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**DEPARTMENT OF OBSTETRICS AND GYNECOLOGY**

# KNOWLEDGE, ATTITUDE AND PRACTICE OF PRIMARY HEALTH CARE PROVIDERS ON CERVICAL CANCER SCREENING IN PUBLIC HEALTH CENTERS OF ADDIS ABABA, SEPTEBMER 2023.

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**Addis Ababa, Ethiopia**

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## Acronyms and Abbreviations

| | |
|---|---|
| HPV- | Human Papilloma Virus |
| VIA- | Visual Inspection with Acetic Acid |
| WHO- | World Health Organization |
| AACAHB- | Addis Ababa City Administration Health Bureau |
| KAP- | Knowledge, Attitude and Practice |
| PAP test- | Papanicolaou test |
| HCP- | Health Care Providers |
| CC- | Cervical Cancer |
| NCCP- | National Cancer Control Plan |

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# Abstract

***Background**: Cervical cancer is preventable and remains a leading cause of avoidable death among women in the world. In a developing country, the knowledge of screening for cervical cancer behavior is still very low. Barriers at multiple levels impact effective screening and treatment, including a lack of knowledge about cervical cancer and how regular screening can reduce morbidity and mortality through earlier detection.*

***Objective:** - The main aim of this study was to assess knowledge, Practice and Attitude of health care providers on cervical cancer screening in selected public health centers of Addis Ababa, Ethiopia, in 2023.*

***Methods:** - A facility based cross-sectional study was carried out and a total sample of 557 health care providers from the selected health center was included. Data was collected using self-administered questionnaire and entered and cleaned using Epi data version 3.1 and analysis was done using SPSS version 23.0 statistical software.*

***Results**: The findings were summarized using a table, figure, and narratives. There was a total of 525 participants who completed the questionnaire and out of these 340 were female respondents. Majority (88%,467) of study participants said cervical cancer is a preventable disease. Having multiple sexual partner (92.4%,486) and post capital bleeding (89%,468) were the most mentioned risk factor and clinical manifestation of cervical cancer respectively. More than three fourth (87%) of respondents agreed screening for cervical cancer should be done for a woman not having sign and symptoms of the disease. But only one third of study participants had experience in doing Pap smear and VIA/VILI.*

***Conclusion and recommendation**: This study revealed a relatively low level of knowledge towards cervical cancer etiology and prevention, risk factor and sign and symptoms. Also, the present study revealed a relatively low level of practice towards cervical cancer screening. Based on the finding on job/off-job trainings need to be enhanced, regular awareness creation has to be given for the service providers.*



***Key words**: knowledge, practice, attitude, cervical cancer, primary health care providers*

# 1. Introduction

## 1.1. Background

Cervical cancer is a cancer of the lower-most part of the uterus(1).it is a potentially preventable and treatable form of cancer so that morbidity and mortality could be reduced with early detection and effective management (2). However, cervical cancer is the second most common cancer in women worldwide and in Ethiopia(3, 4).

Cervical cancer is caused mainly by infection with certain strains of human papillomavirus (HPV), a predominantly sexually transmitted virus that infects the epithelial cells of the cervix uteri and can result in precancerous lesions and invasive cancer(5). Most cervical lesions do not progress to cancer, and those which do, progress slowly, making cervical cancer largely preventable through effective screening(6). Cervical cancer can be prevented through vaccination with HPV vaccine. Furthermore, precancerous cervical lesions remain detectable for up to 10 years or more before progressing to cervical cancer. If precancerous cervical lesions are screened and removed, this can prevent development into cervical cancer (7).

Screening is a public health intervention used on a population at risk, or target population. The choice of screening test or tests to be used is usually made at the national or regional level. Nevertheless, providers should have some basic knowledge of all the available screening tests. The test used may also be determined based on the physical proximity of services to women; for example, it might be decided to use the Pap smear (which requires women to return for their test results) in urban areas and visual inspection with acetic acid (VIA) (for which results are immediately available) in more inaccessible rural areas in the same country. The most extensive and long-term experience in cervical cancer screening is with cytology, which has been used in numerous countries since the 1950s. Cytology-based screening and treatment programs have reduced cervical cancer incidence and mortality by as much as 80% in Canada, the USA and some Nordic countries, and by 50–60% in other European countries (8).

According to world health organization (WHO), screening of cervical cancer should be started at the age of 30 years and beyond(1). Despite universal screening is important in Ethiopia, screening is mostly conducted if a woman seeks medical care for other reasons or only if the woman presents with symptoms. In Ethiopia one of the indication for screening is Any woman

between the ages of 25 and 65 years, who has never had a Pap smear before or who had one 3 or more years ago(8).Screening with Papanicolaou (PAP) test led to significant reduction in mortality in developed countries. Studies have shown that screening with visual inspection with acetic acid reduces mortality due to cervical cancer in developing countries (9-11).

In Ethiopia, the coverage of cervical cancer screening remains very low, ranging from 2.0–20.2% in the urban areas and 0.4–14.0% in rural areas(12, 13). Lack of knowledge/ awareness, low-risk perception, limited access, lack of financial resources, the symptomless nature of cervical cancer and the stigma associated with the disease(14, 15), negative perception towards cervical cancer screening (16) were the most commonly mentioned barriers towards cervical cancer screening.

## 1.2. Statement of the Problem

Cervical cancer is the fourth most common cancer and the leading cause of morbidity and avoidable death among women worldwide with more than 5 hundred thousand new cases each year and about 80% of the cases arise in low-income countries(2, 12) . In 2018, an estimated 570,000 women were diagnosed with cervical cancer worldwide and about 311,000 women died from the disease(17). Despite a decline of up to 70% in its incidence and prevalence through screening programs, it is still the most common gynecological cancer worldwide(18).

According to 2020 Global Cancer Statistics report incidence of cervical cancer was 604,127 and total of 341,831deaths was recorded worldwide. Cervical cancer is the most commonly diagnosed cancer in 23 countries and is the leading cause of cancer death in 36 countries, with the vast majority of these countries found in sub-Saharan Africa, Melanesia, South America, and South-Eastern Asia. The highest regional incidence and mortality is in sub-Saharan Africa, with rates elevated in Eastern Africa (Malawi has the world's highest incidence and mortality rate), Southern Africa, and Middle Africa(19). According to IARC 2020 report in East Africa 54,560 new cervical cancers cases were identified and at the same year mortality due to cervical cancer was 36,497(20). In Ethiopia in 2020 country specific report shows that age-standardized cervical cancer incidence per 100,000 women was 21.5, death recorded was 5,000 and death to incidence rate was 0.71%. (21).

The majority of cancers (over 80%) in sub-Saharan Africa are detected at a late stage, predominantly due to lack of information about cervical cancer and a dearth of prevention services. Late-stage disease is associated with low survival rates after surgery or radiotherapy. In addition, these treatment modalities may be lacking/limited, or too expensive and inaccessible, for many women in low-resource countries, including Ethiopia. In response to this health threat, Ethiopia's 2015 National Cancer Control Plan aimed to control cervical cancer, in part through the introduction of a national cervical cancer screening program using a "screen and treat" approach—visual inspection of the cervix with acetic acid (VIA), followed by immediate cryotherapy preventive treatment for any women with precancerous lesions detected. Under the plan, screen and treat services are offered at primary care facilities. Women with more advanced cervical cancer (stages 3 and 4) are to be referred to secondary and tertiary facilities for further diagnostic and therapeutic treatment services (8). The plan also institutes measures to strengthen diagnosis, referral, and treatment.

