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Original Article

**Cervical Cancer Screening Utilization and Associated Factors
among Female Health Professionals in Hawassa, Ethiopia, 2023:
A Cross-Sectional Study**

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Abstract

Background: Cervical cancer is a major health concern worldwide, including in low- and middle-income countries. Regular screening is essential for early prevention and detection of cervical cancer. This study aimed to assess the magnitude of cervical cancer screening practice and associated factors among health professionals working at Hawassa City public health facilities.

Methods: An Institutional-based cross-sectional study was conducted from April 24 - May 24 2023 among 407 study subjects selected using a simple random sampling technique in public health facilities of Hawassa city, Sidama, Ethiopia. A pretested self-administered structured questionnaire was used to collect the data. Data were coded and entered in to Epi Data version 4.6 and analyzed using SPSS version 27. Descriptive statistics were used to describe characteristics of participants according to the type of variables. To identify the factors associated with the utilization of cervical cancer screening, bivariable and multivariable binary logistic regression analysis were performed. Adjusted odds ratios (AOR) with 95% CI were estimated to assess the strength of associations and statistical significance was declared at a p-value < 0.05.

Results: The findings revealed that the overall magnitude of cervical cancer screening practice among female health professionals in Hawassa City was found to be 22.45% (95% CI: 18.4-27.0). Among the factors associated with cervical cancer screening practice, Work experience (AOR = 2.764; 95% CI: 1.192-6.407), multiple sexual partners (AOR = 2.763; 95% CI: 1.468-5.202), and knowledge about cervical cancer screening (AOR = 1.987; 95% CI: 1.088-3.629) were found to be significantly associated in the logistic regression analysis.

Conclusion: The study found that cervical cancer screening practice among health professionals was low (22.45%). Factors associated with screening included work experience, multiple sexual partners, and knowledge of screening. The findings highlight the need for targeted interventions to enhance awareness, knowledge, and accessibility to screening among health professionals in Hawassa City.

Keywords: Cervical cancer, screening, utilization, female health care workers, Hawassa, Ethiopia.

Introduction

Cancer is a genetic term that refers to a wide range of diseases that can affect any part of the body by rapid formation of abnormal cells that grow beyond their normal boundaries (1). There are more than 100 types of cancer, often cancer types are called for the organs or tissue in which they first appear (2). Cervical cancer is the uncontrollable proliferation of abnormal cells in the lining of the cervix, which is found in the lower part of the female reproductive system (3). Human papillomavirus (HPV) is the most common viral infection of the reproductive tract, and nearly all sexually active individuals will be infected with HPV at some point in their lives, and some may be infected repeatedly (4).

The majorities of risk factors for cervical cancer are related to HPV infection and include early sexual intercourse, multiple sexual partners, and history of sexually transmitted infection, multiparty, oral contraceptive use and smoking (5). Cervical cancer, unlike other reproductive organ cancers, is actually preventable by screening which involves examining for precursors before a person develops symptoms, and if abnormal tissues or cancer are discovered early, it may be easier to treat or cure (6).

Cervical cancer is a worldwide public health issue, accounting for the fourth most commonly diagnosed cancer in women (7). Cervical cancer incidence and mortality have decreased significantly in developed countries such as United States, Australia and the United Kingdom since the mid-20th century, owing largely to widespread screening practice (8). It ranks as the second most common and fatal form of cancer among women in sub-Saharan Africa (9). Ethiopia also has a high prevalence of cervical cancer which is the second most common malignancy to affect women between the ages of 15 and 40 (10). HPV types 16 and 18 account for approximately 82.5% of all cervical cancer cases globally, and 97% in Ethiopia (10,11).

