ADDIS ABABA UNIVERISITY

COLLEGE OF DEVELOPMENT STUDIES

CENTER OF POPULATION STUDIES

Prevalence of cervical cancer and associated factors among women living with HIV in selected public health facilities in Addis Ababa, Ethiopia, 2022

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A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, ADDIS ABABA UNIVERSITY COLLEGE OF DEVELOPMENTAL STUDIES, AND CENTER OF POPULATION STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR A DEGREE OF MASTER IN POPULATION STUDIES AND REPRODUCTIVE HEALTH.

Addis Ababa, Ethiopia

May,2023

Approval Sheet

I, the undersigned MSc student, declare that I have submitted my original thesis work the title of **"Prevalence of cervical cancer and associated factors among women living with HIV in selected public health facilities in Addis Ababa, Ethiopia, 2022"** for the examination, ethical and technical conduct of the research project and provision of the progress and guidance my advisor.

Submitted by: **Birhane Yifru** _____ _____

Name of student Signature Date

This thesis work has been submitted for examination with my approval as an advisor.

Approved by:

1. **Dr. Yibeltal Tebekaw** _____ 24 November 2022

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Name of External Examiner Signature Date

3. _____ _____ _____

Name of Internal Examiner Signature Date

APPROVAL SHEET

I, the undersigned MSc student, declare that I have submitted my original thesis work on a title

" **PREVALENCE OF CERVICAL CANCER AND ASSOCIATED FACTORS AMONG WOMEN LIVING WITH HIV IN SELECTED PUBLIC HEALTH FACILITIES IN ADDIS ABABA, ETHIOPIA, 2023** " for the examination.

Submitted by: Birhane Yifru _____ _____

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Acknowledgment

I would want to thank the Almighty God for giving me the confidence and strength to pursue my education, as well as Addis Ababa University College of Population Study for providing me with the opportunity to pursue a Master's degree. My sincere appreciation goes out to my adviser, Dr. Yibeltal Tebekaw, External examiner, Dr Gizachew Abdeta and Internal examiner, Dr Dula Etana for limitless support, beneficial, yet constructive comments during the study periods. I want to express my gratitude to my family and closest friends for their unlimited support, insightful counsel, and patience as I completed this thesis.

Acronyms

AACAHB	Addis Ababa City Administration Health Bureau
AAU	Addis Ababa University
AIDS	Acquired Immune Deficiency Syndrome
AOR	Adjusted Odds Ratio
ART	Antiretroviral Therapy
CDC	Communicable Disease Control
CD4	Cluster of Differentiation
CI	Confidence Interval
CIN	Cervical Intraepithelial Neoplasia
COR	Crude Odds Ratio
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
OCP	Oral Contraceptive Pills
OR	Odds Ratio
RDDMH	Ras Desta Damtew Memorial Hospital
SIL	Squamous Intraepithelial Lesion
SSA	Sub-Saharan Africa
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Illness
WLHIV	Women Living with Human Immunodeficiency Virus
WHO	World Health Organization
VIA	Visual Inspection with Acetic Acid

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Abstract

Background: *Cervical cancer (CC) is the second and the fourth most common cancer women in the reproductive age group worldwide and in nations with limited resources respectively. Despite being the most treatable and preventable form of cancer as compared to other malignancies but it is still public health problem. Why common, risk factors and how the magnitude of CC among women who had HIV positive detail seen in this study. Human papilloma virus (HPV) is the primary cause of CC; nearly all sexually active people typically acquire the virus once throughout their life time and spread faster in immune-compromised persons.* ***Objective:*** *To assess the prevalence of cervical cancer and its risk factors in selected public health facilities that serve women who are HIV positive in Addis Ababa, Ethiopia.* ***Methodology:*** *A cross-sectional study was done at the institution level in five selected governmental Hospitals in Addis Ababa. Four hundred twenty four participants were selected in a systematic random sampling technique and data was collected through face-to-face interviews using structured questionnaires' .The collected data was entered into Epi-data version 4.6.0.6 and analyzed by SPSS version 26. The association of the variables was checked by using bivariate and multivariate logistic regression and 95% CI and p-value less than 0.05 was computed to determine the level of significance. Results: The sample population for this study consisted of 424 females with 99% (four hundred twenty one) response rate; Prevalence of CC was 6.5% (28/421). Women who hadn't a history of cervical cancer screening were at a higher risk of obtaining the disease than those clients who had history of screening (AOR 330 (92.8-973.38) p-value = 0.000) , Participants who smoked cigarettes had a 14-fold increased risk of developing cervical cancer compared to non-smokers (AOR 14.098 (CI2.191- 90.729, p-value =0.005).Women who had low CD4 count were more likely to have cervical cancer than those with normal CD4 count (AOR 139.680(43.225_ 451.366), p-value =0.000). Conclusion and Recommendation: The study came to the conclusion that factors related with cervical cancer included, smoking history, low CD4 cell count, and poor cervical cancer screening practices. The results of this study indicate that, in order to improve CC screening, to enhance reproductive health education and promotion and scale up limited services, routine care and treatment should include cervical screening so that HIV-positive women can receive counseling during every clinical encounter. Raise knowledge about the impact of smoking, encourage early HIV diagnosis and HAART initiation, and timely baseline CD4 cell count is important.*

1. INTRODUCTION

Background Cervical cancer is the second commonest female malignancy next to breast cancer in the world and the leading cause of gynecological cancer mortality in developing countries, which is also the fourth most prevalent disease overall (Terefu Teka, 2019). Globally More than 270,000 women die from cervical cancer every year, and thus more than 530,000 new cases are identified. Because of a lack of understanding and practice about cervical cancer screening, 85% of these instances occur in low-income countries. (Hailemariam G, 2020). One of the most common diseases in women to emerge from the cervix is cervical cancer, which is brought on by the uncontrolled proliferation of cells with the capacity to colonize other parts of the body (Fitsum, 2019). Early screening can detect any cervix abnormalities, making cervical cancer the most curable and preventive type of cancer. (Emru K, 2021) The human papillomavirus (HPV), which is also the most prevalent sexually transmitted infection, is a necessary source of cervical cancer. Once upon a time, when women's immune systems were intact and helped to naturally eradicate HPV, sexually active individuals became infected with it. However, some specific types of HPV and patients with low immune systems in HIV cases are more aggravating, progress quickly, and cause cervical cancer. (Misgina KH, 2016) The prevalence of cervical cancer has dropped in industrialized nations due to efficient screening procedures, also with the incidence rate in SSA being 52.8/100,000 women, making it the region most impacted by the disease (GLOBOCAN F. J., 2010) Because of a lack of awareness about the advantages of early screening and prevention services, early diagnosis and treatment of illnesses are less effective in countries with limited resources, with 80% of cases failing to be cured (Tekle T, 2020) More than 27.19 million females in the reproductive age range are at risk of developing cervical cancer in Ethiopia, there are 6294 newly identified cases and 4884 fatalities from the disease each year. (Woldetsadik AB A. A., 2020) Due to its strong connection to HIV infection, cervical cancer is recognized as an Acquired Immunodeficiency Syndrome (AIDS) defining cancer. (Mbulaiteye SM, 2011) HIV and cervical cancer both place a heavy strain on society. Cervical cancer is caused by HIV-associated HPV infection in addition to other elements like parity, smoking, nutrition, physical inactivity, sexual behavior, use of oral contraceptives, and aging (Wassie M, 2021).

1.1. Statement of the problem

In Sub-Saharan Africa (SSA) cervical cancer accounts 85% of the total cases. (Luana, 2020) Majority of cervical cancer cases (over 80%) in Sub-Saharan Africa have been diagnosed in the late stages of the disease, and the survival rates are low as a result. This is because there is a lack of information about cervical cancer and its prevention services. Cervical cancer is the most common cancer (31.8%) among all cancer cases in Ethiopia, and studies show it is increasing trends. (Lyimo FS B. T., 2022).

Ethiopia faces a public health danger from cervical cancer, with an estimated 534,000 women living with HIV. According to (Woldetsadik AB A. A., 2020), cervical cancer affects 5 out of every 30 females (0-74 years) at some point in their lives. According to a study conducted in South Ethiopia, 22.1% of women with HIV tested positive for a precancerous cervical lesion (Dessalegn, 2020). As a result, this study will evaluate the degree of cervical cancer morbidity among HIV-positive women, pinpoint potential causes of the disease and demonstrate the link between adherence to ART care and treatment, after which it will suggest a potential solution to lowering the incidence and prevalence of cervical cancer cases among the study population. It will diminish cervical cancer morbidity and mortality while also improving HIV treatment results to integrate cervical cancer preventive and control programs with HIV care and treatment services. Early identification, Cryo-therapy, and definitive surgery are some of the treatments used to stop additional issues. However, more work needs to be done to continue the problem's sustainable reduction. Particularly, it is important to generate precise evidence about the problem's prevalence and contributing elements.

1.2.Research questions

1. Why cervical cancer is common in women living with HIV in the study areas
2. What are the risk factors for cervical cancer among HIV-positive women in the selected research area?
3. How common cervical cancer in Addis Ababa's Yekatit 12, RDDMH, St. Peter, St. Paul, and Minilik Second Hospital among HIV-positive women?