Ethiopia's screening program is still relatively new, and treatment services are limited. As in most sub-Saharan African countries, Ethiopia's efforts are hampered by the lack of trained workers, equipment, or effective referral systems at primary care health centers and district-level hospitals infrastructure essential for screening women and treating those diagnosed with invasive cancer(2,22). Even in the capital, Addis Ababa, health facilities almost overwhelmingly lack basic cervical cancer treatment equipment (23). Tikur Ambessa (Black Lion) Hospital is the country's main public cancer referral facility and the only one with radiotherapy and is severely over-burdened. In the 2008–2012 periods, almost 40% of the 2300 patients with cervical cancer who registered at the radiological clinic at Tikur Ambessa never received therapy(24).

In contrast with the growing literature on knowledge, attitudes, and practices relating to cervical cancer in general, and screening in particular, Research on cervical cancer interventions in Ethiopia has focused almost exclusively on women's awareness and knowledge of cervical cancer and screening and to a lesser extent on provider perspectives on screening. This research aims at closing this gap.

## 1.3. Significance of the Study

Effective primary (HPV vaccination) and secondary prevention approaches (screening for and treating precancerous lesions) will prevent most cervical cancer cases. When diagnosed, cervical cancer is one of the most successfully treatable forms of cancer, as long as it is detected early and managed effectively. Cancers diagnosed in late stages can also be controlled with appropriate treatment and palliative care. With a comprehensive approach to prevent, screen and treat, cervical cancer can be eliminated as a public health problem within a generation. The National Cancer Control Plan aims to control cervical cancer by, in part, scaling up screening services and reducing gaps between screening and treatment. To do so, policymakers require information about the availability, strengths, and weaknesses of diagnosis and treatment services, as well as about how health care providers provide the services. This study will have an input on the health care providers' perspective on knowledge, practice, and attitude towards cervical cancer screening.

# 2. Literature review

Cervical cancer is preventable and curable, as long as it is detected early and managed effectively. Yet it is the fourth most common form of cancer among women worldwide, with the disease claiming the lives of more than 300,000 women in 2018. Few diseases reflect global inequities as much as cancer of the cervix. Nearly 90% of the deaths in 2018 occurred in low- and middle-income countries. This is where the burden of cervical cancer is greatest, because access to public health services is limited and screening and treatment for the disease have not been widely implemented(17).

Healthcare providers are role models for their clients, having sufficient knowledge and a positive attitude towards the care they deliver, which may increase service uptake among clients. They are a source of information about the causes, risk factors, and screening methods of cervical cancer. They can also educate and influence clients' screening behavior. Little has been previously known regarding the KAP of cervical cancer screening among female healthcare workers. The purpose of this study was to assess the knowledge, attitudes, and practices of female healthcare providers in public hospitals in Northwest Ethiopia (25).

## 2.1 Knowledge of health care providers

A study conducted in India showed that less than one-fourth had good knowledge (62, 21.4%) for cervical cancer screening(26). Another study in Uganda among health care providers showed 171(60%) had adequate knowledge about cervical cancer(27). A study conducted in health care facility of Hawassa, Sidama among female health care providers showed that Out of the total respondents, 319(86.9%) had a good level of knowledge on cervical cancer screening(28). Another study done in east Gojjam zone public hospitals among female health care providers showed a total of 177 (43.8%) participants were adequately informed about cervical cancer screening. Among the participants, 118 (29.2%) were aware of the cause of cervical cancer, whereas 179 (44.3%) were aware of the risk factors and nearly half of the participants were aware of cervical cancer prevention methods(25).On study done among health care workers in Ethiopia, at three university-affiliated public teaching hospitals in Addis Ababa (Tikur Anbessa Hospital, St Paul's Hospital, and Gandhi Memorial Hospital), and three FGA clinics in Awassa, Adama, and Bahir Dar, 81% of respondents identify cervical cancer as an important cause of

morbidity and mortality for women in Ethiopia. Almost all providers recognized cervical cancer as a preventable disease (85%), with a detectable precancerous stage (87%) and understood the role of cervical cancer screening in detecting precancerous lesions of about 91%(29).

One study done on urban health extension workers in Addis Ababa shows more than half (51.6%) of the participants had poor knowledge about cervical cancer screening(30).

## 2.2 Practice of health care providers

A study conducted in India showed that Less than 10% of participants had undergone screening in the past (24, 8.3%)(26). On study conducted in Uganda, there were 141 (75%) female health workers who self-reported to have ever been screened for cervical cancer, while 87 (91%) of the male health workers indicated they had encouraged their partners to be screened for cervical cancer(27). In study done at east Gojjam zone public hospitals among female health care providers 8.7% of participants said that they had regular cervical cancer screening (25). On study conducted among health care workers in Ethiopia, only 17% reporting ever having been screened for cervical cancer and 22% of health care providers reported having performed a pap smear (29).

## 2.3 Attitude of health care providers

A study conducted in India showed that the majority had positive attitude toward cervical screening (260, 93.9%)(26). One study in Uganda concerning Attitudes towards participation in cervical cancer training, and prevention activities 187 (66%) health workers had positive attitudes(27). Study done in east Gojjam zone public hospitals among female health care providers showed Cervical cancer screening was viewed favorably by nearly one-third of participants (30.7%), while it was viewed negatively by 69.3%. Fifty-eight (14.3%) of participants agreed that the burden of cervical cancer in Ethiopia is high; 79 (19.5%) agreed that carcinoma of the cervix is the leading cause of women's death among all malignancies; 54 (13.4%) agreed that cervical cancer screening is effective when performed by female healthcare providers; and 83 (20.5%) agreed that screening can detect cervical cancer before symptoms appear. However, 79 (19.5%) of participants agreed that screening is unnecessary if asymptomatic; 125 (31.0%) of them agreed that the cervical cancer screening procedure is painful; and 116 (28.7%) agreed that having cervical cancer screening is embarrassing.

Regarding to participants' attitudes, nearly one-third (30.7%) viewed cervical cancer screening favorably (25). On study done among health care workers in Ethiopia, at three university-affiliated public teaching hospitals in Addis Ababa (Tikur Anbessa Hospital, St Paul's Hospital, and Gandhi Memorial Hospital), and three FGA clinics in Awassa, Adama, and Bahir Dar, 97% agreeing that cervical cancer screening should be an essential part of women's health care (29). A study done on urban health extension workers in Addis Ababa showed that among 312 participants only 146 (46.6) had positive perception towards cervical cancer screening(30).

Governments must develop training programme of rural health workers to improve their KAP skills in cervical cancer screening and treatment of precancerous lesions. Furthermore, training health workers to improve their practical skills in conducting cervical cancer screening and treatment of precancerous lesions will ensure that health workers are able to provide these services to women as part of the WHO triple-intervention by 2030 and beyond (27).

A recent study conducted at Tikur Anbessa hospital which concluded that: Primary prevention measures, vaccination against HPV and screening, should be initiated and expanded to reduce morbidity from cervical cancer and subsequent costs in both humans' lives and money resources (29).

Barriers to screening most commonly cited in our study centered on the lack of resources and difficulty with follow-up, as opposed to health care provider or patient objection and lack of time or interest, which were not seen as barriers by most. These findings speak to the utility of a simple, inexpensive, "screen and treat" approach to cervical cancer prevention such as VIA and immediate same-day cryotherapy, which can be performed safely and effectively by midlevel providers in a primary setting (29)

# 3. Objectives

## 3.1. General Objective

To assess knowledge, Practice and Attitude of Primary health care providers on cervical cancer screening in selected public health centers in Addis Ababa, Ethiopia, in 2023G.C.