Cervical cancer screening is an important control and prevention strategy that the World Health Organization recommends for women aged 30 and above with screening even earlier for some high risk women, such as those living with HIV or with a history of early sexual intercourse (12). Providing a screening method could reduce cervical cancer mortality in the world (4). Pap smear, visual inspection of cervix with acetate (VIA), visual inspection of cervix with Lugol's (VILI) and HPV test are the four methods used for screening cervical cancer (5). As a developing country, Ethiopia has adopted a less expensive but

more effective cervical cancer screening technique known as Visual Inspection with Acetate (VIA), with the goal of employing “see and treat” approach (13).

In developing countries, inadequate cervical cancer screening coverage presents a significant challenge to disease prevention and control. Factors contributing to low screening uptake have been identified, including apprehension regarding the procedure and potential outcomes, limited awareness of available services, embarrassment, systemic barriers such as accessibility and time constraints, and healthcare provider attitudes (14). A study conducted in Addis Ababa reported a screening utilization rate ranging from 10% to 24%, with key determinants encompassing knowledge levels, attitudes, access to healthcare facilities, and perceived risk. Optimal cervical cancer prevention necessitates that healthcare personnel maintain a comprehensive knowledge base and engage in ongoing practice improvement (15).

Investigating cervical cancer screening uptake among female health professionals is crucial, as they constitute an educated and accessible demographic while also significantly influencing patient health-seeking behaviors. Their collective knowledge, attitudes, and practices serve as critical benchmarks for the broader

community and reflect the healthcare system's capacity to effectively model preventive strategies. Consequently, this study aimed to assess cervical cancer screening uptakes and identify associated factors among health service providers employed in governmental health facilities within Hawassa city. This research endeavors to address an identified knowledge gap by investigating two primary research questions: what is the prevalence of cervical cancer screening uptake among women in Hawassa city? & what factors are associated with screening adherence within this population?

Our hypothesis posited that women exhibiting elevated health literacy, augmented access to reproductive health services, and a heightened perception of susceptibility would demonstrate a greater propensity for engaging in cervical cancer screening services.

Methods and Materials

Study setting design, and period

An Institutional based cross-sectional study design was used to conduct in Hawassa city which is located in Sidama regional state 275km away from south of Addis Ababa and 1125 km north of Nairobi Kenya. The total population of Hawassa town is estimated to be 409,810 (Male

204,987 and Female 204,823). In Hawassa city there are 9 hospitals (4 governmental and 5 private) and 12 health centers (11 governmental and 1 NGO). The total number of health professionals in Hawassa city governmental health facility is 1,778 (1,149 female and 629 are male) (16). The study was conducted from April 24 2023 to May 24 2023.

Population, Eligibility, Sample Size Determination and sampling Procedure

All female health professionals working in governmental health facilities of Hawassa city were our source population. Whereas, randomly selected female health professionals working in randomly selected governmental health facilities at Hawassa city were our study population. Female health workers who are clinically ill and participants with incomplete responses on key outcome variables (screening status) or missing major socio-demographic data and those who are on leave during data collection time were excluded.

Sample size for the first objective was calculated by using the single population proportion formula at a 9.6% prevalence of utilization of cervical cancer (14), 3% degree of precision and 95% confidence interval (CI), $Z(1-\alpha/2) = 1.96$, design effect of 2, and considering 5% for non-response rate. Then after by substituting the above

figures in to the sample size calculation, the calculated sample size becomes 407. Sample size for the second objective has been determined by using Epi info version 7.2.4.0 based on the following assumptions: type one error of 5%, power of 80%, and the ratio of exposed to non-exposed 1:1 and by taking the adjusted Odds ratio and percent of an unexposed group from previous studies. Work place OPD ward as significant variable from previous studies which given the smaller sample size.

A simple random sampling technique was used to select four health centers and one hospital in Hawassa city. From these health facilities, the number of study participants was sampled using proportional allocation to the size based on the number of female health workers. Each health facility's human resources office provided a sampling frame. Each professional category received a proportionate share of the sample size. After then, the simple random sampling method was used for selecting the study participants.

