women. While 29% of the respondents considered the use of contraceptive pills as the risk factor for cervical cancer. However, there were 2.0% of the respondents who participated in this study said that women with a history of sexually transmitted infections (STIs) are also at risk of cervical cancer. Lastly, 24.0% of the respondents considered tobacco use and smoking as one of the risk factors associated with cervical cancer.

Thus, it can be established that most cervical cancer is associated with different risk factors. Anything that raises your probability of contracting an illness like cancer is considered a risk factor. Risk factors for various malignancies vary. For instance, prolonged exposure to direct sunlight increases the chance of developing skin cancer. A risk factor for many malignancies is smoking. Cervical cancer is seldom diagnosed in people who don't have any of these risk factors. Although having these risk factors can raise the likelihood of getting cervical cancer, many people who have these risks do not.

### 4.4.6 Cervical Cancer Disease Prevention and Risk Reduction

In this study the respondents were also asked about how to reduce cervical cancer, the results obtained were summarized and presented in Table 4.6 as follows.

**Table 4. 6 Cervical Cancer Disease Prevention and Risk Reduction**

| Response | Frequency | Per cent |
|---|---|---|
| Weight loss | 8 | 5.3 |
| Regular physical exercise | 62 | 41.3 |
| Use of anti-oxidant foods | 4 | 2.7 |
| Avoiding highly processed food | 10 | 6.7 |
| Use of vitamin A supplementation | 22 | 14.7 |
| Don't know | 44 | 29.3 |
| **Total** | **150** | **100** |

**Source;** Field Data (2022)

Table 4.6 shows that 5.3% of the respondents provide that weight loss is one of the prevention measures for cervical cancer, in the same vein 41.3% of the respondents said that regular physical exercise can help reduce the risk of cervical cancer. On the other hand, 6.7% of the respondents said that avoiding highly processed foods also can help to reduce the risk of cervical cancers. However, 2.7% of the respondents said that use of anti-oxidants foods can help to reduce the risk of cervical cancer. Not only that but also 14.7% of the respondents said that the use of Vitamin A supplementation reduces the risk of cervical cancer. Lastly 29.3% of the respondents do not know the preventive measures and risk reduction of the cervical cancer disease.

According to Nogueira, (2019), Anti-cancer vaccinations can be administered as a curative therapy or as a preventative measure. By improving cytotoxic T lymphocyte (CTL) detection and activity against tumour-associated or tumour-specific antigens, all such vaccinations promote adaptive immunity (TAA and TSAs). There are vaccines available that can prevent some viruses known to cause cancer. The Cervarix and Gardasil human papillomavirus vaccines reduce the risk of cervical cancer. The hepatitis B vaccination reduces the risk of liver cancer by preventing

infection with the hepatitis B virus. When resources permit, administering the hepatitis B and human papillomavirus vaccines is advised (Tepus and Yau 2020).

### 4.4.7 Identification of Women Suffering from Cervical Cancer

The respondents were also asked whether women suffering from cervical cancer can be identified, the response obtained with this question were summarized and presented in Table 4.7

**Table 4. 7 Identification of Women Suffering from Cervical Cancer**

| Response | Frequency | Cumulative Percent |
|---|---|---|
| The women show the symptoms | 68 | 45.3 |
| There are no symptoms which can be seen | 29 | 19.3 |
| Explanation from the women | 31 | 20.7 |
| It is difficult to identify | 21 | 14.0 |
| Don't know | 1 | 0.7 |
| **Total** | **150** | **100.0** |

**Source;** Field Data (2022

It was shown that 45.3% of the respondents said that women with cervical cancer show symptoms. It was also revealed that 19.3% of the respondents said that there are no symptoms which can be seen in women with cervical cancer. On the other hand, 20.7% identification of a person suffering from cervical cancer can be done based on the information provided by the patient herself through the explanation she provides to the healthcare providers. Other 14.0% of the respondents said that it is difficult to identify them while 0.7% of the respondents do not know about the identification of women with cervical cancer.

According to Gadducci, et al (2011) early-stage cervical cancer typically has no symptoms or indicators. More severe cervical cancer symptoms and signs include bleeding after sex, in between cycles, or during menopause. Watery, red, perhaps thick, and foul-smelling vaginal discharge. The onset of cervical cancer is quite gradual. The development of invasive cancer cells from abnormal cervix alterations might take years or even decades. Even though cervical cancer may spread more quickly in persons with compromised immune systems, it will most likely take at least 5 years to form (Stanley and Sterling 2014).

### 4.5 Utilization of Cervical Cancer Screening Services among Women Living with HIV/AIDS

This objective aimed to assess the extent to which service use is associated with the awareness of women about cervical cancer. Thus, to establish this objective there were various question asked to the respondents as provided in the following subsection below.