1.3. Rationale of the study

According to various academic studies, cervical cancer is becoming more common in people with WLHIV. This suggests that further research is necessary to understand the nature of the disease, its underlying causes, the factors that exacerbate the disease's progression, and how big of an impact it has on the morbidity and mortality of women. The relationship between adherence to HIV care and treatment services and the association with cervical cancer has not been addressed in many types of literature. To my knowledge, the majority of the available information is either based on surveys conducted in the community, on little data, or case studies. Therefore, this research aims to investigate the prevalence and contributing factors for certain populations, such as HIV-positive women who are currently enrolled in ART clinics at particular public health institutions.

1.4. Research objectives

General Objective

To assess the prevalence of cervical cancer and its associated factors among women living with HIV in Addis Ababa, Yekatit 12, RDDMH, St' Peter, St Paul, and Minilik 2nd Hospital, during the study period.

Specific Objective

To determine prevalence of cervical cancer is among women living with HIV at the selected public health facilities.

To identify factors associated with cervical cancer among women living with HIV in public health facilities.

1.5. Significance of the study

According to trends in early screening and detection, cervical cancer is one of the most curable and preventable malignancies (Lyimo FS B. T., 2022), but in underdeveloped nations due to a lack of information on cervical cancer prevention and control, the condition is incurable at the time of investigation. (https://gco.iarc.fr/today). This study provides baseline data on cervical cancer prevalence and/or burden among women living with HIV. It would provide a hint toward lowering various sexual practices, smoking, and sexually transmitted diseases, all of which contribute to lower cervical cancer-related morbidity and mortality. The study's primary goal was to raise community awareness of cervical cancer and its aggravating factors while also recommending that the community receive health education through medical facilities and the media to the Addis Ababa health bureau. By addressing socio-demographic and economic, behavioral and reproductive health aspects, the study may increase both cancer prevention control programs and implementation methodologies. These elements are becoming increasingly important risk factors for cervical cancer. It may also deal with reproductive health education by taking the client's age and culture into account, as well as early detection and affordable cervical screening approaches for treating cervical cancer. To prevent cervical cancer and to provide condoms to people who have several sexual partners, STIs, and HIV. By addressing the limitations or utilizing a different study design at the community level, the study may also aid future researchers in understanding the problem in the study region in greater detail. Additionally, the study will contribute to the development of various methods and laws for the prevention and management of cervical cancer in HIV-positive women.

1.6.Scope and limitation of the research

Only five public hospitals in Addis Ababa were included in the study due to time and resource constraints: Yekatit 12HMC, RDDMH, St. Paul, St. Peter, and Minilik 2nd Hospital. To make sure the research would be manageable, this was done.

This was going to be studied using a cross-sectional institution-based study design. All of the study's limitations are due to the inability of the variables to determine a relationship's cause and effect, let alone its implications for prevalence.

2. LITERATURE REVIEW

2.1. Theoretical literature

Cervical pre-cancer undergoes numerous stages and develops into cervical cancer over a prolonged period. When the aberrant cells are dispersed into the deeper cervical tissues below the epithelial layer, it reaches a malignant stage. According to a report from 2018, cervical cancer is the fourth most frequent malignancy and the main cause of death. HIV/AIDS epidemic enters its 34th year; persons living with HIV/AIDS still face a high risk of co-morbidities such as invasive cervical cancer, which has been defined as an AIDS-related malignancy. (Opin C. , 2009)

Sociocultural environment influences the knowledge, beliefs, and values that influence decision-making associated with health behaviors such as participation in cervical cancer screening. (Airhihenbuwa CO, 2000)

According to the Theory of Health Belief Model, people will change their behavior to prevent cervical cancer if they: (a) believe they are susceptible to cervical cancer (for example, HIV-infected women are likely to have been exposed to HPV and HIV increases their risk for poor HPV associated outcomes); and (b) believe cervical cancer can have serious repercussions (for example, HPV infection can result in cervical cancer that can be fatal) (c) the cancer is likely to have a negative effect on something of value to them personally (d) they perceive that engagement in a particular behavior (e.g., getting cervical cancer screened) will be beneficial in reducing the susceptibility and the severity of the disease; and (e) they believe that the benefits outweigh the barriers or costs (Michelle Williams, 2015)

In order to possibly comprehend how women behave when getting their Pap smears checked, the Theory of Reasoned Action will be introduced and its relevance to cervical screening will be discussed. The main objective of the present study is to increase WLHIV's use of cervical screening. Examining the prevalence figures and connections between cervical cancer and HPV helps to clarify the problems. Cervical cancer mortality and morbidity rates have been shown to decrease with the use of mass screening programs that require women to get Pap exams at least once every three to five years. (Lori L. Armstrong M.A., 1997)The Theory of Planned Behavior states that the likelihood of engaging in a behavior is directly correlated with cervical cancer screening. An individual's attitude towards the behavior, subjective norms, and perceived behavioral control, in turn, indicate intention. Perceived behavioral control can also have a direct impact on engaging in a behavior if it accurately represents the level of actual control an individual has over that behavior. The degree to which a person is prepared to engage in a particular behavior

is indicated by their purpose to do so, and the behavior itself is the observable result of that intention. The degree to which a person sees engaging in the behavior as positive or negative is known as their attitude towards the behavior. The perceived social pressure to participate in or refrain from the behavior is described as the subjective norms construct. The last definition of perceived behavioral control is the belief that one can effectively carry out the behavior. (Angelica M. Roncancio, 2015)

2.2. Empirical literature

The incidence of cervical cancer is still very high in sub-Saharan Africa; the rate can be up to15 times higher in poor countries compared with industrialized ones. In low- and middle-income countries, cervical cancer is common in females over 45 years, and it kills more people in their prime working years globally. This influences the socioeconomic position of the country and the community. (Rahel G. Ghebrea, 2017). It is the major cause of gynecologic-related morbidity and mortality, the second most prevalent cancer in developing nations, and the fourth most common cancer overall (Sherris J W. S., 2009) According to the most recent statistics, 80,400 women have been diagnosed with cervical cancer annually, making it the second most common malignancy in Africa. It is the primary cause of cancer death, with 50,300 deaths each year. (GLOBOCAN F. J., 2010). Due to financial constraints and other related circumstances, SSA accounts for two-thirds of all HIV cases worldwide, which increases women's lifetime risk of developing cervical cancer (Ayesha B.M. Kharsany1, 2016). Mortality from cervical cancer in Africa is very high. A mortality rate of 35 per 100,000 is reported in Eastern Africa Reported mortality rates in developed countries with successful screening programs seldom exceed 5 per 100,000 women. (Sankaranarayanan R, 2006)

HIV infection increases a woman's risk of infecting the human papillomavirus (HPV), which causes cervical cancer, precancerous lesions, and invasive carcinoma (Huchko, 2014) According to FMOH 2015, in 2010 there were an estimated 20.9 million women in Ethiopia who were considered at risk of developing cervical cancer. In the same year, 4,648 women were expected to receive a cervical cancer diagnosis, and at least 3,235 women died from the disease. (GetachewID, 2019) Ethiopia had a cervical cancer incidence rate of 17.3%, a mortality rate of 16.5%, and a prevalence rate of 18.2% in 2012, according to the World Health Organization. (BERHANU, 2020). The causes of high mortality and low survival rates are: poor access to medical facilities worst in the rural areas, where 60–70% of women who get cervical cancer reside. Because of a co-

infection, women who are HIV positive have an increased risk of developing cervical cancer, and come with late presentation with the disease; large tumors at presentation; poor quality care provided by many health services high rate of loss to follow-up; and women not completing treatment due to barriers imposed by poverty. (Chokunonga E, 2003)Facilities for treatment are also limited, and where they are available are not affordable to most women in the region. (Anorlu, 2008)

World Health Organization (WHO) states that precancerous lesions may be detected during cervical cancer screening (CCS) in 15–20% of the target population in places where HIV is endemic. (WHO, 2006) In a tertiary hospital in north-central Nigeria, a comparative study was done to compare the cervical cytology results of HIV positive and HIV negative women. The results showed that the abnormal Papanicolou Smear (pap smear) results were higher in HIV positive women, with 76 (56.3%) compared to 17 (12.6%). (Lawal I, 2017)

Similar to this, a study done in south Ethiopia found that 22% of HIV-positive women had precancerous lesions. According to statistics from throughout the world, CC ranks fourth among females for both incidence (6.6%) and death (3.5%) in 2018. (Bray F, 2018) In less developed areas, 87% of all CC deaths and almost 85% of all new cases occur. CC is a public health concern in Ethiopia because, after breast cancer, it accounts for the second-highest number of cancer-related fatalities in females between the ages of 15 and 44. (Barrionuevo-Rosas L, 2017) The most susceptible populations in the nation are those who live in rural areas, are underprivileged, or are women who have HIV (Tesfa.A, 2010) Current estimates show that every year, 7095 women are diagnosed with CC, and 4732 of them pass away from the condition, according to the international agency for research on cancer information center on HPV and Cancer of Ethiopia. (Barrionuevo-Rosas L, 2017) In Ethiopia, CC is the most frequently diagnosed cancer (31.8%) and is becoming more and more popular10. The majority of CC (over 80%) in Sub-Saharan Africa is discovered at a late stage due to a lack of knowledge about CC and prevention services, which is linked to low survival rates after surgery or radiotherapy. (Assefa AA, 2019) Although all cervical cancers in women with HIV are caused by HPV infection, these clients are more likely to contract the infection than women without HIV, and they are also less likely to recover from it. These factors all contribute to the population's rising rates of persistent HPV infection. (Liu, 2018) This is confirmed by cervical cancer being triggered by a reduced CD4 cell count and no ART being

started HIV not only shortens life expectancy and raises the incidence of cervical cancer, but also throwbacks following precancerous treatment (Dryden-Peterson S, 2018)