## 3.2. Specific objectives

- To assess knowledge on cervical cancer screening among primary health care providers in selected public health centers in Addis Ababa, Ethiopia, in 2023 G.C.
- To assess practice of primary health care providers on cervical cancer screening in selected public health centers in Addis Ababa, Ethiopia, in 2023G.C.
- To assess attitude of primary health care providers on cervical cancer screening in selected public health centers in Addis Ababa, Ethiopia, in 2023G.C.

# 4. Methods

## 4.1 Study Area and Period

This study was conducted in Addis Ababa. Addis Ababa is a capital city of Ethiopia and it is located in the central part of the country. Administratively, there are 11 sub-cities and 119 woredas. As the projection done by CSA, the population size of Addis Ababa is 3,854,893 (female 1,850,334 and 2,004,559) (Ethiopian Statistics Agency, 2013E.C). The government delivers health service to the residents of Addis Ababa in 4 tertiary hospitals, 9 general hospitals and 99 functional health centers. Health centers are the first point of contact for the majority of the community to get primary health care services(31). The study was conducted from May-June 2023.

## 4.2 Study design

A facility based cross-sectional study was conducted to assess the objective of the study.

## 4.3 Population

### 4.3.1 Target Population

The target population was all health center health care providers of Addis Ababa.

### 4.3.2 Source population

Source population was all health center health care providers who work in the selected health center in Addis Ababa.

### 4.3.3 Study population

The study population was health care providers who will be available in selected health centers during data collection period in Addis Ababa.

## 4.4 Inclusion and exclusion criteria

### 4.4.1 Inclusion criteria's

- All permanent employees who had ⩾6 months of experience in the selected health center
- All health care providers involved in providing reproductive health care service in the OPDs (GP, Nurses, Midwives, Health officers)
- Health care providers who is present during data collection time

### 4.4.2 Exclusion criteria

- Health care providers with <6 months' work experiences
- Pharmacist, Dentist, Lab technicians...
- Who are absent (on maternity leave, annual vacation, training leave, or sick)

## 4.5 Sample size and Sampling procedure

### 4.5.1 Sample size determination

To make the sample more representative, I have calculated the sample size for all objectives and used the maximum sample size. A single population proportion formula was used with the assumption of 95% confidence interval, 5% margin of error and a population proportion of 48.4% and 46.6% for knowledge and a positive attitude towards cervical cancer screening of health care provider on cervical screening among urban health extension workers in Addis Ababa respectively (30). Accordingly, the calculated total sample size was 383 and 382 respectively; taking the practice of health care providers reported having performed a pap smear in Ethiopia,22% (29) the calculated sample size was 264. The largest sample, n = 383, was used

$$n = \frac{(Z\,\alpha/2)^2\,P\,(q)}{d^2}$$

Where n= sample size

Zα /2= Z score corresponding to 95% CI= 1.96

P= proportion of knowledge on cervical cancer screening

q= 1-p

d = degree of accuracy desire (desired precision).

$$n = \frac{(1.96)^2 * 0.484 * 0.516}{(0.05)^2} = \underline{383}$$

And by adding 1.5 design effect the final sample size was

N=383 x 1.5= 575

Health care providers (GP, health officer, nurse and midwife) who work in health centers of Addis Ababa are 4187 (32). 4187 is less than 10,000 therefore we used correction formula

$$n = \frac{n^*}{1+((n^*-1)/N}$$

n=corrected sample size

n*=sample size calculated early

N=total number of populations in the study area

$$n = \frac{575}{1 + ((575-1)/4187)} \qquad n = 505.6 == 506$$

Adding 10% for non-response rate, the total sample size was

N = 506+ (10% x 506) = 506+ 50.6 = 556.6= **557**

Therefore, final sample size of 557 was taken to address the objectives of the study.

### 4.5.2 Sampling Procedure

According to Addis Ababa city administration there are a total of 11 sub-cities (including Lemi-kura subcity) which have woredas under them. Multistage sampling technique was applied in which 5-sub cities were selected using simple random sampling and then wordas and health centers were selected using simple random sampling from each of the selected sub cities. Information about the number of health centers and health care providers in each sub city was obtained from the AACAHB. And sample was allocated to each health centers using equal proportional allocation. A total of 30 woredas with health centers were selected and from these health centers a total of 557 health care provides were selected.

## 4.6 Data Collection Procedure and Instrument

### 4.6.1 Data Collection Instrument

A structured questionnaire was used to be filled in by health care providers (self-administered questionnaire was distributed by data-collectors). Data was collected by 2-level four nurses and the questioner had 4 parts. Socio-demography, knowledge, attitude and practices of health care providers were assessed in four different sections.

### 4.6.2 Data Collection Procedure

Data was collected by 2 level four nurses and supervised by 1 BSc degree holder. A one-day training about how to take informed consent was given, how to approach participants was given

for data collectors and supervisor. Data was collected at OPD using self-administered questionnaire, Health care providers who were available at the OPD during data collection were given the questionnaire after explaining the objective of the study. Before starting distributing the questionnaire the first health care provider was selected randomly after taking informed consent.

## 4.7 Data Quality Control

To ensure the quality of the data, the data collectors received one day of training from the principal investigator before data collection begins. The training covered the study's objectives, relevance, and the importance of confidentiality. The questionnaire was prepared in English and then translated into the local language which is Amharic then re-translated into English to check for consistency. During data collection, at the end of each day, the data was manually checked for completeness, and cleanliness, then coded and analyzed using SPSS version 23.0. A pre-test was also conducted two weeks before data collection using 5% of the total sample size to test for variability and assess the checklist's clarity, length, and completeness.

## 4.8 Operational Definitions

**Good knowledge**: - score greater than or equal to the mean in the cervical cancer screening knowledge questions.

**Poor knowledge**: - score less than the mean in the cervical cancer screening knowledge questions.

**Positive attitude: -**Participants who answered at least two of positively asked and two of negatively asked questions correctly.

**Negative attitude: -** Participants who answered less than two questions correctly for each positively and negatively asked questions.

**Regular cervical cancer screening Practice**: - female respondents who had been screened for cervical cancer in the past 5 years.

**Irregular cervical cancer screening Practice**: - female respondents who never undergone cervical cancer screening in the past 5 years.

**Good cervical cancer screening**-participants who score greater than or equal to the mean in the cervical cancer screening practice questions.

**Poor cervical cancer screening –** participants who score less than the mean in the cervical cancer screening practice questions.

## 4.9 Study Variables

### 4.9.1 Dependent variables

- Knowledge of cervical cancer screening
- Attitude of cervical cancer screening
- Practice of cervical cancer screening

### 4.9.2 Independent variables

- Age
- Sex
- Religion
- Qualification level
- educational status,
- Marital status
- Work experience

## 4.10 Procedure for Data Management, Entry and Analysis

Data entry and cleaning were done using Epi data version 3.1 and analysis was done using SPSS version 23.0 statistical software. Descriptive statistics was done to present and summarize using frequency tables and summary statistics. Frequencies and percentages were computed for categorical variables. With bi-variate analysis P value < 0.25 was used to select candidate variables to the final model. Then with multivariate logistic regression analysis was done to estimate the magnitude of the independent effect of explanatory variables on outcome. Thus, the strength of association was measured through adjusted odds ratios with 95% CI. Those variables with P-value<0.05 in the multivariable analysis were considered as significantly associated variables.

## 4.11 Ethical Considerations

Ethical approval was obtained from St. Paul's hospital millennium medical college. Official letter was obtained from Addis Ababa city administration health bureau. The importance of the study was explained to the participants of the study. Oral informed consent was taken from the participants after explaining the objectives the study, the benefit and risks of the study. The right of the respondent not to participate in the study was respected.