#### 4.5.1 Sources of information about Vaccine for Cervical Cancer

The respondents were asked where they have heard about the cervical cancer screening process, their response was summarized and presented in Table 4.8 as follows.

**Table 4. 8 Source of Information about Vaccines for Cervical Prevention**

| Response | Frequency | Per cent |
|---|---|---|
| At the health facility from the health care provider | 32 | 21.3 |
| At the community | 9 | 6.0 |
| Friends | 40 | 26.7 |
| Television | 35 | 23.3 |
| Phone | 34 | 22.7 |
| Total | 150 | 100 |

**Source;** Field Data (2022)

From the findings above it was shown that 21.3% of the respondents said that they received information about vaccines for cervical cancer from health facilities and healthcare providers. Also, it was revealed that 26.7% of the respondents said they received information about cervical cancer vaccines from their friends. On the other hand, 22.7% of the respondents show that they have received information about vaccination for cervical cancer through phone messages sent by network service providers. 6.0% of the respondents show that they have received information about vaccination for cervical cancer from the community. While 23.3% of the respondents received information about cervical cancer vaccination through television. Thus, we should focus on educating students about the risk factors for cervical cancer by running awareness campaigns, with each semester's campaigns emphasizing the advantages of screening and vaccination. The present medical services should offer screening services as a strategy to increase screening among students. It is crucial to provide students with emotional support since, should they undergo the test, they can feel dread and worry over the findings of the PAP smears. It is strongly advised that all female teenagers turning 15years old receive a national HPV vaccine.

### 4.5.2 Perception of HPV- Vaccine

The respondents who participated in this study were asked about their perception of the HPV Vaccines. The results obtained from the HPV Vaccine were summarized and presented in Table 4.9.

**Table 4. 9 Perception of HPV Vaccine**

| Response | Frequency | Per cent |
|---|---|---|
| Protect against cervical cancer by 100% | 58 | 38.6 |
| Reducing the risk of getting cervical cancer | 23 | 15.3 |
| Not protect against cervical cancer | 10 | 6.7 |
| Don't know | 59 | 39.4 |
| **Total** | **150** | **100.0** |

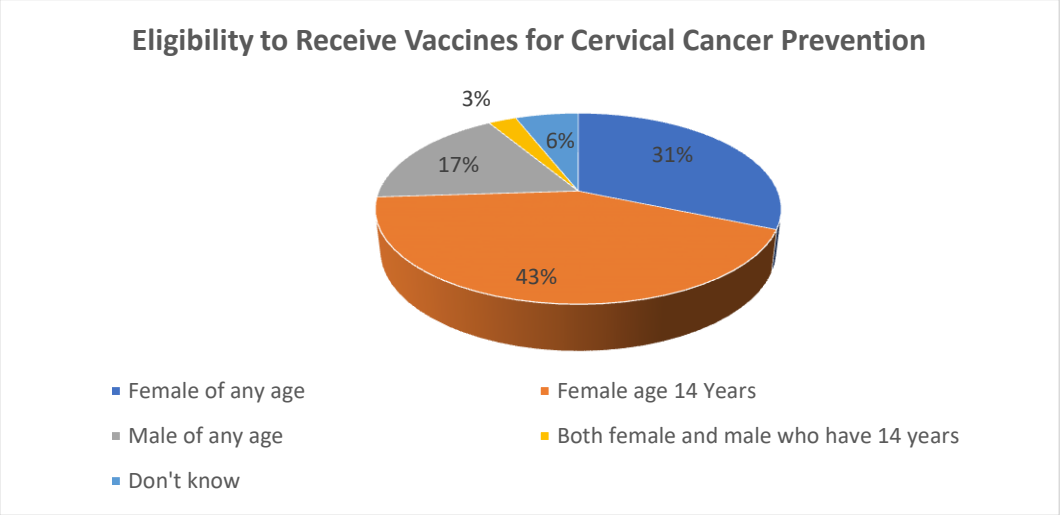
**Source :**Field Data (2022)

From the findings obtained it was shown that 38.6% of the respondents perceived that HPV Vaccines protect women from cervical cancer by 100%. On the other hand, 15.3% of the respondents perceived that HPV Vaccine reduces the risks of getting cervical cancer. Furthermore, 6.7% of the respondents opined that HPV Vaccine does not protect women against cervical cancer. Lastly, 39.4% of the respondents don’t know about the effectiveness of the HPV Vaccine in dealing with cervical cancer among women. Bahmani et al, (2015) cervical, can be cured with timely diagnosis and appropriate treatment. To make people aware of the health repercussions of cervical cancer in India, greater health education is required. Even though cervical cancer screening is available in India, very few females are aware of it. People who are aware of it have various views or perspectives about cervical cancer screening. This study's goal was to evaluate people's attitudes and knowledge of cervical cancer prevention and screening (Arbyn et al, 2010)

### 4.5.3 Eligibility to Receive Vaccines for Cervical Cancer Prevention

The respondents who participated in this study were also asked about the people who are eligible to receive cervical cancer prevention. The results obtained in this aspect are summarized and presented in Figure 4.8.