2.3. Conceptual literature

Cervical cancer is a condition that may be avoided and treated, but it is also one of the top causes of death for women globally, with the majority of the deaths occurring in low- and middle-income nations. (Kassa1, 2019). Cervical cancer is the second most common cause of cancer-related death in sub-Saharan Africa, where it coexists with the HIV epidemic.(Jemal A, 2011). Precancerous lesions and cervical cancer are thought to spread more quickly in immune-compromised patients (Dessalegn, 2020). Cervical cancer was added to the list of conditions that define AIDS due to the high prevalence of the disease in people with advanced HIV/AIDS infection (information, 2010). Human Papilloma Virus (HPV) is now known to be more common in HIV-infected women, and the chance of infection rises with the degree of immunosuppression (Franceschi S, 2007). Precancerous lesions are more likely to develop when persistent infections with numerous high risk-HPV strains are more common (Franceschi S, 2007). The progression from a pre-malignant disease state known as CIN, which can last up to 10 years before developing into invasive cancer, to cervical cancer occurs over an extended period of time (Lim, 2002). According to studies, HIV-infected women have a 10 year higher chance of getting cervical cancer than the general population, and the disease progresses rapidly to an advanced stage with a poor prognosis (WHO, Comprehensive cervical control: a guide to essential practice., 2018) Other risk factors include: age, lifetime number of sexual partners that is more than four, early sexual debut, high parity, immunosuppression, smoking and oral contraceptive use for more than five years (Waggoner, 2003). Prophylaxis vaccine availability and accessibility, as well as strengthened cervical cancer screening practices, reduced cervical cancer-related morbidity and mortality (Arbyn, 2018). At some point in their lives, sexually active people become infected with HPV; the peak time for this is right after starting sex. In women with healthy immune systems, HPV is naturally eliminated, but in people with compromised immune systems, HPV-related precancerous lesions persist and may cause cervical cancer, another global public health threat. (facts about gynecologic cancer.). Geographical variations in cervical cancer incidence suggest the availability, distribution, and effectiveness of the preventive measures employed in that nation. (Assefa AA, 2019).

Conceptual framework

This conceptual framework was created after carefully analyzing many pieces of literature. (Teame H A. A., 2018) The probability of acquiring cervical cancer is influenced by a woman's socioeconomic status, reproductive, sexual, genetic, and lifestyle traits. The figure that follows shows how each factor affects the development of cancer.

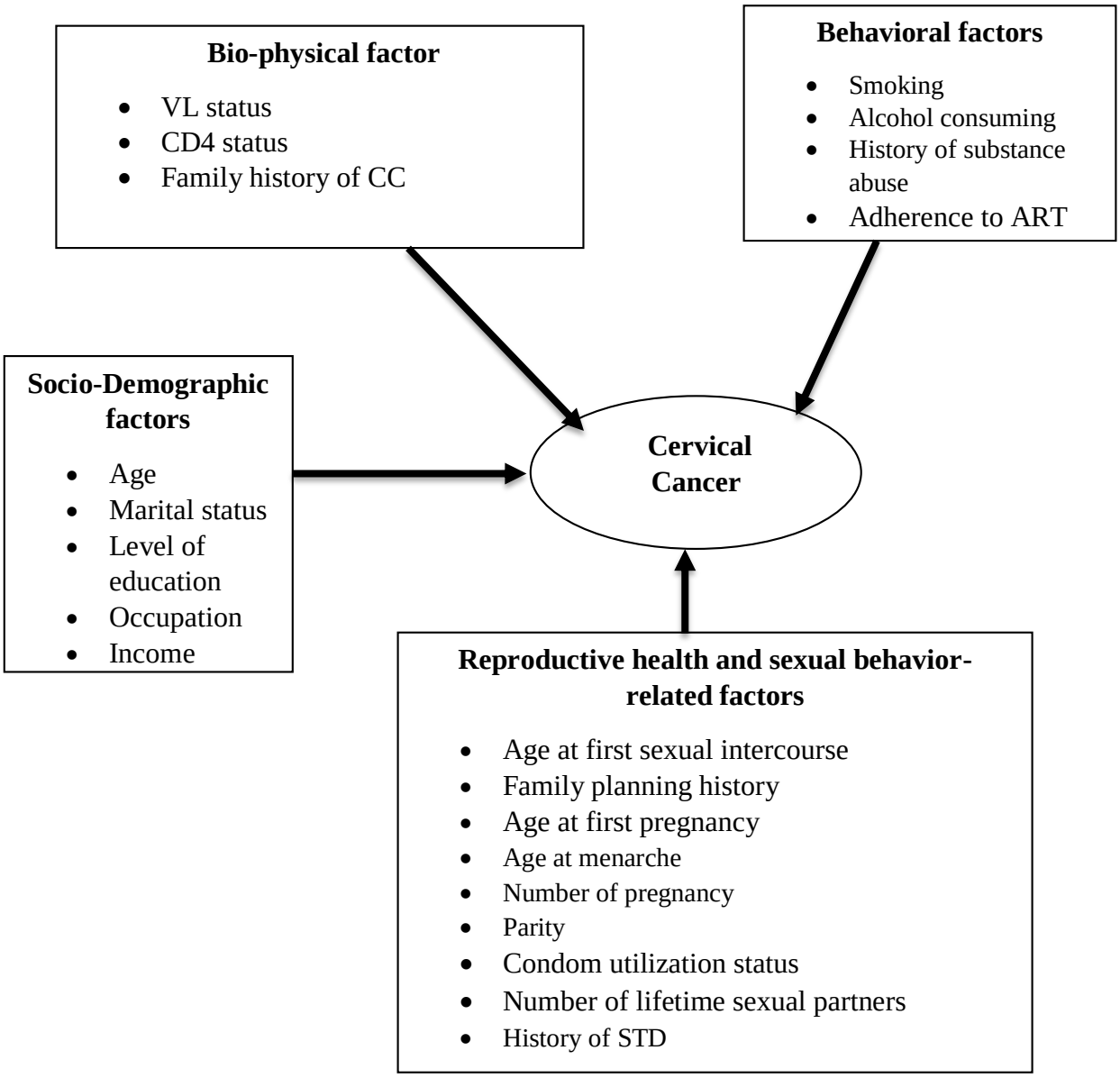

Figure 1 Conceptual framework

2.4. Synthesis

The most common cause of death from cancer in Africa is cervical cancer, which is more likely to kill HIV-positive women than non-positive ones. (Rahel G. Ghebrea, 2017) Despite that there are multiple cervical cancer risk factors associated with HIV, but there are also various contributing factors other than HIV such as use of contraception, early sexual activity, having many partners, low economic status, and substance use. (Dryden-Peterson S, 2018)). Due to the synergistic effects of antiretroviral medication and human papillomavirus ART users with low or unknown CD4 cell count remain at significant high risk despite ART initiation and should be screened frequently. (Lancet HIV, 2018) in nations with high rates of both HPV and HIV infections, the burden of cervical cancer is significantly increased, especially among women who are not receiving ART (Kelly H, Weiss HA, Benavente Y, et al; H, 2018), HPV vaccinations, early cervical cancer screening, and treatment when HPV-positive results are found almost all have been crucial cervical cancer prevention strategies (Dominik Stelzle, 2021)Due to effective screening procedures, early discovery, and appropriate management of the finding, cervical cancer incidence and death have steadily decreased worldwide. (Zohre Momenimovahed1, 2017)

3. RESEARCH METHODOLOGY

3.1. Research approach and design

Study Area

The capital of Ethiopia is Addis Ababa. It is also the most populous city in the nation, with 5,228,000 people living in Addis Ababa's metro region as of 2022 (https://www.macrotrends.net, 2022) 4.43% more than in 2021. 527 square kilometers are kept by Addis Ababa. Where there are more than 5,165 people per square kilometer, population density is assessed. (991 males for every 1,000 females) is the ratio of male residents to female residents in Addis Ababa (https://countrymeter.info, 2022) The capital city has the greatest adult literacy rate of any city in the nation, with over 93% for men and around 80% for women. There are twelve public hospitals in Addis Ababa city that give cervical cancer screening services from those public Hospitals Yekatit 12, RDDMH, St 'Paul, St Peter, and Minilik 2nd were study areas. The selected sites are comprehensive, well-staffed, and well_ equipped centers, and also provide antiretroviral therapy (ART) services with the integration of cervical cancer prevention and control programs for HIV-infected women.

Study period

The study was conducted from mid of November 2021 to November 20, 2022; it included a data collection period as well.

Study design

A facility-based cross-sectional study was conducted in Addis Ababa-selected public health hospitals.

Source population

All HIV-positive women adults attending ART clinics between the ages of 15 and 49 at the chosen public health institutions offering cervical cancer screening services during the study period were included in the source population.

Study population

The study's participants were HIV-positive women between the ages of 15 and 49 who were currently receiving ART and had had cervical cancer screening for at least three months before the data collection period.

Inclusion and Exclusion criteria

Inclusion criteria: -Women who were currently on ART and screened for cervical cancer at least 3 months and above before the data collection period.