Data collection tools and quality assurance

Data was collected using a self-administered structured questionnaire, which was adapted by reviewing different literature (14,15,17). To ensure consistency, it was translated into Amharic and then back into English. The questionnaire was designed in

four parts: socio-demographic characteristics, knowledge of cervical cancer, utilization of screening for cervical cancer, and reproductive and behavioral characteristics. Data quality was ensured throughout the collection, coding, entry, and analysis processes. To guarantee data accuracy, its completeness was checked thoroughly for each sample, and double data entry was performed to check the consistency of the data. Three trained BSc undergraduate students and one postgraduate MPH student were recruited as the data collectors and supervisor respectively. The overall activities of the data collection processes were supervised daily by the supervisor.

The principal investigator performed double data entry into Epi data version 3.1 to ensure the accuracy and completeness of the data. Data quality was ensured through two-day training of the data collectors and the supervisor. Supervisors reviewed questionnaires daily for completeness and consistency.

Variables of the study and operational definitions

The dependent variable of the study was utilization of cervical cancer screening with responses of “YES” or “NO”.

Socio-demographic variables (age, religion, marital status, educational level,

profession, work experience and work place).

Knowledge related to cervical cancer (causative agent of cervical cancer, risk factors of cervical cancer, vulnerability of cervical cancer, prevention methods of cervical cancer, methods of cervical cancer screening and symptoms of cervical cancer).

Health service related factors (availability of the service and convenience of service time).

Cue to cervical screening (mass media, campaign, reminder from doctors, friends).

Reproductive and behavioral characteristics (age of first sexual contact, parity, history of multiple sexual partners, history of STDs and contraceptive use).

Operational Definition

Female health workers: Female health professionals, who study, diagnose, treat and prevent human illness, injury and other physical and mental impairments including: nurses, doctors, health officers, lab technicians/Technologies, pharmacists/druggist, anesthetics, radiographers’ urban health extension workers, public nurses, psychiatry nurses and environmental nurses (18).

Public health facility: Governmental health facility which provides preventive and/or curative health service to the community: including hospitals and health centers.

Cervical cancer screening: a method of detecting abnormal cervix cell (19).

Utilization of cervical cancer screening: who ever screened at least once for cervical cancer (15).

Knowledge about cervical cancer screening: eight questions about cervical cancer screening will be asked (*causative agent of cervical cancer, risk factors for cervical cancer, prevention methods, vulnerability to cervical cancer, symptoms of cervical cancer, frequency of screening and screening methods of cervical cancer*). Each of the questions will have a “YES” or “NO” response. Each correct answer will receive a score of 1 while each incorrect answer will receive a score of 0. We will receive composite knowledge score from 0 to 8. The scores from all 8 items will be added together and the sum of the total score will be calculated. Female health workers who scored an average or higher are considered to have good knowledge while those who score less than average are considered to have poor knowledge (20).

Multiple sexual partners: Women having sexual intercourse with more than one partner in their life either serially or at the same time (17).

Early initiation of sex: Starting first sexual intercourse before age of 18 years (19).

Data processing and analysis

The completed questionnaire was checked for its completeness, consistency, and accuracy before analysis. The data were coded, entered into Epi-info version 4.6 and exported to SPSS version 27. Descriptive statistics using different frequency tables, graphs, and descriptive summaries were used to describe the variables under study and bivariable and multivariable binary logistic regression analysis was used to determine the statistical relationship between each dependent and independent variable. A variable with a p-value of 0.25 in bivariable analysis was taken into account in multivariable analysis to see the independent contribution of each independent variable. The Hosmer and Lemeshow test was done to assess the goodness of fit of the model. Chi-square tests were initially conducted but excluded from the final model to avoid redundancy. The strength of the association was determined using a crude and adjusted odds ratio, a 95% confidence interval, and variables with a p-value less than 0.05 taken as having statistical significance.