The information collected from the study subjects was kept confidential and it was only be used for study purpose.

## 4.12 Dissemination Plan and Use of Findings

Findings of the research will be disseminated to Addis Ababa city administration facilities and AACAHB, SPHMMC School of medicine, department of GYN/OBS. Further attempts will be done to present results of this study in workshops and seminars and to publish it.

# 5. RESULTS

## 5.1. Socio-Demographic Characteristics of Health Care Providers

A total of five hundred twenty-five primary health care workers have participated out of five hundred fifty-seven. Yielding a response rate of 94.2%. Age of the respondents' range between 20-55years with the mean age of respondents being 31.4 (31.4±5.6). One hundred sixty-four (31.2%) were within the age range of 30-34 years. Most of the respondents 340(64.8%) were female and 342 (65.1%) Orthodox religion followers. Whereas, 262 (49.9%) were married. Regarding the experience of the professionals, 255 (48.6%) had 1-5year service. Nurses 252(48%) and health officers 133(25.3%) accounted for majority of the respondents. And more than half 382 (72.8%) were degree holders. Regarding cervical cancer screening service, it is available in all the health centers selected for the study and 290(55.2%) participants responded visual inspection with acetic acid and leugol iodine (CIA/VILI) is used to screen cervical cancer in their health center.

Table1. Socio-demographic characteristics among health care providers in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.

| **Variables** | **Frequency(n=525)** | **Percentage (%)** |
|---|---|---|
| **Age group** | | |
| 20-24 | 36 | 6.9 |
| 25-29 | 182 | 34.7 |
| 30-34 | 164 | 31.2 |
| >=35 | 143 | 27.2 |
| **Sex** | | |
| Male | 185 | 35.0 |
| Female | 340 | 64.8 |
| **Marital Status** | | |
| Married | 262 | 49.9 |
| Single | 250 | 47.6 |
| Divorced | 8 | 1.5 |
| Others | 5 | 1.0 |
| **Occupation** | | |
| Nurse | 252 | 48.0 |
| Midwife | 108 | 20.5 |
| Health Officer | 133 | 25.3 |
| General Practitioner | 26 | 5.0 |
| **Experience** | | |
| 6months to 1yr | 56 | 10.7 |
| 1yr to 5yrs | 255 | 48.6 |
| 5yrs to 10yrs | 142 | 27 |
| >10yrs | 72 | 13.7 |
| **Educational Level** | | |
| Diploma | 66 | 12.6 |
| Degree | 382 | 72.8 |
| Level 3 and 4 | 29 | 5.5 |
| Masters | 48 | 9.1 |
| **Religion** | | |
| Muslim | 70 | 13.3 |
| Orthodox | 342 | 65.1 |
| Protestant | 98 | 18.7 |
| Others | 15 | 2.9 |

## 5.2. Knowledge About Cervical Cancer

### 5.2.1 General Knowledge Towards Cervical Cancer and Its Prevention

In this study, eleven questions aimed to assess the level of knowledge towards cervical cancer etiology and prevention were forwarded to respondents, the mean knowledge level towards cervical cancer etiology and prevention was 13.8 (13.8±2.4). Accordingly, 244 (46.5%) had good knowledge towards cervical cancer etiology and prevention.

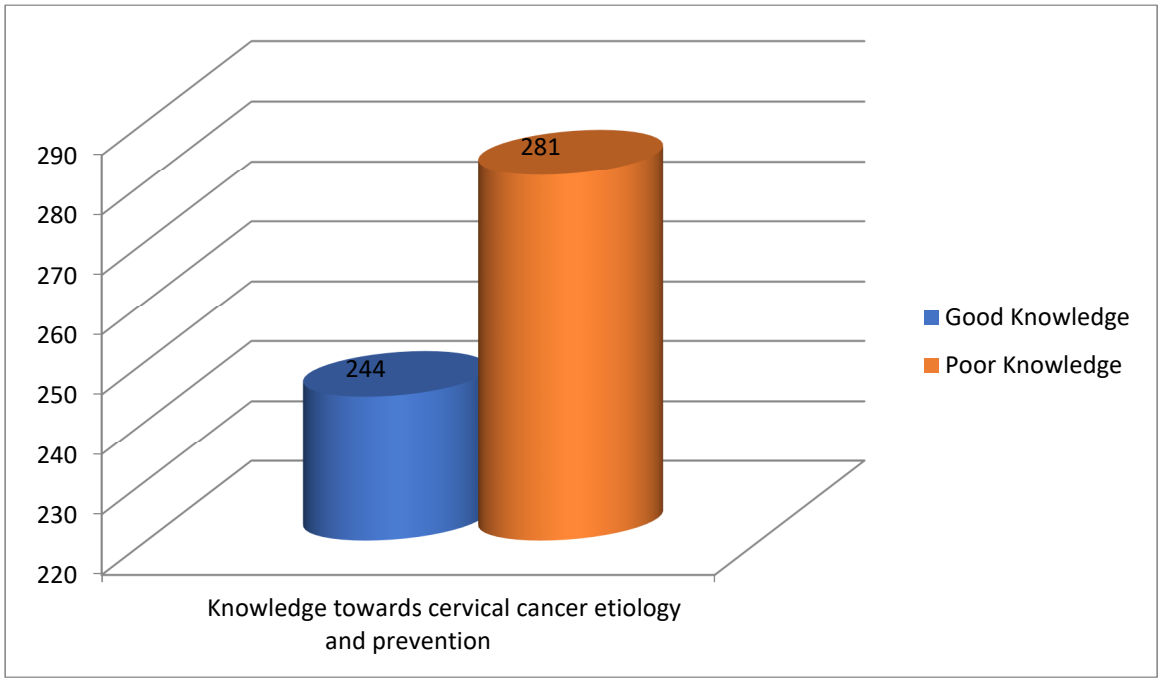


***Figure 1. Knowledge towards cervical cancer etiology and prevention among health care providers in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

In this study 90.3% (475) participants understood the role of cervical cancer screening in detecting precancerous lesions and 88,6% (467) recognized cervical cancer as a preventable disease. In addition, 90.5% (476) of the respondents agreed that the burden of cervical cancer is high in Ethiopia.

Likewise, 203 (44.8%) respond cervical cancer screening should be done for a woman as soon as she is sexually active. Regarding the question how frequent cervical cancer screening should be done 165 (36.4%) respond screening should be done every three years. While, 369 (70.3%)

respond those girls with age of 9-14 years are ideal candidates for vaccination against cervical cancer.

### 5.2.2 Knowledge Health Care Providers About Risk Factors of Cervical Cancer

In this study ten questions aimed to assess the level of knowledge towards cervical cancer risk factors were forwarded to respondents, the mean knowledge about risk factors for cervical cancer was 14.3 (14.3±2.5). Accordingly, 255 (48.6%) had good knowledge towards cervical cancer risk factors.