Exclusion criteria: - Those clients re-screened for cervical cancer after treatment completion of confirmed cervical cancer, clients re-screened for cervical cancer may have an appointment for the checkup of cervical cancer progression after treatment completion, those known statuses of cervical cancer did not register on cervical cancer screening register already they came to for follow up. Clients screened status was less than 3 months at the time of the data collection period, unable to answer the question for different reasons, and those who had a total hysterectomy.

3.2. Research Variable

3.2.1. Dependent Variables

- Having Cervical Cancer

3.2.2. Independent Variable

- **Socio-demographic and economic factors** (Age, Marital status, level of education, Occupation and Income) **Reproductive health and sexual behavior-related factors (** Age at first sexual intercourse, Family planning history, Age at first pregnancy, Age at menarche, Number of pregnancy, Parity, Condom utilization status, Number of lifetime sexual partners & History of STD
- **Bio-physical factor (**VL status, CD4 status, Family history of CC)
- **Behavioral factors (**Smoking, Alcohol consuming ,History of substance abuse, Adherence to ART

3.3. Sample size and sampling techniques

Sample size

The sample size of this study was determined by using a single population proportion formula which is stated as, $n = (Z\alpha/2)^2 p(1-p)/d^2$ (where "n" is the desired sample size, "Z" is the value of a standard normal variable at 95% confidence interval (CI), "p" is the prevalence of cervical cancer among screening clients which was assumed to be fifty percent, and "d" marginal error which was assumed to be 5%. With adding a 10% non-response rate, the final sample size was estimated to be 424. *Sampling procedure*

As of 2014, the capital of Ethiopia Addis Ababa had 12 public Hospitals from those 5 public Hospitals were selected by using a simple random sampling technique. These public Hospitals have provided cervical cancer screening and ART services to women living with HIV. A proportional number of study participants were interviewed in each public hospital based on the number of WLHIV (women living with HIV) between 15 and 49 years of age. A participant would be considered to be enrolled in the study those clients who attended cervical cancer screening at least 3 months before the data collection period, (at least 3 months prior needs due to cervical cancer investigation result taking at least 3 months to confirm whether it is confirmed cervical cancer or not) from September 2021 to February 2022G.C. Then, by using a systematic random sampling technique, every n^{th} value of WLHIV on their order of recording on cervical cancer screening registration was to be interviewed to reach a total of 424 study participants, and the first study participant was selected by using the lottery method.

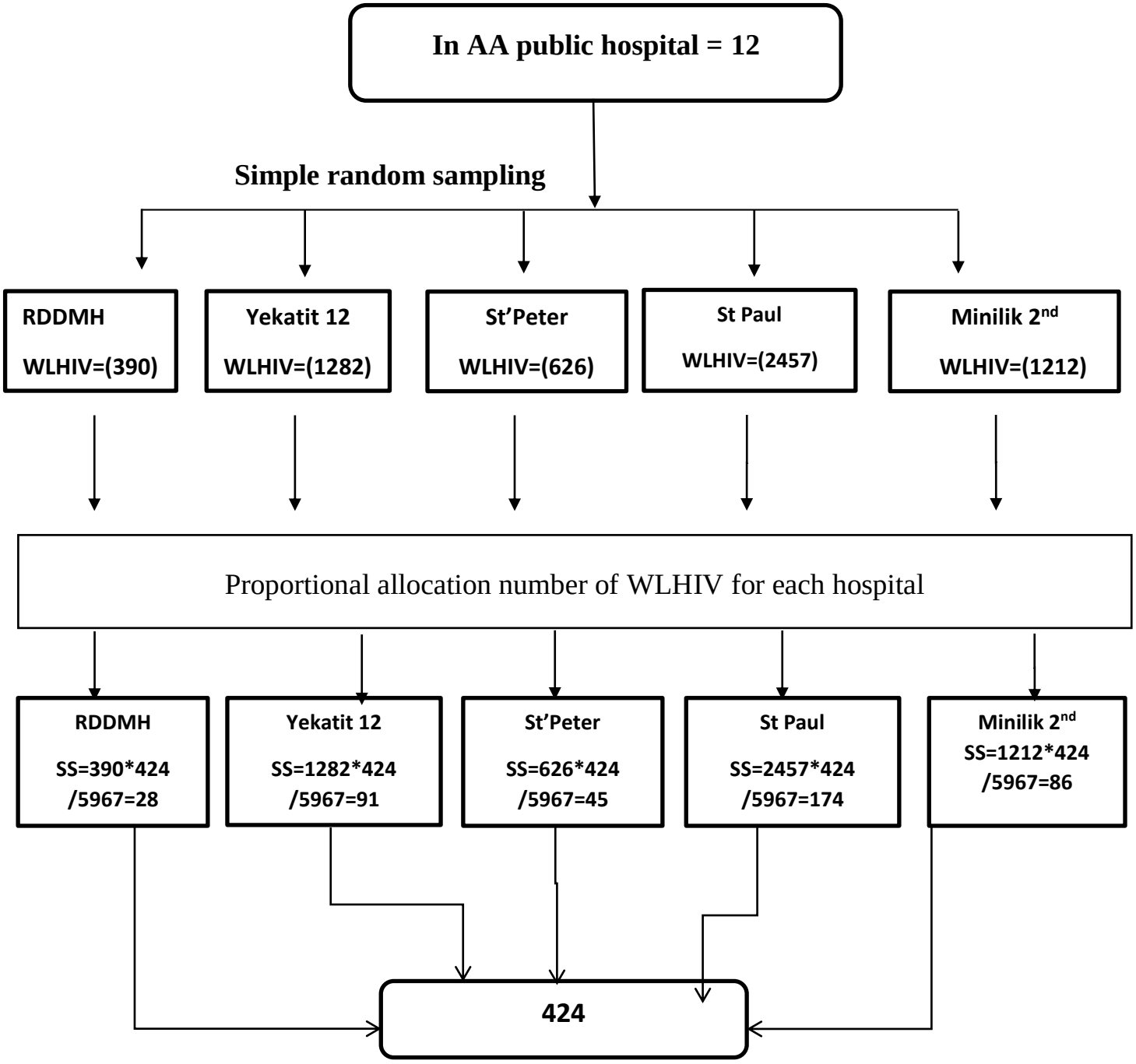

Figure 2 Diagram of sampling procedure selected Addis Ababa public hospital.

3.4. Data collection techniques and procedures

Interviewer was administered a standardized questionnaire to clients who received cervical cancer screening during the time of data collection. They also reviewed the patient's ART follow-up charts to collect information about the participant's immunological status, including the length of ART follow-up, adherence issues, viral load status, CD4 count, and a confirmed diagnosis of cervical cancer. After being amended per the objectives of this particular study and prepared by reviewing other related publications, the questionnaire was developed in English and then translated into Amharic. The data collectors received orientation regarding the questionnaire and how to interview the clients before the data collection. A pre-test was conducted in 5% of the total sample size and appropriate modification was made before the actual data was collected. Those 5% of pilot testing participants did not include in the study populations because the identified gap may affect the research result.

Summary of pre-test finding

During the pretest, the period finds some information gaps that wouldn't fulfill the research objectives and it needs some amendment in some thematic areas.

Table 1 .Summary of pre-test finding

S. No	Changed areas	Before pre-test	After pre-test
1.	Study population	All clients screened for cervical cancer	Those clients screened for cervical cancer at least 3 months before data collection time
2.	Data collection technique	Only primary data source	Primary and secondary data source

3.5.Description of study variables and measurement

The outcome variable for this study was the risk of cervical cancer among women living with HIV. The independent variables included socio-demographic and economic factors, reproductive health-related factors of cervical cancer, the practice of cervical cancer screening and lifestyle, Sexual behavior, and immunological factors. Which include age, marital status, occupation, income, level of education, contraceptive utilization status, menstrual history, age at first marriage and first sexual intercourse, cervical cancer screening practice, condom utilization, smoking, alcohol consumption, number of sexual partners, history of the sexually transmitted disease, viral load and CD4 count of the participant.

3.6. Data analysis techniques

After checking for data completeness and cleansing the collected data was entered into Epi data version 4.6.0.6 and exported to SPSS version 26 software for analysis. Appropriate descriptive analysis was conducted for this study. A bivariate and multivariate logistic regression model was utilized to explore the association between cervical cancer and associated factors. A p-value less than 0.05 and an adjusted odds ratio with 95% CI were used to determine the presence and degree of statistically significant association between the outcome variable and predictor variables.

3.7. Operational Definition

Multiple sexual partners: When a woman has two or more lifetime sexual partners.

Early sexual intercourse: is the practice of having sex before turning 18 years old.

Cervical cancer: is a disease that can become invasive and metastatic if the abnormal cells grow more into the cervix and other organs.

Early marriage: According to Ethiopian law, an early marriage occurs before the age of 18.

Visual inspection of acetic acid: is performed by administering 3-5% of the acid to the uterine cervix.

3.8. Ethical Consideration

Until the appropriate ethical approval has been gained, the research committees of the Menelik II, Ras Desta Damtew, St. Peter, St. Paul, and Yekatit 12 hospitals, Addis Ababa health bureau, and Addis Ababa University College of Development Study have provided their written permission and support. Privacy is protected by keeping names and other personal information off the data collection forms and reports.