**Figure 4.8 Eligibility Receive Vaccines for Cervical Cancer Prevention**




**Source;** Field Data (2022)

From the findings obtained it was revealed that 31% of the respondents said that females at any age, also it was revealed that 43% of the respondents who participated in this study suggested that females of 14 years should receive cervical cancer vaccine. On the other hand, 17% of the respondents said that male of any age, while 3% of the respondents said that both females and males having at least 14 years should be vaccinated while 6% of the respondents said that they don’t know.

### 4.5.4 Suitable Time for Cervical Cancer Screening

The respondents were asked about the reasonable time at which they can check for cervical cancer. The results obtained were summarized as shown below.

**Table 4. 10 Suitable Time for Cervical Cancer Screening**

| Response | Frequency | Per cent |
|---|---|---|
| After getting signs and symptoms of cervical cancer | 37 | 24.7 |
| Before getting signs and symptoms of cervical cancer | 25 | 16.7 |
| Any time | 62 | 41.3 |
| After receiving health education from the healthcare provider | 18 | 12.0 |
| After receiving information from those who have already screened | 8 | 5.3 |
| **Total** | **150** | **100.0** |

**Source;** Field data (2022)

It was revealed that 41.3% of the respondents said that cervical cancer vaccines can be received at any time. In the same vein, 24.7% of the respondents said that a vaccine for cervical cancer can be taken after getting signs and symptoms of cervical cancer. On the other hand, it was shown that 16.7% of the respondents said that a vaccine for cervical cancer can be taken before getting signs and symptoms of cervical cancer. 12.0% of the respondents said that cervical cancer vaccination can be taken after receiving health education from health care providers. Also, it was found that 5.3% of the respondents said that cervical cancer vaccination can be taken after receiving information from those who have already screened. Most cases of cervical cancer may be avoided. The adoption of cervical cancer prevention is made possible by the involvement of HPV in the emergence of the disease. The National HPV Vaccination Program offers HPV vaccinations as the primary method of

preventing cervical cancer in women, these oncogenic HPV strains are the main cause of cervical cancer.

### 4.5.6 Last Time to Screen for Cervical Cancer

The respondents were also asked about the last time that they used cervical cancer screening services. Their response was recorded and presented in Table 4. 11 As follows.

**Table 4. 11 Last Time to Screen for Cervical Cancer**

| Response | Frequency | Per cent |
|---|---|---|
| This month | 50 | 33.3 |
| Two months ago, | 10 | 6.7 |
| Years ago, | 15 | 10.0 |
| Don't screen | 75 | 50.0 |
| **Total** | 150 | 100.0 |

**Source;** Field Data (2022)

It was revealed that 33.3% of the respondents said that they screened for cervical cancer within a month. In the same vein, 6.7% of the respondents said that have screened for cervical cancer within two months. Others 10.0% of the respondents they have screened for cervical cancer years ago. While 50.0% of the respondents didn't screen for cervical cancer. The American Cancer Society's (ACS) most recent recommendations for cervical cancer screening call for starting the process with an HPV test at age 25 and continuing it every five years to age 65.

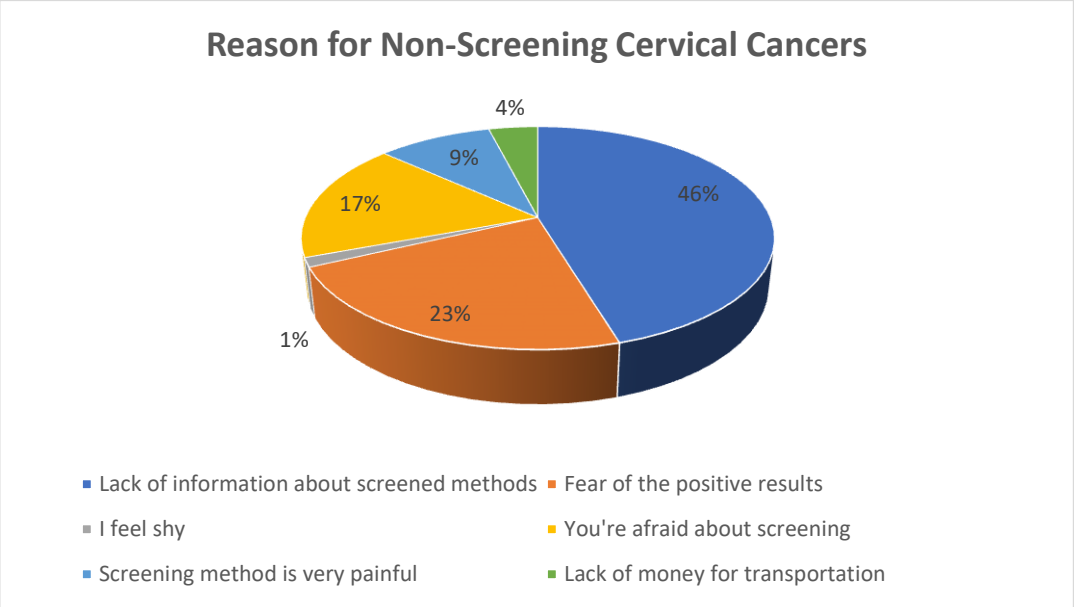
Testing with a Pap test or an HPV/Pap cotest every three or five years is still acceptable, though. Make an appointment before or after your period is due since you cannot get tested while you are on your period. Even if you just had a test, you