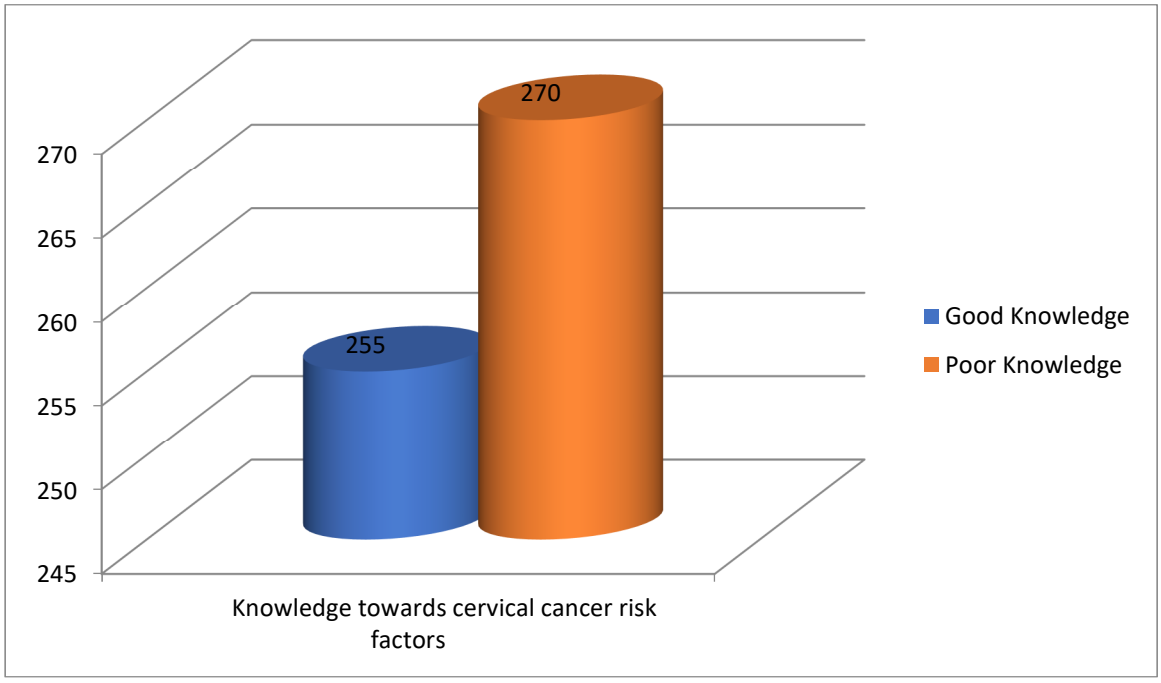


***Figure 2. Knowledge towards cervical cancer risk factors among health care providers in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

More than half of the participants 308 (58.6%) thought that family history is a risk factor for cervical cancer and few 144 (27.4%) knew that long-term use of OCP could be a risk factor for cervical cancer. Having multiple sexual partners 486 (92.4%) and young age at first sexual contact 385 (73.2%), were identified as risk factors for cervical cancer.

### 5.2.3 Knowledge About Signs and Symptoms of Cervical Cancer

Nine questions were forwarded to respondents to assess the level of knowledge about signs and symptoms of cervical cancer: the mean knowledge level of signs and symptoms of cervical cancer was 8.1 (8.1±1.5). Accordingly, more than one-fourth,167 (31.8%) of study participants had good knowledge of cervical cancer sign and symptoms.

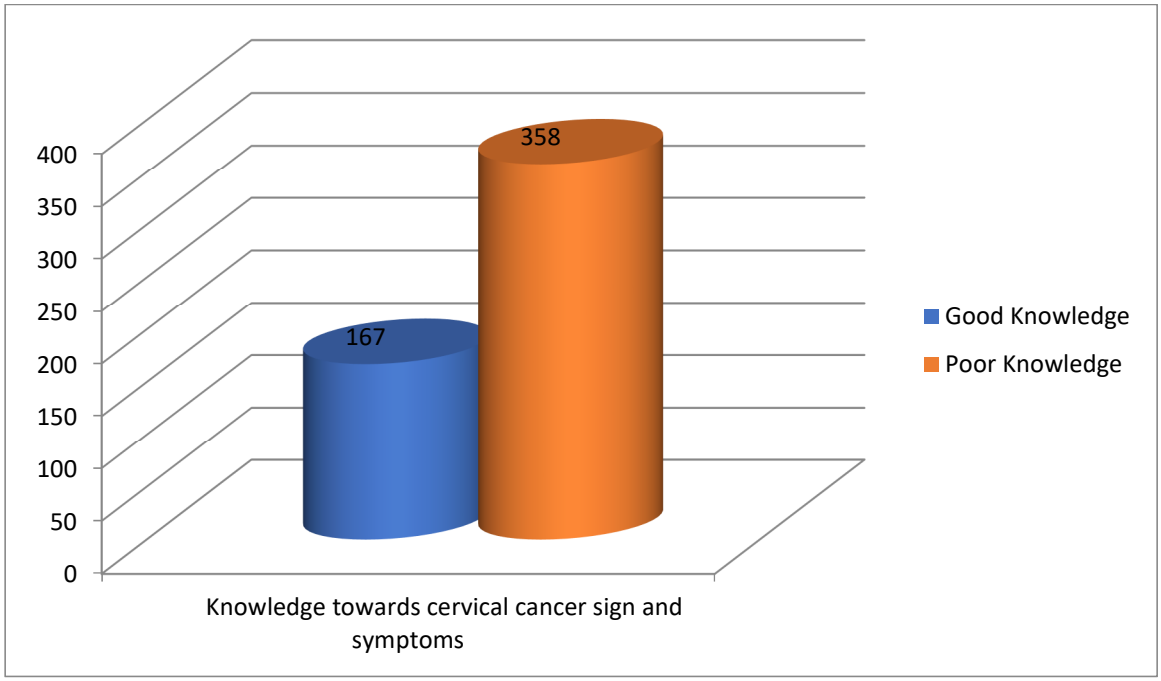


***Figure 3. Knowledge towards cervical cancer sign and symptoms among health care providers in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

Most of the respondents 468(89%) mentioned post coital bleeding and offensive vaginal discharge 464(88.2%) as a clinical manifestation of cervical cancer.

## 5.3. Participants' Attitude Towards Participation in Cervical Cancer Training, Screening and Prevention Activities

Respondents' attitude towards participation in cervical cancer training, cervical cancer screening and prevention activities was assessed using seven item Likert scale-based questions and the following result was revealed: Item 2, 5 and 6 which have high frequency of 'strongly agree' response for positively asked question i.e. 211, 179 and 169, respectively. Also, Item 6, 2 and 5 have the highest level of mean respectively (Table 2).

There were 295(57.2%)participants who strongly agreed that they would take part in training for preventing cervical cancer if it is organized by the Ethiopian MOH.The statement that cervical ca ncer is not a serious health issue and that screening is not required was strongly disagreed by 337 (65.4%) of the participants. Of the total participants of the study352(68.5%) agreed that they were more likely to screen women for cervical cancer if they were trained and provided with equipment.

***Table 2-Participants attitude in cervical cancer screening, training, and prevention in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

| Participants' attitude | Total (N) | Strongly Disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5) | Mean | Standard Deviation (SD) |
|---|---|---|---|---|---|---|---|---|
| 1. Screening is not necessary if there are no signs and symptoms | 515 | 264(51.2) | 187(36.3) | 13(2.5) | 17(3.3) | 34(6.6) | 1.76 | 1.11 |
| 2. Screening can detect cervical cancer before symptoms appear | 513 | 90(17.5) | 51(9.9) | 8(1.5) | 153(29.8) | 211(41.1) | 3.62 | 1.56 |
| 3. Cervical cancer is not a serious health problem, so screening is not necessary | 515 | 337(65.4) | 137(26.6) | 8(1.5) | 8(1.5) | 25(4.8) | 1.52 | 0.98 |
| 4.I do not think it is necessary to screen for cervical cancer in our health facility | 515 | 324(62.9) | 95(18.4) | 50(9.7) | 16(3.1) | 30(5.8) | 1.69 | 1.14 |
| 5. I am willing to participate in a training for cervical cancer prevention if organized by Ministry of Health Ethiopia | 515 | 130(25.2) | 64(12.4) | 26(5.04) | 116(22.5) | 179(34.7) | 3.26 | 1.65 |
| 6. I am more likely to screen women for cervical cancer if I am trained and given equipment | 513 | 60(11.6) | 38(7.4) | 63(12.2) | 183(35.6) | 169(32.9) | 3.67 | 1.35 |
| 7. Even if we screen and find a woman with precancerous lesion, there is nothing we can do | 512 | 286(55.8) | 136(26.5) | 43(8.3) | 15(2.9) | 32(6.2) | 1.77 | 1.22 |

## 5.4. Practice of Cervical Cancer Screening

### 5.4.1 Cervical Cancer Screening Practice of Female Health Care Workers

As demonstrated in Figure 4, majority of female health workers 271(73.8%) had not been screened for cervical cancer in the previous 5yrs and less than half of male respondents 82(44%) stated that their relatives are screened.