4. RESULTS

4.1. Socio-demographic and economic characteristics of participants

424 females who were registered in ART clinics and were examined for cervical cancer in public health hospitals made up the entire sample population for this study . 99% of the 421 respondents responded. Participants' ages were divided into two categories. 101 people (24%) were in the 15–34 age range, while 320 people (76%) were in the 35–49 age range. The majority of participants had monthly incomes between 2000 and 5000 and were employed by the government, with 139 (33%), married, and 213 (50.6%), respectively. In terms of educational background, 118 individuals (28%) had only completed secondary school, while 35 (8.3%) had completed a higher education.

Table 2, Socio-demographic and economic characteristics of the participants, 2022

Variable	Frequency	Percent
Age of participants		
15_34	101	24.0
35_49	320	76.0
Marital Status		
never married	47	11.2
Married	205	48.7
Divorced	100	23.8
Other	169	16.4
Educational level of the women		
Unable to read and write	55	13.1
Read and write only	74	17.6
primary education	93	22.1
Secondary education	118	28.0
certificate and diploma	44	10.5
Higher level	35	8.3
Occupational status of the women		
Governmental	139	33.0
Other	282	67.0
Monthly income		
< 5000	213	50.6
>5000	208	49.4

4.2. Reproductive health and related characteristics

Out of the total participants women, 289(68.6%) were family planning users, and the majority of them used injectable 136(47%), Oral pill 102(35.3%), and IUCD 47(16.3%). The age of menarche less than 15 years was 27% and the rest 73 % 15 years and above and 157(37.5%) regular menstrual history. During the study period almost all 421(99%), respondents are sexually active and the majority 284(67.5 %) of them had a sexual debut < 18 years old. Of those participants, 284(67.5%) women were married for the first time at the age of 15-24. 313(74%) women were multipara and the remaining 24% were nulliparous. 165 (39%) women had experience abortion at least once in their lifetime. 66(16%) women have a family history of cervical cancer.

Table 3, Reproductive health and related characteristics of the participants, 2022

Variable	Frequency	Percent
Contraceptive utilization status		
Yes	289	68.6
No	132	31.4
Method of contraceptive		
Oral	102	24.2
Injectable	136	32.3
Other	52	12.4
Age at menarche		
< 15 years	113	26.8
>= 15 years	308	73.2
Menstrual history		
Regular	162	38.5
sometimes irregular	115	27.3
Always irregular	93	22.1
no menses	51	12.1
Age at first sexual intercourse		
<18 years	284	67.5
>18 years	137	32.5
Age at first marriage		
15-24	284	67.5
>24	104	24.7
Ever give birth		

Yes	313	74.3
No	101	24.0
Ever-experienced post-coital bleeding		
Yes	21	5.0
No	399	94.8
Ever experience abortion		
Yes	165	39.2
No	256	60.8
Family history of cervical cancer		
Yes	71	16.9
No	350	83.1

4.3. Practice of cervical cancer screening

Of the total participants, 410(97.4%) women were screened by different cervical screening methods. Out of those screened participants, 28(6.7%) had a positive result, and all of them were on treatment and follow-up. Of course our study population was cervical cancer screened clients, but 2.6% clients interviewed in the absence of cervical cancer screening practice totally it is an error, and so what I shall

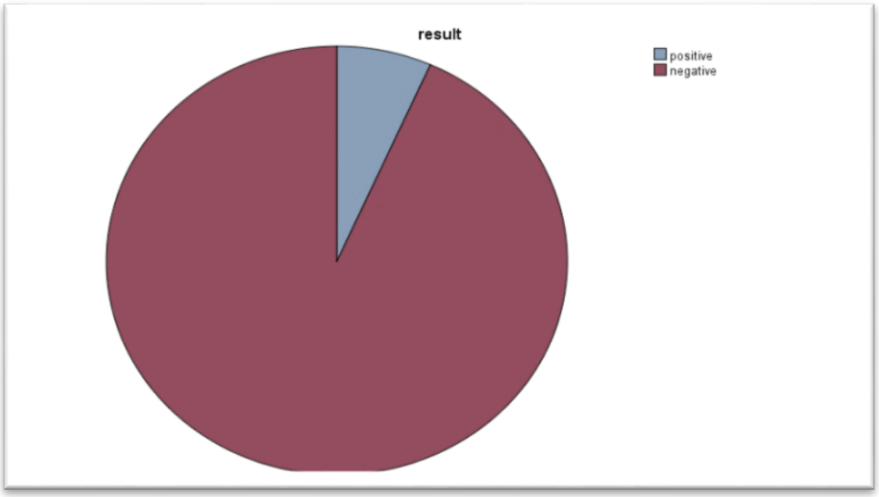

Figure3. Cervical cancer screen positive.

4.4. Life-style, Sexual behavioral, and immunological factors

Of the total study participants had ever history of cigarette smoking 20(4.8%). Participants who used condoms in a regular manner 287 (68.2%) . Women who had a history of the sexually transmitted disease (STD) were 293(69.6%) most of them manifested offensive vaginal discharge. According to this study, 154(36.6 %) of the participants knew their HIV-positive result more than 10 years ago, followed by 201(47.7%) reported within the age range of 5-10 years, While the remaining 15.7 % knew their HIV result less than 5 years. All of the study participants (100%) were currently on highly active antiretroviral treatment (HAART), on baseline CD4 count of the participants 397 (94.3%) were in the normal range, whereas, 23 (5.5%) with low CD4 count, in the case of viral load status except one participant all of them suppressed upon it.

Table 4. Lifestyle, Sexual behavioral and immunological area

Variable	Frequency	Percent
Smoking History		
Yes	20	4.8
No	401	95.2
Condom utilization status		
Always	287	68.2
never used	134	31.8
Number of sexual partners		
1-3	290	68.9
>3	131	31.1
History of sexually transmitted illness		
Yes	293	69.6
No	128	30.4
Type of sexually transmitted illness		
offensive vaginal discharge	159	37.8
Vaginal itching and dysuria	81	19
Other	57	13.6
How long you had known your HIV status and had taken HAART		

<5	66	15.7
5-10	201	47.7
>10	154	36.6
Viral load status		
Suppressed	420	99.8
Unsuppressed	1	.2
Low CD4 level (<500)		
Yes	23	5.5
No	397	94.3

4.5. Risk factors for cervical cancer in HIV-positive women

To identify factors linked to cervical cancer, bivariate and multivariate logistic regressions were used. Contraceptive use status, age at first sex, age at first marriage, experience of abortion, family history of cervical cancer, cervical cancer screening practice, smoking history, condom use, number of sexual partners, history of STDs, and participant's CD4 level were found to be significantly associated factors during bivariate logistic regression analysis at P-value of 0.05, which helps to promote healthy lifestyles. Contraceptive use affects the likelihood of testing positive for cervical cancer differently. Women who had not a history of cervical cancer screening practice were more likely to develop the disease than those who had screened (AOR 330 (92.8-973.38) p-value = 0.000). Clients who receive screening for cervical cancer benefit from early detection of the disease or a pre-cancerous lesion before developing cervical cancer. This information aids in the early stage treatment of the lesion. Participants who smoked cigarettes had a 14-fold increased risk of developing cervical cancer compared to non-smokers (AOR 14.098 (CI 2.191- 90.729, p-value =0.005).Women who had normal CD4 count were more likely to prevent cervical cancer risk than those with low CD4 (AOR 139.680(CI43.225_ 451.366

Table 5 Factors associated with cervical cancer among HIV-infected women

Variables	**Having Cervical cancer**		**COR(95% C.I)**	**AOR (95%CI)**
	Yes	**No**		
Contraceptive utilization				
Yes	25	264	4.072(1.207-13.736)*	3.069 (.331-28.443)
No	3	129	1	1
Age of first sexual intercourse				
<18 years	24	260	3.069(1.043- 9.028)*	.714(.077- 6.632)
>18 years	4	133	1	1
Age at marriage				
15-24	26	258	5.140(1.198 -22.051)*	4.999(.284 - 87.943)
>24	2	102	1	1
Ever experience abortion				
Yes	19	146	3.572 (1.574 - 8.102)*	2.160(.478-9.757)
No	9	247	1	1
Family history of cervical cancer				
Yes	11	60	3.591(1.603- 8.046)**	5.7201(.150 - 28.447)
No	17	333	1	1
Low cervical cancer screening practice				
Yes	24	7	1	1
No	4	386	.109 (.030_.398)**	330 (92.8-973.38) **
Smoking History				
Yes	12	8	36.094(12.952_100.584)***	14.098 (2.191- 90.729) *
No	16	385	1	1

Condom utilization				
Always	13	274	1	1
Never used	15	119	.376(.174- .816)*	.259(.065-1.035)
Number of sexual partner				
1-3	13	277	1	1
>3	15	116	.363(.167-.787)*	1.161(.279-4.840)
History of sexually transmitted diseases				
Yes	27	266	.078(.010-.577)*	6.036(.512-71.108)
No	1	127	1	1
Low CD4 level				
Yes	18	5	39.680 (12.064 _126.539 451.366)***	139.680(43.225_ 451.366)**
No	10	388	1	1

*=p value < 0.05, **=p value <0.01, ***=p value <0.001

5. Discussion

The earlier chapters discuss several cervical cancer-related topics and present the findings. The data about the prevalence and contributing variables of cervical cancer among women with HIV in various Addis Ababa hospitals are discussed in the current chapter. It is helpful to adopt preventative measures and be aware of the screening needs if you are aware of the prevalence and related risks of cervical cancer among HIV-infected women. In 2018, there were 5.8% (95% CI 4.6-7.3) of new cases of cervical cancer worldwide (Dominik Stelzle, 2021). Women with HIV had a higher overall risk of developing cervical cancer (Uzoma Ononogbu1, 2017) . The prevalence of this study is nearly similar to the result of studies done in Nigeria 6% and China Beijing 7.7 % (Jun Yang1, 2020), the prevalence of cervical cancer among HIV-positive women was 6.65% (28/421) in this study. Contraceptive utilization status, age at first sexual intercourse, every experience of abortion, family history of cervical cancer, cervical cancer screening practice, smoking history, condom utilization, number of sexual partners, history of sexually transmitted diseases & CD4 level are variables associated with bivariate analysis. Cervical cancer screening practice, smoking, and CD4 level have significant associations with cervical cancer bivariate and multivariate logistic regression after adjusting for potential confounders.