should still contact your doctor if you have bleeding when it shouldn't, such as after sex, in between periods, or after menopause.

### 4.5.7 Reasons for Non-Screening Cervical Cancers

The respondents who participated in this study were required to give a reason as to why some people do not screen for cervical cancer, the results obtained concerning this aspect were summarized and presented in Table 4.9

**Figure 4.9 Reasons for Non-Screening Cervical Cancers**




**Source;** Field Data (2022)

From the finding obtained it was shown that 46.0% said that some people do not screen for cervical cancer because they lack information about screening methods. In the same vein, 23.0% of the respondents said that some people fear the positive results they are likely to receive after the screening. On the other hand, it was shown that 9.0% of the respondents said that the screening method is painful. while 4.0%

of the respondents said that lack of money to attend screening areas. 17.0% of the respondents said that they have afraid about screening and lastly 1.0% of the respondents said that they just feel shy to go for screening of cervical cancer.

It was crucial to understand that cervical screening was a programme of repeated checks at regular intervals rather than a single-chance test. Precancerous abnormalities were discovered through cervical screening using cytology from the Papanicolaou smear, or "PAP test," with cells obtained from the transformation zone of the cervix the region of the cervix where the glandular cells from the endocervical canal and squamous cells from the outer opening of the cervix meet (where most cervical abnormalities and cancers are detected).

### 4.6 Determinants of Awareness of Cervical Cancer

The researcher also examined the existing relationship between variables to assess which one affects the awareness of women about cervical cancer from women living with HIV/AIDs. To check the relationship between variables the researcher employed different statistical tests of significance such as correlation, regression and the ANOVA test. Thus, the results of each test were summarized and presented as follows.

#### 4.6.1 Descriptive Statistics

This test aimed to check statistics values such as minimum, maximum, mean and standard deviation of the research variables so as to check their level of significance. The results obtained concerning this aspect were summarized and presented in Table 4. 12

**Table 4. 12 Descriptive Statistics**

| Determinants | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| Cervical cancer awareness | 150 | 1 | 5 | 3.45 | 1.445 |
| Knowledge of cervical cancer | 150 | 1 | 5 | 3.25 | 1.506 |
| Risk Factor | 150 | 1 | 5 | 3.67 | 1.403 |
| Service utilization | 150 | 1 | 5 | 3.85 | 1.008 |
| Valid N (listwise) | | | | | |

**Source;** Field Data (2022)

The results obtained based on the descriptive statistics show that Cervical cancer awareness had a min = 1, Max =5, Mean of 3.45 and SD = 1.445. it was also established that Knowledge about cervical cancer had a min = 1, Max = 5, Mean = 3.25 and SD = 1.506. while Risk factors associated with cervical cancer had min = 1, Max = 5, Mean = 367 and SD = 1.403 and lastly service utilization had the Min = 1, Max – 5, Mean = 3.85 and SD = 1.008. The results showed that the mean values and standard deviation were higher to mean they are significant in enhancing awareness about cervical cancers. have found to have high knowledge, while in developing countries, women had a poor level of knowledge towards cervical cancer and its prevention (Almeer et al, 2011; Shrestha et al, 2013; Sancho et al, 2013). Women's age, marital status, occupation, educational status, source of information, knowing someone with cervical cancer and health-seeking behaviour were found to be associated with cervical cancer knowledge in Kenya (Kangmennaang et al, 2018).