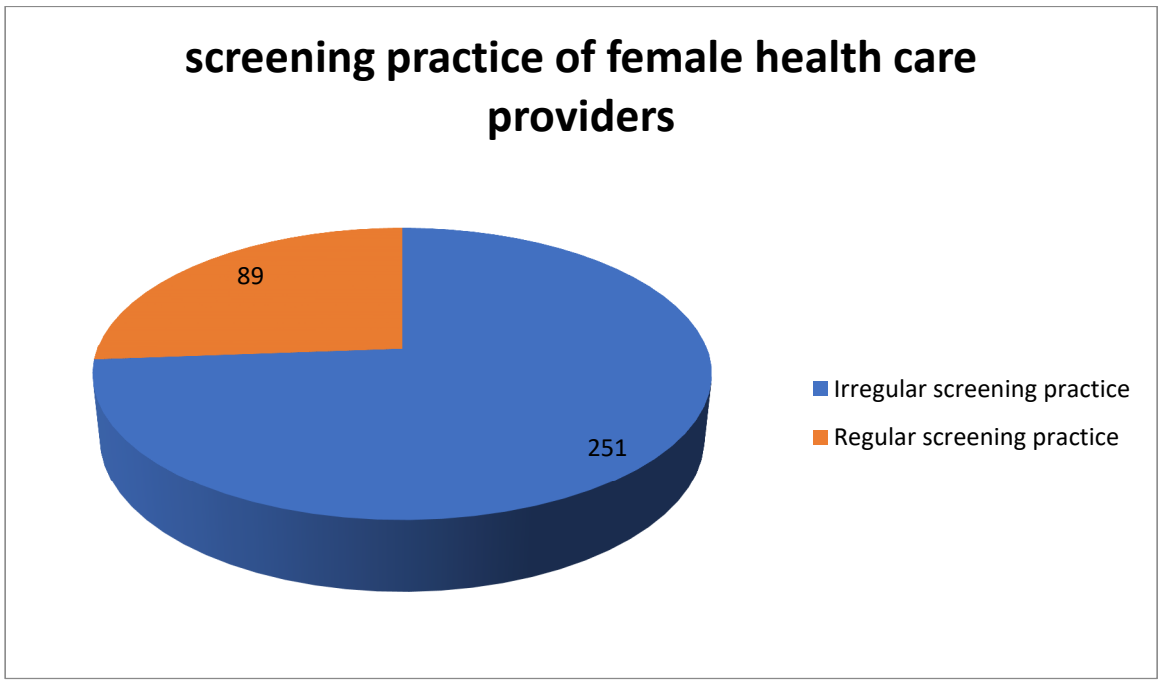


***Figure 4. Practice towards cervical cancer screening among health care providers in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

Among 251 female health care providers who have irregular cervical cancer screening practice only 54 of them mentioned their reason for not undertaking the screening. Figure 5 summarizes the possible reasons for not undertaking cervical cancer screening.

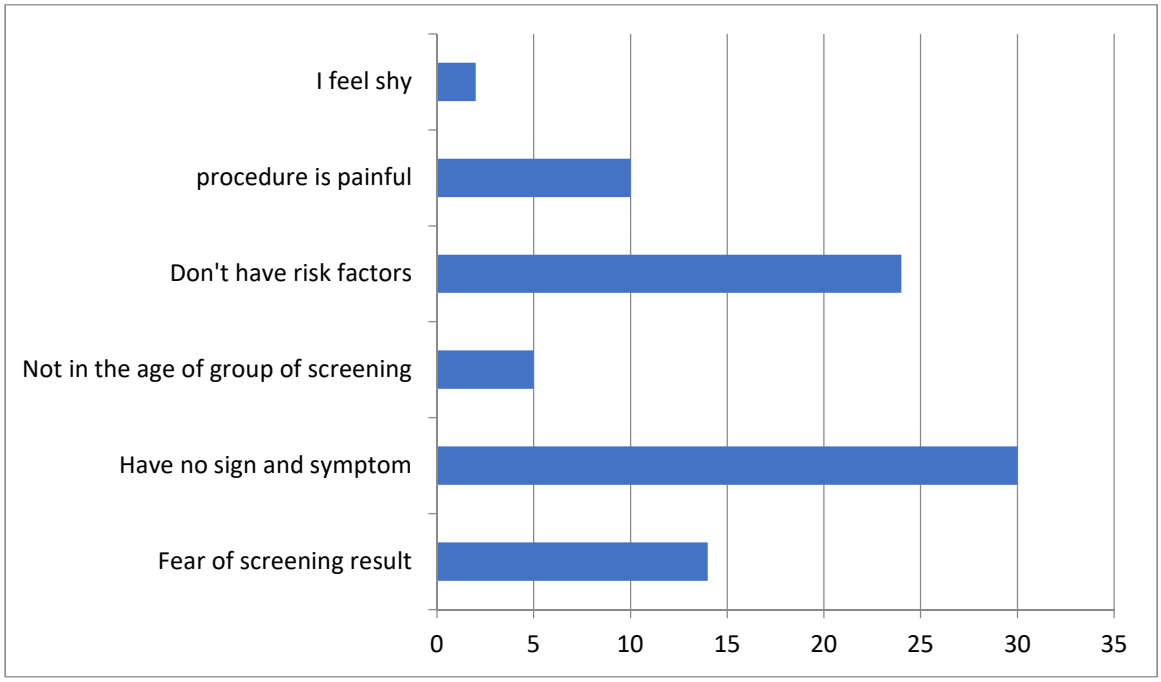


***Figure 5- Reasons for not undergoing cervical cancer screening among female health center workers providers in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

### 5.4.2. Level of Cervical Cancer Screening Practice

In order to assess the respondents' level of cervical cancer screening practice, ten questions were forwarded to them and the mean level of practice was 15 (15±2.3). According to the result, 213 (40.6%) had good practice towards cervical cancer screening. Only 34% of respondents who worked in healthcare reported they had experience with VIA/VILI, whereas 39.35% of respondents claimed they have done pap smears.