Due to effective screening procedures, early identification, and appropriate management of the findings, cervical cancer incidence and death have steadily decreased worldwide. (Zohre Momenimovahed1, 2017) As preventive measures, screening at regular intervals at clinics or self-testing at home, followed by Pap-anicolaou "pap" smears testing, or PCR-based tests for HPV typing, help to identify the early stages of infection. (Dörk, Genomic Risk Factors for Cervical Cancer, 2021) Well-organized cervical screening programs or widespread good-quality cytology can reduce cervical cancer incidence and mortality (Human Papillomavirus, 2021).In these study participants who had cervical cancer screening practice had less likely to develop cervical cancer.

Different studies have shown that smoking is one of the most important risk factors for Cervical Intraepithelial Neoplasia and invasive cervical cancer. (Huchko MJ, 2014) Most epidemiologic studies have consistently presented a statistically significant risk elevation for cervical cancer in smokers. (Y. Sugawara1, 2018) Women who smoke are about twice as likely as those who don't smoke to get cervical cancer. Tobacco by-products have been found in the cervical mucus of women who smoke. Researchers believe that these substances damage the DNA of cervix cells

and may contribute to the development of cervical cancer. Smoking also makes the immune system less effective in fighting HPV infections. (DEPARTMENT OF MATERNAL, NEWBORN,, 2015) Women who had a history of smoking were three times more likely to have pre-cervical cancer than those who did not have a history of smoking. (Alison G Abraham1, 2012) (Kathryn Anastos, 2010) The pooled analysis reported that the RR and 95% CI for the risk of cervical cancer was 1.60 (1.48–1.73) for ever-smokers relative to non-smokers (Cancer*, Carcinoma of the cervix and tobacco smoking:, 2006) Therefore, this study shows that association between smoking and the risk of cervical cancer among women living with HIV were with non-smokers. This result is consistent with research from Brazil, the United States, and South Africa. Separate analyses for smoking duration and intensity showed a positive correlation with the incidence of cervical cancer. (Fentie2, 2021)

The findings of this study reveal that women with HIV who have a CD4 cell count 500 or higher had a reduced risk of cervical cancer diagnosis, but patients with a low CD4 cell count from the normal had higher risk of developing cervical cancer. Higher CD4-positive T-cell counts are associated with a decreased incidence of cervical precancerous carcinoma in women with HIV. (Massad LS, 2015) (Silverberg MJ, 2018) Those women whose current CD4 count was less than 200 were 1.6 times more likely to have precancerous cervical cancer lesions than those patients with a current CD4 count above 200. In Rwanda, an inverse association was found between the CD4 count and cervical pre-cancer among HIV-infected women (Assefa AA, 2019)Most of the included studies in this review reported that our finding confirmed that CD4 count >200 cells/mm3 was an important factor in preventing precancerous cervical lesion. (Fitsum Weldegebreal MaTW, 2019) participants whose baseline CD4 count less than 200cells/mm3 were 7.51 times more likely to have precancerous cervical lesions than those whose baseline CD4 count was more than 200 cells/mm3 (Kassa LS D. W., 2019) However, regarding the effect of immune function, previous studies have consistently demonstrated that the amount of CD4 cell count is a significant predictor for having or developing Cervical Intraepithelial Neoplasia. (Teame H A. A., 2018) These findings may reflect competing risks in an HIV-positive patient with low CD4 counts, and the need to focus more on immune reconstitution in that population.

6. Conclusion and Recommendation

6.1. Conclusion

The study showed that the prevalence of cervical cancer is high in the study area. , History of smoking, low CD4 cell count, and poor cervical cancer screening practices were found to be significantly associated with developing cervical cancer.

6.2. Recommendation

The main recommendation from the study is listed below in light of its findings:

Strengthening HIV/AIDS programs' partnership with cervical cancer prevention and control programs to strengthen implementation techniques .

They should educate WLHIV about cervical cancer, the benefits of getting screened, and the advantages of early identification and treatment.

Cervical cancer screening and management, and the administration should frequently monitor and assess the performance.

As this study was to determine the prevalence and contributing causes of cervical cancer among WLHIV in a few Addis Ababa public health institutions, a thorough qualitative investigation became advised.

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8. Questionnaire

Information sheet

Principal investigator: Birhane Yifru

Title: Prevalence and associated factors of cervical cancer among women living with HIV in selected public health facility in Addis Ababa, Ethiopia.

My name is……. I am here on behalf of Birhane Yifru student of the school of population studies in the Addis Ababa University. She is conducting a research for the partial fulfillment of second degree on topic mentioned above at Addis Ababa for the selected public health hospitals because it is important to assess the prevalence and associated factors of cervical cancer among women living with HIV in selected public health hospitals.

Purpose of the study: The study will assess Prevalence and associated factors of cervical cancer among women living with HIV in selected public health facility in Addis Ababa, Ethiopia. This is important as the information obtained will help Addis Ababa Health Bureau (AACAHB), Ministry of Health (FMOH) and different Nongovernmental organization (NGOs) working on cervical cancer to take measure in order to avert the problem of cervical cancer.

Procedure: The study involves a face-to-face interview with the data collector that will ask you a set of questions using a structured questionnaire. Data collector will proceed to ask you the relevant questions and your responses will be recorded on the questionnaire. The interview will take about 30-45 minute.

Confidentiality: Any information you will give will be kept confidential and names will not be written or specified and all the questionnaires will be coded for anonymity. Only the principal investigator will know the details and she will discard it after completing analysis.

Are you willing to participate in this study?

1- No (say thank you) 2- Yes (continuous interview)

I. Informed Consent

The Purpose of this study has been read to me in the language I understand. The purpose, and confidentially of the study has been explained to me. I further understand that: If I agree to take part in this study, I can withdraw at any time without having to give an explanation and that taking part in this study is purely voluntary.

I agree to take part in this study.

Contact details of principal investigator and the person to whom to contact at any time for further explanation:

Name of principal investigator: Birhane Yifru

Cell phone No - 0900020864

E-mail: biredesu24@gmail.com

Name of health facility……...

Date of interview (Ethiopian calendar) _____/_____/_____

Result of interview:

1- Completed…… 2- Refused …….

3- Partially completed …….

Checked by supervisor;

Name ……... Signature …… Date ……...

1. Socio-demographic and economic characteristics

Q.NO	Questions	Responses	Skip
101.	Age of respondent (completed years)	_____	
102.	Current educational level	1. Illiterate 2. Read and write only 3. Primary school 4. Secondary school 5. TVET(certificate/Diploma) 6. Tertiary (Degree and above)	
103.	Current occupational status	1. Merchant 2. Government Employee 3. NGO 4. Private employee 5. House wife 6. Daily laborer 7. Others (specify)	
104.	Current marital status	1. Never married 2. Married 3. Divorced 4. Widowed 5. Separated 6. Others (specify)	If not 2 skip to 108
105.	Your husband's current educational level	1. Illiterate 2. Read and write only 3. Primary school 4. Secondary school 5. TVET(certificate/Diploma) 6. Tertiary (Degree and above)	
106.	Your husband's current occupational status	1. Merchant 2. Government Employee 3. NGO 4. Private employee 5. Daily laborer 6. Not employed 7. Others (specify)	
107.	What is your average monthly income in Birr?	_____	
108.	Have you ever been pregnant?	1. Yes 2. No	If no skip 201
109.	Number of pregnancy	_____	
110.	Number of live birth	_____	

2. Reproductive health related factors			
201.	Do you ever use contraceptive?	1. yes 2. No	If no skip 205
202.	Which type of contraceptive did you use? (you can choose more than one choice)	1. Oral contraceptive 2. Injectable 3. Implant 4. Barriers methods (condom, diaphragm, cervical cap) 5. Others(specify)	
203.	For how long have you been using contraceptive?	_____(in month)	
204.	Which type of contraceptive are you using currently?	1. Oral contraceptive 2. Injectable 3. Implant 4. Barriers methods (condom, diaphragm, cervical cap) 5. Others(specify)	
205.	How old were you when your menarche?	_____	
206.	How was your menstrual history?	1. Regular 2. Sometimes irregular 3. Always irregular 4. No menses	
207.	What is your age at first sexual intercourse? (in completed years)	_____	
208.	What is your age at first marriage?(in completed years)	_____	
209.	Have you ever-experienced post-coital bleeding?	1. Yes 2. No	
210.	Have you ever given birth?	1. Yes 2. No	If No skip 214
211.	How many times?	_____	
212.	How old were you when you first give birth?	_____	
213.	What is the average birth interval between your births? (if she has two or more births)	_____	
214.	Have you ever-experienced abortion?	1. Yes 2. No	If No skip 216
215.	If yes how many times?	_____	
216.	Do you have family history of cervical cancer?	1. Yes 2. No	