### 4.6.2 Correlation Analysis

This procedure had the intention to find whether the data can portray a linear relationship between the independent and dependent variables (Conway and Huffcutt,et al 2003). Since the study aimed to run linear regression, it becomes

important to ensure that the data falls within the category of the equation of the straight line (Malhotra,et al 2009). The results obtained were summarized and presented in Table 4.13

**Table 4. 13 Correlation Analysis**

| | | | | | |
|---|---|---|---|---|---|
| Knowledge of Cervical Cancer | Correlation (r) | .537** | 1 | | |
| | Sig. (2-tailed) | .000 | | | |
| | N | 150 | 150 | | |
| Risk Factor | Correlation (r) | .191* | .376** | 1 | |
| | Sig. (2-tailed) | .019 | .000 | | |
| | N | 150 | 150 | 150 | |
| Service utilization | Correlation (r) | .292** | .180* | .334** | 1 |
| | Sig. (2-tailed) | .000 | .028 | .000 | |
| | N | 150 | 150 | 150 | 150 |

**. Correlation is significant at the 0.01 level (2-tailed).

**Source:** Field Data (2022)

The results obtained show that the overall correlation between the dependent variables and cervical cancer awareness was 0.01 which is a positive sign. More specifically it was shown that knowledge awareness had (r (150)> .537, p<.000). Also, it was shown that risk factors (r (150)> .376, p< .000), and lastly service utilization was found to have (r (150)>334 p, <.000). these results show that all the determinants affect awareness about cervical cancer. Their relationship is positive and significant because their p-value was found to be less than 0.05. Similar results were found by Antje et al, 2021). Who found significant nescience (lack of knowledge) on cervical cancer regardless of education level, resident status, or number of children as well as nescience on HPV in all age groups, especially in

urban areas and misconceptions about cancer. Moshi et al (2019) found that the level of knowledge about cervical cancer was extremely low and poor uptake of screening services for cervical cancer whereby women with less knowledge about cervical cancer were those with less education, those living in rural areas, and those without children (Fabiola et al, 2019).

**Table 4. 14 Regression Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin – Watson |
|---|---|---|---|---|---|
| **1** | .678[a] | .634 | .520 | 2.192 | 2.471 |

**Source;** Field Data (2022)

From the regression model summary, it was shown that the R was 5.78, while R Square was 4.34, this shows that the level of significance from this model was 5.78. These results mean that the Regression Model can be explained by the four indicators by 68.3% adjusted to 60.1%. Also, A Durbin-Watson test of autocorrelation recorded values of 1.571 which suggests that no autocorrelation problem (Field, 2013). In other words, the assumption of autocorrelation of residuals was not violated hence permitting further reporting of regression results (Cohen, 2018).

**Table 4. 15 Anova Test**

| ANOVA[a] | | | | | | |
|---|---|---|---|---|---|---|
| **Model** | | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig.** |
| **1** | Regression | 103.804 | 3 | 34.601 | 24.361 | .000[b] |
| | Residual | 207.370 | 146 | 1.420 | | |
| | Total | 311.173 | 149 | | | |

**Source;** Field Data (2023)

ANOVA is used to identify interaction effects between variables, between and within the groups; hence, providing confirmations for further analysis (Kumar, 2013, Cohen, 2018). One-way ANOVA above was run to relate the mean values of the determinant of the awareness about cervical cancer. The F-test confirmed the relationship existed between the four independent variables and the dependent variable awareness of cervical cancer which was statistically significant at .000.

**Table 4. 16 Regression Coefficient**

| Coefficient | | | | | | |
|---|---|---|---|---|---|---|
| **Model** | | **Unstandardized Coefficients** | | **Standardized Coefficients** | **t** | **Sig.** |
| **1** | Constant | **B** | **Std. Error** | **Beta** | | |
| | Knowledge of cervical cancer | .881 | .422 | | 2.085 | .039 |
| | Risk Factor | .507 | .070 | .528 | 7.227 | .000 |
| | Service utilization | .085 | .079 | .083 | 1.083 | .003 |
| | | .322 | .103 | .225 | 3.130 | .002 |

**Source;** Field Data (2023)

Knowledge of cervical cancer was found to have (Beta = .528, P> .000), which means the increase in knowledge of cervical cancer by 1 unit lead to an increase in

awareness about cervical cancer by .000. In the same vein Risks factors associated with cervical cancer were found to have Beta = .083, P> .003, which means that increase of the knowledge on the risk factors by 1 unit lead to the increase of the Awareness to cervical cancer by .0003 and lastly while Service utilization had Beta =.225, P> .002), this also means the increase of service utilization by 1 unit lead to the increase of the awareness on cervical cancer by .002. Therefore, it can be established that all the determinants of awareness of cervical cancer were found to have a positive and significant relation to the awareness of cervical cancer. Singini et al (2021) women in the research had invasive cervical malignancies, with squamous cell carcinoma accounting for 95% of cases. 5,709 women who did not have cancer were considered controls. In the same vein, Williams et al (2015) knowledge of the significance of HIV-infected women receiving Pap tests owing to their impaired immune system was among the most prevalent positive beliefs, facilitators, and nurturers that contributed to cervical cancer screening. Also, according to Syed et al (2022), it was revealed that 128 (22.1%) men and 452 (77.9%) women, with a mean age of SD20:36 1:74 years. It's interesting to see that students from medical schools were more knowledgeable and aware of CC (p 0:05). On the other hand Kileo et al. (2015) considered P value 0.038), were multiparous (age-adjusted OR = 3.05, 95% CI 1.15-8.06, P value 0.025), did not involve their spouse in making health decisions (adjusted OR 3.56, 95% CI 2.05-6.18, P Support from a spouse or partner was a key element in the study population's usage of cervical cancer screening services.