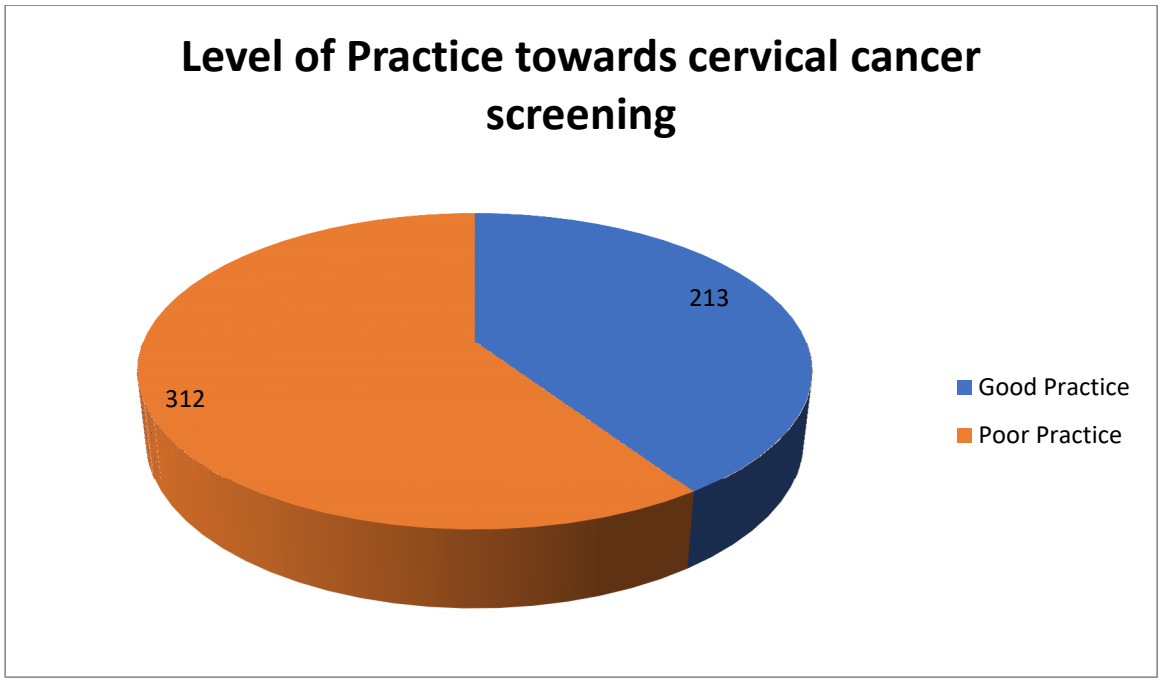


***Figure 6. Practice towards cervical cancer screening among health care providers in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

### 5.5. Perceived Barriers to Providing Cervical Cancer Screening

Five questions were forwarded to respondents in this study with the goal of assessing perceived obstacles to cervical cancer screening. Patients' objections, a lack of training, and a lack of necessary resources were the screening barriers that were most frequently mentioned in this study. They also believed that screening processes are too difficult.

***Table 3-Perceived barriers for providing cervical cancer screening in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

| **Perceived barriers to providing cervical ca screening** | Total | Yes | No | mean | Standard deviation |
|---|---|---|---|---|---|
| My patients dislike/refuse screening | 520 | 433(83.3%) | 87(16,7%) | 1.17 | 0.37 |
| I have not had the necessary training in order to screen | 520 | 307(59%) | 213(41%) | 1.4 | 0.49 |
| The screening tests are too expensive for patients | 520 | 147(28.3%) | 377(71.7%) | 1.72 | 0.47 |
| I do not have the necessary equipment and supplies | 520 | 161(31%) | 359(69%) | 1.69 | 0.46 |
| The screening procedures are too difficult | 520 | 212(40.8%) | 308(59.2%) | 1.59 | 0.49 |

## 5.6. Predictors of Good Knowledge and Practice of Cervical Cancer Screening

Among the sociodemographic variables educational level with degree holders(p=0.015) and those with work experience of 6 to 10years (p=0.01) had statistically significant association with good practice of cervical cancer screening. No significant difference in knowledge was observed with respect to their education level and work experience.

***Table 4; multivariate analysis to identify predictors of good practices of good practice of cervical cancer in selected public health centers of Addis Ababa, Ethiopia, from May-June 2023.***

| Variables | Categories | p-value | AOR (95 % CI) |
|---|---|---|---|
| Educational level | diploma | 0.652 | 1.149(0.629, 2.098) |
| | Degree | 0.015 | 0.188 (0.049,0.718) |
| | Level 3/4 | | 1 |
| | masters | 0.098 | 1.011(0.425,2.404) |
| Work experience | 6months to 1year | | 1 |
| | 1 to 5years | 0.561 | 1.251(0.588,2.661) |
| | 6 to 10years | 0.01 | 3.452(1.346, 8.855) |
| | >10years | 0.09 | 2.055(0.895,4.722) |

# 6. Discussion

In this study, 244 (46.5%), 255 (48.6%) and 167 (31.8%) had good knowledge towards etiology and prevention, risk factors and sign symptoms towards cervical cancer respectively. Regarding attitude towards participation in cervical cancer training, screening and prevention activities, respondents showed relatively positive attitude. In terms of participant behavior, only 26.2% of individuals reported having regular cervical cancer screenings, and 39.3% of the respondents ever have done a pap smear and Only 34% of respondents reported they had experience with VIA/VILI.

The level of knowledge of respondents towards cervical cancer screening, etiology and prevention and risk factors in the present study is higher as compared to a study conducted in India where only less than one fourth of study participants had good knowledge (21.4%) (26). Nonetheless, the finding from the present study is lower as compared to a study conducted in Uganda showed among health care providers (60%) had adequate knowledge about cervical cancer (27). Likewise, the present study finding on knowledge towards cervical cancer screening, etiology and prevention and risk factors is lower as compared to a study conducted in health care facility of Hawassa, Sidama among female health care providers showed that Out of the total respondents, 319(86.9%) had a good level of knowledge on cervical cancer screening(28). On study done among health care workers in Ethiopia, at three university-affiliated public teaching hospitals in Addis Ababa (Tikur Anbessa Hospital, St Paul's Hospital, and Gandhi Memorial Hospital), and three FGA clinics in Hawassa, Adama, and Bahir Dar, 81% of respondents identify cervical cancer as an important cause of morbidity and mortality for women in Ethiopia. Almost all providers recognized cervical cancer as a preventable disease (85%), with a detectable precancerous stage (87%) and understood the role of cervical cancer screening in detecting precancerous lesions of about 91% (29). One study done on urban health extension workers in Addis Ababa shows more than half (51.6%) of the participants had poor knowledge about cervical cancer screening(30). The possible justification for the discordance might be due to difference in level of the hospitals, where the aforementioned hospitals are teaching referral and specialized thus the knowledge level of providers would be enhanced by different modalities like training, Also, individual difference in capacity building scheme,

provision of training, differences in profession, and sample size differences might determine the difference in the level of knowledge across the studies.

The level of practice towards cervical cancer screening among health care workers in the present study is higher as compared to a study conducted in India showed that Less than 10% of participants had undergone screening in the past (24, 8.3%)(26). In study done at east Gojjam zone public hospitals among female health care providers 8.7% of participants said that they had regular cervical cancer screening (25). On study conducted among health care workers in Ethiopia, only 17% reporting ever having been screened for cervical cancer and 22% of health care providers reported having performed a pap smear and even fewer health care providers (11%) reported experience with VIA (29). This might be due to variation in values and beliefs in the current and previous study population and areas in general. Moreover, it could be due to exposures to training in the study population. Nonetheless, the finding revealed from this study is lower as compared to a study conducted in Uganda, there were 141 (75%) female health workers who self-reported to have ever been screened for cervical cancer, while 87 (91%) of the male health workers indicated they had encouraged their partners to be screened for cervical cancer(27).