217.	If yes, by whom side is your relationship	1. Maternal side 2. Paternal side 3. Both side	
3. Practice of cervical cancer screening			
301.	Have you ever been screened for cervical cancer?	1. Yes 2. No	If No skip 304
302.	If yes, how many times?	_____	
303.	When were you screened for the last time?	1. Less than a year ago 2. 2 Two years ago 3. 3 Three years ago 4. More than 3 years ago	
304.	What was the result of that screening test?	1. Positive 2. Negative	
305.	Did you have any follow up based on your test results?	1. Yes 2. No	
306.	Did you receive any treatment or other care after your last test for cervical cancer?	1. Yes 2. No	
4. Life style and Sexual behavioral factors			
401.	Have you ever smoked cigarettes?	1. Yes 2. No	If No skip 404
402.	If yes, how long have you been smoking? in year	_____	
403.	If yes, amount per week? In packs	_____	
404.	Did you take alcohol?	1. Yes 2. No	If No Skip 407
405.	If yes, what type of alcohol did you taken?	1. Beer 2. Local drinks (Tella, Tej, Areki) 3. Other (specify)	
406.	Amount of alcohol per week (frequency in number)	_____	
407.	Did you use condom whenever you having sex?	1. Always 2. Sometimes 3. Never	
408.	Have you ever had sexual intercourse when you are in menses?	1. Yes 2. No 3. I don't remember	

409.	If yes, how many times you had?	1. I don't remember 2. Less than five time 3. More than five times	
410.	Have you had multiple sexual partners?	1. Yes 2. No	
411.	Have you ever had history of sexually transmitted disease /illness?	1. Yes 2. No	
412.	What type of illness?	1. Offensive vaginal discharge 2. Vaginal Itching or Dysuria 3. Lower abdominal pain 4. Genital ulceration 5. Other specify	
413.	How many times have you ever got sexually transmitted disease /illness?	_____	
414.	Did your Partner have STI history	1. Yes 2. No	
5.Bio- physical factor			
501.	How long have you been since you had known your HIV status?	_____ in years	
502.	Are you currently on ART (Anti-Retro viral therapy)?	1. Yes 2. No	
503.	Current viral load status	1. Detectable VL result >/= 1000 copies 2. Undetectable VL result < 1000 copies	
504.	Current or CD4 result	1. Normal range (500-1400cells/mm^3) 2. Low CD4 count (<500cells/mm^3)	

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የአማርኛ መጠይቅ

ጥናት አድራጊ፡-ብርሃኔ ይፍሩ

ርዕስ፡- የማህጸን ጫፍ በር ካንሰር መጠን እና ተያያዥ ምክንያቶችን ለማጥናት በአዲስ አበባ በተመረጡ ሆስፒታሎች ውስጥ በደማቸዉ ኤች.አይ.ቪ. ኤድስ ቫይረስ ያለባቸዉ አዋቂ ሴቶች ላይ ጥናት ማድረግ ::

ጤና ይስጥልኝ! ስሜ .....

እኔ ዛሬ እዚህ የተገኘሁት የአዲስ አበባ ዩኒቨርስቲ የማህበረሰብ ጥናት ተማሪ የሆነችውን.....በመወከል ሲሆን ጥናቱም በተመረጡ የአዲስ አበባ ሆስፒታሎች ውስጥ ከላይ በተጠቀሰዉ ርዕስ ላይ ጥናትእያደረገች ሲሆን ይህም የማስተርስ ዲግሪዋን ለማግኘት የሚጠቅማት ነው::ከዚህ በታች ጥናቱ ላይ መሳተፍ ከመወሰኖት በፊት የጥናቱን አላማ ፣ጥናቱ ላይ በመሳተፎ የሚያገኙት ጥቅም እና ጉዳት እንዲሁም ደግሞ ከእርሶ የሚጠበቀውን እገልጽሎታለው::

አላማ፡- የማህጸን ጫፍ በር ካንሰር መጠን እና ተያያዥ ምክንያቶችን ለማጥናት በአዲስ አበባ በተመረጡ ሆስፒታሎች ውስጥ በደማቸዉ ኤች.አይ.ቪ. ኤድስ ቫይረስ ያለባቸዉ አዋቂ ሴቶች ላይ ጥናት ለማድረግ ነው::

ጥናቱ የሚሰጠው ጥቅም፡- ለተጠያቂው ቀጥተኛ ጥቅም ላይኖረው ይችላል:: ነገር ግን ጥናቱ ከተካሄደ በኋላ የጥናቱን ውጤት መሰረት ባደረገ መልኩ ለጤና ጥበቃ፣ ለአዲስ አበባ ጤና ቢሮ እና የተለያዩ በማህፀን በር ጫፍ ካንሰር ላይ ለሚሰሩ ግብረ ሰናይ ድርጅቶች የማህጸን ጫፍ ካንሰር ወረርሽኝን ለመከላከል ለመቆጣጠርና እርምጃ እንዲወሰድ ይረዳል::ስለሰጡት መረጃ ምንም አይነት የገንዘብ ክፍያ አይከፈልዎትም::

ቅደም ተከተል፡- የስምምነት ወረቀቱን ከፈረሙ በኃላ መረጃ ሰብሳቢዉ አግባብ ያላቸዉን ጥያቄዎች የያዘ መጠይቅ በመጠቀም ፊት ለፊት ይጠይቆታል ምላሽዎንም በቃለ መጠይቁ ላይ ያሰፍራሉ::ቃለ መጠይቁ ከ20-30ደቂቃ ይወስዳል::

ምስጢራዊነት፡- የሰጡት መረጃ ምስጢራዊነቱ የተጠበቀ ሲሆን የእርሶን ስም ባለመፃፍም ሚስጢራዊነቱን ለመጠበቅ የምስጢር ቁጥር የምንጠቀም ይሆናል:: በዚህ ጥናት ላይ ለመሳተፍ ፍቃዮኛነዎት 1.አይደለሁም (አመሰግናለሁ) 2.አዎ ከሆነ

ስምምነት፡- ከላይ የጥናቱ አላማ፣ጥቅሙን፣እንዱሁም ሚስጥራዊነቱ በሚገባኝ እና በምረዳዉ ቋንቋ ተገልጾልኛል::በተጨማሪም በጥናቱ ላይ ለመሳተፍ ብስማማም እንኳን ምንም አይነት ማብራሪያ መስጠት ሳያስፈልገኝ በፈለኩት ጊዜ አቋርጬ መሄድ እችላለሁ:: በዚህ ጥናት ላይ ተሳትፎዬ ፈፅሞ በፍላጎት ላይ የተመሰረተ ነዉ::

በዚህ ጥናት ላይ ለመሳተፍ ተስማምቻለሁ::

ለሚኖርዎት ጥያቄ የሚጠቀሙት አድራሻ እና የጥናት አድራጊዋ መረጃ

የጥናት አድራጊዋ ስም፡- ብርሃኔ ይፍሩ

ስልክ ቁጥር፡- 0900020864

ኢ-ሜይል፡-biredesu24@gmail.com

የጠያቂው ስም እና ፊርማ._____

የተጠየቀበት ቀን-------/----------/----------

የጥናቱ ውጤት 1. ተጠናቋል 2. ለመጠየቅ ፍቃደኛ አይደሉም 3. በከፊል የተጠናቀቀ

በሱፐርቫይዘር ተረጋግጧል ስም ----------ፊርማ---------- ቀን_____

በመረጃ ሰብሳቢው የሚሞሉ

1. የሆስፒታሉ ስም_____ 2. ኮድ _____

1. የማህበራዊ ፣ ኢኮኖሚያዊና ዲሞግራፊያዊ ሁኔታዎች			
ቁጥር	**ጥያቄ**	**ምላሽ**	**ዝለል**
101.	ዕድሜ (ለመጨረሻ ጊዜ ያከበሩት ልደት)	----------	
102.	የትምህርት ደረጃዎ ?	1. መፃፍና ማንበብ የማትችል 2. መፃፍና ማንበብ ብቻ የምትችል 3. የመጀመሪያ ደረጃ 4. ሁለተኛ ደረጃ 5. ቴክኒካል እና ቮኬሽናል (ሰርተፍኬት/ ዲፕሎማ) 6. ከፍተኛ የትምርት ደረጃ(ዲግሪና በላይ)	
103.	ስራዎት ምንድን ነው?	1. ተማሪ 2. ነጋዴ 3. የመንግስት ሰራተኛ 4. መንግስታዊ ያልሆነ ድርጅት ሰራተኛ 5. የግል ተቀጣሪ 6. የቤት እመቤት 7. ቀን ሰራተኛ	
104.	የጋብቻ ሁኔታ?	1. ያላገባች 2. ያገባች 3. የተፋታች 4. ባሏ የሞተባት 5. የተለያየች	ከተራ ቁጥር 2 ውጪ ከሆነ ወደ 108 ዝለል
105.	የትዳር አጋርዎ የትምህርት ደረጃ ?	1. መፃፍና ማንበብ የማትችል 2. መፃፍና ማንበብ ብቻ የምትችል 3. የመጀመሪያ ደረጃ 4. ሁለተኛ ደረጃ 5. ቴክኒካል እና ቮኬሽናል (ሰርተፍኬት/ ዲፕሎማ) 6. ከፍተኛ የትምርት ደረጃ(ዲግሪና በላይ	
106.	የትዳር አጋርዎ ስራ ምንድን ነው?	1. ተማሪ 2. ነጋዴ 3. የመንግስት ሰራተኛ 4. መንግስታዊ ያልሆነ 5. የግል ተቀጣሪ 6. ሥራ አጥ	
107.	ጠቅላላ የቤተሰብዎ ወርሀዊ ገቢ ስንት ነው? የብሩን መጠን	----------	