# CHAPTER FIVE

# SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATIONS

## 5.0 Overview

This chapter presents the summary of the research findings obtained. And also presents conclusion, recommendations and suggestions for further studies.

## 5.1 Summary of Major Findings

The research found that there was little understanding of cervical cancer. The uptake of screening was significantly influenced by characteristics such as educational attainment, household income, and awareness of medical history. Without delay, targeted education campaigns should be developed to enhance public awareness of cervical cancer and screening readiness, particularly among younger and older women.

In conclusion, the study showed that female students had little understanding of cervical cancer susceptibility and the need for cervical cancer screening and prevention. Thus, we should focus on educating students about the risk factors for cervical cancer by running awareness campaigns, with each semester's campaigns emphasizing the advantages of screening and vaccination. The present medical services should offer screening services as a strategy to increase screening among students.

Results show that education and intervention are urgently needed to increase women's knowledge of cervical cancer and their willingness to get screening.

Utilizing supportive factors, like raising women's awareness of cervical cancer and screening through age-based strengthening education and publicity, may aid in promoting cervical cancer awareness and participation in the upcoming cervical cancer screening programme in Zanzibar and potentially lessen the significant local social and economic burden brought on by cervical cancer.

## 5.2 Conclusion

The conclusion of this study is organized based on the research objectives as follows.

### 5.2.1 Knowledge of cervical cancer disease among the women living with HIV/AIDS in Magu District

Based on the first research objective the researcher concluded that there is very little awareness among the women in the community about cervical cancer in general. Most of the respondents who participated in this study when asked questions concerning their knowledge about cervical cancer respondents incorrectly thus means that they have no much information about cervical cancer. Therefore, despite the presence of some respondents who had little understanding of cervical cancer, and lack proper and correct information about their disease.

### 5.2.2 Risk factors associated with cervical cancer disease among women of reproductive age in the Magu District

From this study, it was established that most of the respondents who participated in this study lacked awareness about the risks factor leading to cervical cancer. It was also found that most of the respondents in one way or another have been exposed to

the risk factors of cervical cancer without knowing the impacts and the results thereto. They established that there was little awareness of aspects such as having multiple sexual partners, early sexual practices and other factors and their impacts on cervical cancer.

### 5.2.3 Utilization of Cervical Cancer Screening Services among Women Living with HIV/AIDS in the Magu District

On the last objective about service utilization, the study established that service utilization is also a challenge to most women. From the study, it was established that cancer is treatable but only if it has been discovered in the earliest stages thus lack of proper and timely screening for cervical cancer among women causes the failure to take necessary treatment measures to rescue the situation.

## 5.3 Recommendations

### 5.3.1 Recommendation to the Community

Recommendation to the community, concerning the knowledge about cervical cancer. The study recommends that adult rural women saw a notable increase in their awareness, understanding, and perception of cervical cancer and screening as a result of multimedia health education based on a film. Cervical screening services were also used more often. This is because of lack of awareness and inadequate knowledge about cervical cancer and screening were the main obstacles to cervical screening. The next problem was not knowing where to get services for cervical screening.

Recommendation to the community, while on service utilization the study recommended that the cervical cancer screening program's effectiveness depends on raising awareness and enhancing access to screening services. Also, it was recommended that it is crucial to provide students with emotional support since, should they undergo the test, they can feel dread and worry over the findings of the PAP smears. It is strongly advised that all female teenagers turning, receive a national HPV vaccine.

### 5.3.2 Recommendation to the Ministry of Health

This study recommends to the Ministry of Health that HPV vaccination should start at the age of 11 or 12 years and for everyone through the age of 26 years if not vaccinated already. Also, concerning risk factors the research recommends that with the provision of the proper health education intervention, knowledge and perception of cervical cancer and screening in rural populations can be enhanced.

## 5.4 Area for Further Studies

Further study should be conducted on the roles of community participation in the creation of awareness programs against cervical cancer. They would enhance the effective implementation of cervical cancer awareness programs.

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# APPENDICES

## QUESTIONNAIRE

### DEMOGRAPHIC INFORMATION

1. How old are you

a) 15-24years……

b) 25-34Years……..

c) 35-49years…….