Regarding attitude towards participation in cervical cancer training, cervical cancer screening and prevention activities, respondents showed positive attitude. This finding is similar to a study conducted in India which showed the majority had positive attitude toward cervical screening (260, 93.9%)(26). Likewise, one study in Uganda concerning Attitudes towards participation in cervical cancer training, and prevention activities 187 (66%) health workers had positive attitudes(27). Nonetheless, a study done in east Gojjam zone public hospitals among female health care providers showed Cervical cancer screening was viewed favorably by nearly one-third of participants (30.7%), while it was viewed negatively by 69.3% (25). The justification for the discrepancy might be attributable to differences in level of awareness, knowledge, training, and sample size differences.

## 7. Strength and Limitations

Our study's strength is that it focuses on cervical cancer, a serious public health issue, as well as primary healthcare providers, a crucial population group in the delivery of cervical cancer screening services and community education.

The study had two drawbacks: the findings were primarily descriptive, and it only included the opinions of health professionals. The concept of screening as understood by healthcare professionals should be explored further, as well as the reasons behind the extremely low uptake of cervical cytology smears among healthcare professionals themselves.

# 8. Conclusion and Recommendations

## 8.1. Conclusion

This study revealed a relatively low level of knowledge towards cervical cancer etiology and prevention, risk factors and sign and symptoms. Also, the present study revealed a relatively low level of practice towards cervical cancer screening.

## 8.2. Recommendations

**To the Hospitals**

- On job/off-job trainings need to be enhanced to improve their KAP
- Regular Awareness creation has to be given for the service providers.

**To Addis Ababa Regional Health Bureau**

- Hospitals needs to be supported in terms of training and capacity building scheme including material support given the KAP of cervical cancer is improved

**To researchers**

- Factors supposed to affect the KAP of the health care providers needs to be addressed with a better study design.

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Consent Form

Study Title: Knowledge, attitude and practice of primary health care providers on cervical cancer screening in public Health centers of Addis Ababa, May 2023

You are invited to participate in a research study to assess the knowledge, attitude, and practice of cervical cancer among primary health care providers in Addis Ababa. Your participation in this study is voluntary. The findings of this study will help to identify areas where there is a need for further education and training so that primary health care providers can better provide cervical cancer prevention and screening services.

If you agree to participate in this study, you will be asked to complete a questionnaire. The questionnaire will take approximately 15 minutes to complete. The questionnaire will ask you questions about your knowledge of cervical cancer, your attitudes about cervical cancer, and your practices related to cervical cancer screening and prevention. There are no known risks associated with participating in this study. The benefits of participating in this study include the potential to improve your knowledge of cervical cancer and to help to improve cervical cancer prevention and screening services in Addis Ababa. Your responses to the questionnaire will be kept confidential. Your name will not be associated with your responses. You have the right to decline participation or withdraw from the study at any time without penalty. You have the right to ask questions about the study at any time. You have the right to see the results of the study after it is completed.

If you have any questions about this study, please contact:

Dr Lidet Fekadeselassie

cell phone: 0913777911

Email: lidetfsl@gmail.com

Agreement to Participate

I have read and understand the information provided above. I voluntarily agree to participate in this study.

**Questioner**

**Demographics of participants**

1. Age in years

2.Sex

A. Female B. Male

3.Religion

A.Muslim B.Ethiopian Orthodox C.Protestant D.others

4.Marital status

A.Single B.Married C.Others

5.Work Experiance

A. 6mth to 1 yr B. 1yr-5yrs C. 6yrs-10yrs D. >10yrs

6. Health workers qualifications

A.Nurses

B. Midwife

C.Health officer

D.General practitioner.

7.Qualification level

A.Diploma B.Degree and above

8. Name of the HC

9. Is screening for cervical ca available in this HC available? A . Yes B. NO

10. If yes which one? A. PAP B. VIA/ VILI

**Knowledge of cervical cancer etiology and prevention**

| | YES | NO |
|---|---|---|
| 1.Cervical cancer is one of the leading causes of death in women worldwide | | |
| 2.Burden of cervical cancer in Ethiopia is high | | |
| 3.Carcinoma of the cervix is highly prevalent among all malignancies in Ethiopia | | |
| 4.Cervical cancer is caused by a virus that is spread sexually | | |
| 5. Cervical cancer is preventable | | |
| 6.The purpose of screening for cervical cancer is to detect pre-cancerous changes | | |
| 7. There is a vaccine that can prevent cervical cancer | | |
| 8. Cervical cancer is most common among women in their 20s | | |
| 9. For cervical cancer, the progression of pre-cancerous cells to cancer can take 10–20 years | | |
| 10. Using condom during sexual encounter decrease the risk of having cervical cancer | | |
| 11.do you think prolonged use of oral contraceptive pills is protective of cervical cancer | | |

1.How Frequent cervical cancer screening should be done?

A- every 3 yrs B every 3 - 5 yrs C- every 1 yr

2.When should be cervical cancer screening done for for a woman

A- When menstruation start B-As soon as sexually active C- At the age of 30 yrs D- After menopause

3.Who are the ideal candidates for vaccination against HPV infection

A-females aged 13 to 26 B-Adolecent girls,aged 9 to 14

**Knowledge of risk factors for cervical cancer**

| **Which are the risk factors for cervical ca? Tic yes for risk factors and Tic No for non risk factors** | YES | NO |
|---|---|---|
| 1. Having Infection with the human immunodeficiency virus (HIV) | | |
| 2. Having Infection with human papilloma virus (HPV) | | |
| 3. Having multiple sexual partners | | |
| 4.Having multiple deliveries | | |
| 5.Early age at first delivery | | |
| 6.Early age at first sexual intercourse | | |
| 7.Long-term use of oral contraceptives pills | | |
| **8** Use of intrauterine devices (IUDs) | | |
| 9.smoking cigarettes | | |
| 10.Having a family history of cervical cancer | | |

| **Signs and symptoms of cervical cancer** | **YES** | **NO** |
|---|---|---|
| 1.Foul-smelling vaginal discharge | | |
| 2.Bleeding after menopause | | |
| 3.Bleeding after sexual intercourse | | |
| 4.Abnormal vaginal bleeding between period | | |
| 5.Unexplained weight loss | | |
| 6.Abdominal pain and back pain | | |

**Participants' attitudes towards participation in cervical cancer training, cervical cancer screening and prevention activities**

| **Participants' attitudes** | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| 1.Screening is not necessary if there are no signs and symptoms. | | | | | |
| 2.Screening can detect cervical cancer before symptoms appear | | | | | |
| 3.Cervical cancer is not a serious health problem, so screening is just a burden | | | | | |
| 4.I do not think it is necessary to screen for cervical cancer in our health facility | | | | | |
| 5.I am willing to participate in a training for cervical cancer prevention if organized by Ministry of Health Ethiopia | | | | | |
| 6.I am more likely to screen women for cervical cancer if I am trained and given equipment | | | | | |

**Participants practice toward cervical cancer screening**

| **Cervical cancer screening practice** | **yes** | **No** |
|---|---|---|
| 1.Have you ever been screened for cervical cancer in the past 5 yrs(**only Female respondents)** | | |
| 2. Does your spouse/mother or sister had history of screening for cervical ca (for male respondents) | | |
| **3.** Have you ever taken sample for PAP smear? | | |
| **4.**Have you ever done VIA/VILI | | |
| 5.I always advise my patients to screen for cervical cancer | | |
| 6.Have you ever diagnosed a patient with cervical cancer | | |
| 7.Have you ever diagnosed pre-cancerous cervical lesions in a patient | | |
| **Perceived barriers to providing cervical cancer screening** | | |
| 1.My patients dislike/refuse screening | | |
| 2.I have not had the necessary training in order to screen | | |
| 3.The screening tests are too expensive for patients | | |
| 4.I do not have the necessary equipment/supplies | | |
| 5.The screening procedures are too difficult | | |