2. ስለ ስነተዋልዶ ጤና ጥያቄዎች			
201	የወሊድ መከላከያ ተጠቅመው ያውቃሉ?	1. አዎ 2. አላውቅም	ከተራ ቁጥር ውጪከሆነ ወደ 205 ዝለል
202.	የወሊድ መከላከያ እየተጠቀሙ ከነበረ የትኛውን ዓይነት ነው የሚጠቀሙት?(ከአንድ በላይ መምረጥ ይቻላል)	1. የሚዋጥ ፒል 2. በመርፌ የሚሰጥ 3. በክንድ የሚቀበረውን 4. የወንዱ ዘር ወደ ማህጸን እንዳይገባ ሚከላከል ዘዴን መጠቀም(ኮንዶም፣ዲያፍራም፣ የማህጸን ቆብ) 5. ሌላ ካለ ይጥቀሱ	
203.	ለምን ያህል ግዜ ተጠቀሙ?	----------	
204.	በአሁኑ ሰዓት የወሊድ መከላከያ እየተጠቀሙ ከሆነ የትኛውን ዓይነት ነው የሚጠቀሙት? (ከአንድ በላይ መምረጥ ይቻላል)	1. የሚዋጥ ፒል 2. በመርፌ የሚሰጥ 3. በክንድ የሚቀበረውን 4. የወንዱ ዘር ወደ ማህጸን እንዳይገባ ሚከላከል ዘዴን መጠቀም(ኮንዶም፣ዲያፍራም፣ የማህጸን ቆብ) 5. ሌላ ካለ ይጥቀሱ	
205.	በስንት ዓመትዎ ነው የመጀመሪያውን የወር አበባ ያዩት?		
206.	የወር አበባዎ ዑደት እንዴት ነው?	1. በየወሩ በትክክል ይመጣል 2. አንዳንዴ ይዛባል 3. ብዙ ግዜ ይዛባል 4. የወር አበባ አላይም	
207.	ለመጀመሪያ ጊዜ በስንት ዓመትዎ ነው የግብረ ስጋ ግንኙነት የፈጸሙት?	_____	
208.	ያገቡት በስንት ዓመትዎ ነው?		
209.	ከግብረ ስጋ ግንኙነት በኋላ ደም የማየት ነገር አሎት?	1. አዎ 2. የለኝም	
210.	ልጅ ወልደዋል?	1. አዎ 2. አልወለድኩም	ከተራ ቁጥር 1 ውጪ ከሆነ ወደ 215 ዝለል
211.	አዎ ካሉ ምን ያህል ልጅ ወልደዋል?	_____	
212.	በስንት አመትዎ ነው የመጀመሪያውን ልጅዎን የወለዱት?	_____	
213	በህይወት ምን ያህል ልጆች አሉ?		

214.	በአማካይ በልጆችዎ መካከል ያለ የእድሜ ልዩነት ስንት ዓመት ነው?(ሁለት እና ከዛ በላይ ልጅ ከወለዱ)	_____	
215.	ውርጃ ኖሮት ያውቃል ?	1. አዎ 2. አያውቅም	ከተራ ቁጥር 1 ውጪ ከሆነ ወደ 216 ዝለል
216.	አዎ ካሉ ለስንት ግዜ?	_____	
217.	በቤተሰብ የማህፀን ካንሰር ያለበት ሰው አለ?	1. አዎ 2. የለም	
218.	አዎ ካሉ ዝምድናዎ በማን በኩል ነው?	1. በእናት በኩል 2. በአባት በኩል 3. በሁለቱም በኩል	
3. የማህፀን ጫፍ ካንሰር የምርመራ ሁኔታ			
301.	ከዚህ በፊት የማህፀን ጫፍ ካንሰር ተመርምረው ያውቃሉ?	1. አዎ 2. አላውቅም	ከተራ ቁጥር 1 ውጪ ከሆነ ወደ 401 ዝለል
302.	ለመመርመር ምን አነሳሳዎ?	1. በራሴ ተነሳሽነት 2. ህመም ስለተሰማኝ 3. በጤና ባለሙያ አነሳሽነት 4. ሌላ ካለ ይጥቀሱ	
303.	መልስዎ አዎ ከሆነ ምን ያህል ጊዜ?	_____	
304.	ለመጨረሻ ግዜ የተመረመሩት መቼ ነው?	1. ከአንድ ዓመት ወደዚህ 2. ከሁለት ዓመት በፊት 3. ከሶስት ዓመት በፊት 4. አራትና ከዚያ በላይ	
305.	የምርመራው ውጤት ምን ነበር? (cytology result)	1. ፖዘቲቭ 2. ነጋቲቭ	
306.	በውጤትዎ መሰረት ክትትል ነበርዎት?	1. አዎ 2. አልነበረኝም	
307	ለመጨረሻ ጊዜ የማህፀን ጫፍ ካንሰር ከተመረመሩ በኋላ የወሰዱት መድኃኒት ወይም አድርጉ የተባሉት ጥንቃቄ ነበረ?	1. አዎ 2. አልነበረም	
4. ስለግል ባህርያት የሆኑት ጥያቄዎች			
401.	ሲጋራ አጭሰው ያውቃሉ?	1. አዎ 2. አላጨስም	ከተራ ቁጥር 1 ውጪ ከሆነ ወደ 307 ዝለል
402.	አዎ ካሉ ለስንት ጊዜ አጨሱ?	_____	
403.	በሳምንት ምን ያህል ፓኬት ያጨሳሉ?	_____	

404.	አልኮል ይጠቀማሉ ?	1. አዎ 2. አልጠቀምም	ከተራ ቁጥር 1 ውጪ ከሆነ ወደ 310 ዝለል
405.	የትኛውን የአልኮል ዓይነት ነው የሚጠቀሙት?	1. ቢራ 2. ሎካል(ጠላ፣ ጠጅ፣ አረቄ..) 3. ሌላ ካለ ይጥቀሱ	
406.	በሳምንት ምን ያህል ቀን ይጠቀማሉ?		
407.	ግብረ ስጋ ግንኙነት በሚያደርጉበት ጊዜ ኮንዶም ይጠቀማሉ?	1. ሁልጊዜ እጠቀማለው 2. አልፎአልፎ 3. አልጠቀምም	
408.	የወር አበባሽ መጥቶ እያለ ግብረ ስጋ ግንኙነት አድርገሽ ታውቂያለሽ?	1. አዎ 2. አድርጌ አላውቅም 3. አላስታውስም	
409.	አዎ ከሆነ ስንት ጊዜ?	1. አላስታውስም 2. ከአምስት ጊዜ በታች 3. ከአምስት ጊዜ በላይ	
410.	ከስንት ወንዶች ጋር የግብረ ስጋ ግንኙነት አድርገው ያውቃሉ?	_____	
411.	የማህፀን ኢንፌክሽን አለቦዎት ተብለው ወይም ታክመው ያውቃሉ?	1. አዎ 2. አላውቅም	
412.	የአባላ ዘር በሽታ አለብዎት ተብለው ወይም ታክመው ያውቃሉ?	1. አዎ 2. አላውቅም	ከተራ ቁጥር 1 ውጪ ከሆነ ወደ 501 ዝለል
413.	ምን ዓይነት ህመም/ምልክት ነው የተሰማዎት ?	1. ጠረን ያለው የማህጸን ፈሳሽ 2. ብልት አካባቢ ማሳከክ 3. የታችኛው የሆድ አካባቢ ህመም 4. የማሃጸን ቁስለት 5. ሌላ ካለ ይጥቀሱ	
414.	ለምን ያህል ጊዜ የአባላ ዘር በሽታ አለብዎት ተብለው ወይም ታክመው ያውቃሉ?	_____	
5.ከሰውነታችን የበሽታ መከላከል ጋር የተያያዙ ጥያቄዎች			
501.	የ ኤች.አይ. ቪ ውጤትዎን ካወቁ ምን ያህል ጊዜ ሆኖት?	_____	
502.	በአሁኑ ሰዓት የፀረ-ኤች.አይ. ቪ መድሃኒት ይጠቀማሉ?	1. አዎ 2. አልጠቀምም	
503.	ከመድሃኒቱ ጋር ያሎት ቁርኝት?	1. ጥሩ 2. በቂ 3. ዝቅተኛ	
503.	በአሁኑ ሰዓት በደምዎ ውስጥ ያለው የኤች.አይ. ቪ ቫይረስ መጠን ልኬት?	1. ዝቅተኛ(‹1000 copies) 2. ከፍተኛ(›1000 copies)	
504.	በአሁኑ ሰዓት በደምዎ ውስጥ ያለው የ CD4 መጠን	1. ዝቅተኛ(‹ 500 copies) 2. ከፍተኛ(› copies)	