2. Marital status
    a) Married
    b) Single
    c) Divorced/Separated
    d) Widow
3. Occupation
    a) Professional
    b) Businesswomen
    c) No job
    d) Housewife
4. Education
    a) No formal schooling
    b) Primary
    c) Secondary
    d) College
5. Average monthly household income
    a) <500

b) 500-1000

c) 1000-1500

d) >1500

6. Type of facility where mother seen during data collection

   a) Magu district hospital

   b) Kisesa health centre

   c) Kabila health centre

**KNOWLEDGE OF CERVICAL CANCER**

7. What is the best way for you to receive information about sexual health?

a) Watching TV where the pictures are shown and the disease is explained at the same time.

b) Through health education from health care providers at the health care facility

c) Through health education given at the community

d) In a small group of other women

e) Together with the partner

f) On your own

g) Don't know

8. What do you know about the cervical cancer disease

   a) A form of cancer which affects the middle-aged women

   b) A form of cancer which affects young women

   c) A form of cancer which affects the lower genital tract of the women

   d) Cervical cancer is the second most common cancer in women worldwide

   e) Persistent infection of the Human Papillomavirus which causes cervical cancer

f) Only women who have sexually active may develop cervical cancer

g) Both women who have sexually active and women who are not sexually active may develop cervical cancer

h) Don't know

9. Where have you heard about cervical cancer disease?

a) At the community

b) Magazine

c) Television

d) Newspaper

e) Medical practitioner/ at facilities

f) Friends

g) Internet

h) Others (mention)

i) No information ( Don't hear)

10. Do you think cervical cancer is common in which area?

a) Rural only

b) Urban only

c) Rural and urban

d) Tanzania

e) East Africa

f) Word wide

g) Don't know

11. What is the transmission route of cervical cancer disease

a) Transmitted by bacteria

b) Transmitted by Virus

c) Transmitted by sexual intercourse

d) Transmitted by blood transfusion

e) Don't know

12. What are the Symptoms of cervical cancer disease

a) Irregular menstrual period

b) Blood-stained discharge from the vaginal

c) Pelvic pain or pain after intercourse

d) Weight loss

e) Difficulty in passing urine

f) Bleeding after sexual activity

g) Don't know

13. Do you think cervical cancer disease can be a

a) Moderate Illness

b) Terminal illness

c) Don't know

14. How can we protect ourselves against cervical cancer?

a) Condom use

b) Avoiding multiple sexual partners

c) Be faithful to an uninfected partner

d) Avoiding early Sexual intercourse

e) Early Screening and treatment

f) Vaccination

h) Don't smoke

h) Don’t know

15. Cervical cancer is a disease which can be:-

a) Treatable disease

b) Not treatable

c) Treatable if early identified

c) Don’t know

16. Cervical cancer disease can cause the following situation

a) Cause severe ill

b) Cause death

c) It is not a severe disease

d) Not causes death

e) Don’t know

17. Where have you heard of someone who has died of cervical cancer

a) At the health facility from the health care provider

b) At the community

c) From friends explanation

d) Don’t know

**RISK FACTORS**

18. Where Have you heard about risk factors for cervical cancer disease

a) At health facilities/healthcare providers

b) At the community

c) From friends

d) Don’t know

19. Who is Vulnerable to getting cervical cancer

    a).women aged>50

    b) Women of reproductive age

    c) Women who are HIV positive are more at risk

    d) Women who are HIV-positive and Non-HIV-positive

    e) Female of any age

    f) Don't know

20. Where have you heard about Human Papillomavirus (HPV)

    a) From health care provider (at the health facility

    b) From the community

    c) From Television

    d) From friends

    e) From other women

    f) Don't hear

    g) Don't know

21. What do you know about Human papillomavirus (HPV)

a) HPV is a common sexually transmitted virus

b) Many HPV exist and some of them cause cervical cancer

c) Not all HPV infection leads to cervical cancer but all cervical cancers are most likely caused by HPV infection

d) A positive HPV is accompanied by pain

e) Only women can get HPV

f) Both women and men can get HPV

g) Don't know

22. What is the transmission route of Human Papilloma Virus (HPV)

    a) Through Bacteria

    b) Through animal bite

    c) Through Sexual intercourse

    d) Through kissing

    e) Don't know

23. What Do you know about the prevention of Human Papilloma (HPV)

    a) Using a condom during sexual intercourse can minimize the risk of HPV

    b) Having few sexual partners

    c) By use of HPV Vaccination

    d) Having faithful partners

    e) Using a condom helps prevent the Sexually transmitted disease

    f) Don't know

24. What are the causes of cervical cancer disease

    a) Virus (Human Papilloma Virus)

    b) Early sexual intercourse

    c) Poor Genital hygiene

    d) Bacteria

    e) Unknown cause

    f) Don't know.

25. What are the risk factors associated with cervical cancer disease

a) Early start of sexual activity

b) Multiple sexual partners

c) Genital infection

d) Use of oral contraceptive pills

e) History of Sexual Transmitted Infections ( STIs)

f) Weakened immunity system

g) Tobacco and Smoking

h) Age

i) Multiparty

j) Viral infection

k) Economic status

l) Don't know

26. What is the risk reduction strategies/lifestyle which can help in cervical cancer disease prevention?

    a) Weight loss

    b) Regular physical exercise

    c) Use of anti-oxidant foods

    d) Avoiding highly processed food

    e) Use of vitamin A supplementation

    f) Restraining from casual sex

    g) Avoiding genetically modified food

    h) Don't know

27. Do you think this disease could

    a) Affect you in the life

    b) Affect You in the future

    c) Can not affect the life

    d) Don't know

28. How can you identify the women who have to suffer from cervical cancer disease?

    a) The woman shows the symptoms

    b) There are no symptoms which can be seen

    c) Explanation from the woman

    d) It is difficult to identify

    e) Don't know

**SERVICE UTILIZATION**

29. Where have you heard about Vaccine for cervical cancer prevention

    a) At the health facility from the health care provider

    b) At the community

    c) Friends

    d) Television

    e) Phone

    f) Magazine

    g) Don't hear

30. What is the function of the HPV- Vaccine

    a) Protect against cervical cancer by 100%

    b) Reduce the risk of getting cervical cancer

    c) Not protect against cervical cancer

    c) Don't know

31. Do you know the site where the HPV- Vaccine is found

    a) At the health facility

b) At the community

c) At the school during the outreach services of health care provider

d) Don't know

32. Who should get Vaccine for cervical cancer prevention

a) Females of any age

b) Female age 14 years

c) Males of any age

d) Both females and males have 14 years

e) Don't know

33. Do you know that the HPV vaccine is provided through

a) The vaccine is given without payment of money

b) The vaccine is given after paying the money

c) Don't know

34. When have you received the vaccine for cervical cancer prevention (HPV Vaccine )

a) 2years ago

b) 3years ago

c) 1year ago

d) Don't receive the vaccine

e) Don't know if there is a vaccine

35. Where have you heard about cervical cancer screening services

a) From health facility

b) From the community

c) From friends

d) Through television

e) Through phone

f) Through magazine

g) Don't hear

36. What is the suitable period for doing cervical cancer screening?

a) After getting signs and symptoms of cervical cancer

b) Before getting signs and symptoms of cervical cancer

c) Any time

d) After receiving health education from the health care provider

e) After receiving information from those who have already screened

f) After getting money for transportation

g) Don't know

37. Who should be screened for cervical cancer?

a) Only married women

b) Unmarried women

c) Women of the reproductive age

d) Any female of any age

e) Women aged 30-50 years.

f) After being developed symptoms

g) Don't know

38. Do you know the site where cervical cancer screening done

a) At health facility

b) At the community

c) Laboratory

d) Don’t know

39. Do you prefer the cervical cancer screening services to be done by whom?

a) Male Doctor

b) Female doctor

c) Male Nurses

d) Female nurse

e) Female Doctors and Female Nurses

f) Anyone

g) Don’t know

40. How do you think that cervical cancer screening services are done in which condition?

    a) You can get service after payment of the money

    b) You can receive services even without paying the money

    c) Need a lot of money to receive the screening service

    d) Don’t know

41. When have you screened for cervical cancer

a) This month

b) Two months ago

c) Years ago

d) Don’t screen

42. If not screened, what is the barrier to not being screened for cervical cancer?

    a) Lack of information about screened methods

b) Fear of the positive results

c) I feel shy

d) You’re afraid about screening

e) The screening method is very painful

f) Don’t know the site for screening services

g) Lack of Money for transportation

h) Cost for screening

i) Fear of the husband

j) Don’t hear anyone who has screened

k) Religious belief

l) Poor economic status

m) A far distance from home to the facility

n) Don’t know if the service is free.

# THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

**THE OPEN UNIVERSITY OF TANZANIA**

**Ref. No OUT/ PG202000253** **27th September, 2022**

Regional Administrative Secretary,
Mwanza Region,
P.O Box 33180,
**MWANZA.**

Dear Regional Administrative Secretary,

**RE: RESEARCH CLEARANCE FOR MS.TAUSI SAIDI, REG NO: PG202000253**

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

3. To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Ms. Tausi Saidi, Reg. No: PG202000253)** pursuing **Master of Arts in Monitoring and Evaluation (MAME**). We here by grant this clearance to conduct a research titled **"Determinants on the Cervical Cancer Awareness among the Women Living with HIV/AIDS in Magu District, Mwanza Region"**. She will collect her data at Magu District in Mwanza Region from 28th September to 28th October, 2022.