Results

Socio-demographic characteristics

Out of a total of 407 female health professionals, 383 were successfully

enrolled in this study, resulting in a response rate of 94.1%. The age of the respondents ranged from 21 to 50 years, with a mean (\pm SD) of 31.33 (\pm 5.16), and 185 (48.3%) are protestants. More than two-thirds (67.9%) of study participants were married and 203 (53.0%) were employed in health centers.

The work experience of respondents ranged from 0 to 28 years, with a mean (\pm SD) of 7.43 (\pm 4.45). Moreover, 167 (43.6%) were nurses, and 294 (76.8%) had a degree level education (Table 1).

Table 1: Socio-demographic characteristics of female health professionals in Hawassa city public health facilities, Sidama, Ethiopia, 2023.

Variables	Frequency (n)	Percent (%)
Age in Groups		
20 – 29	157	41.0
30 – 39	197	51.4
\geq 40	29	7.6
Religion		
Orthodox	180	47.0
Protestant	185	48.3
Muslim	10	2.6
Catholic	8	2.1
Marital Status		
Currently unmarried	123	32.1
Married	260	67.9
Service Area		
Hospital	180	47.0
Health Center	203	53.0
Educational Status		
Diploma	89	23.2
Degree and above	294	76.8
Work Experience		
\leq 7	200	52.2
$>$ 7	183	47.8
Profession		
Nurse	167	43.6
Health officer	56	14.6
Doctors	22	5.7
Pharmacy	24	6.3
Laboratory	41	10.7
Midwife	71	18.5
Other	2	0.5

Reproductive and behavioral characteristics

More than half, or 292 (76.2%), of female health professionals had their first sexual intercourse at the age of 18 years and above. Two hundred twenty (57.4%) of

respondents did not have multiple sexual partners, and the majority, 357 (93.2%), had no history of sexually transmitted disease. In addition, 158 (41.3%) of study participants had one to two children, and about 223 (58.2%) used contraceptives (Table 2).

Table 2: Reproductive and behavioral characteristics of female health professionals in Hawassa city public health facilities, Sidama, Ethiopia, 2023.

Variables	Frequency (n)	Percent (%)
Age at first sexual intercourse		
≤ 18	91	23.8
> 18	292	76.2
Parity Status		
Nulliparous	138	36.0
Primiparous	158	41.3
Multiparous	87	22.7
Having multiple sexual partners		
Yes	163	42.6
No	220	57.4
History of sexually transmitted diseases		
Yes	26	6.8
No	357	93.2
Ever used a contraceptive?		
Yes	223	58.2
No	160	41.8

Knowledge of Study participants about Cervical Cancer

Approximately 93.2% of respondents were aware of the availability of cervical cancer screening in their facility. Most of the respondents cited electronic media (34.0%) as the source of information, followed by training (25.1%) and print media (17.6%). The number of respondents who correctly

identified the causative agent of cervical cancer was 261 (68.1%). One hundred eighty-four (48.0%), 171 (44.6%), and 165 (43.0%) respondents mentioned two or more symptoms, risk factors, and prevention of cervical cancer, respectively.

More than half of the respondents (68.2%) cited one or two cervical cancer screening techniques. Regarding vulnerability, 177 (46.2%) said that women of reproductive age and those older than 50

were both prone to cervical cancer. About 219 (57.2%) of respondents cited that women who are 21 and older were the target group and 130 (33.9%) of respondents mentioned those age is 30 and above were the target groups for cervical cancer

screening. From the eight knowledge questions, those who scored an average or above were 253 (66.1%) taken as having good knowledge, while the rest, 130(33.9%) (95%;CI 29.3 - 38.8), had poor knowledge (Table 3).

Table 3: Knowledge of female health professionals about Cervical Cancer in Hawassa city public health facilities, Sidama, Ethiopia, 2023.

Variable	Response	Frequency	Percent
Cervical Cancer causative agent	HPV	261	68.1
	Don't know	122	31.9
Risk Factors of Cervical Cancer*	Having multiple Sexual partners	241	62.9
	Early sexual intercourse	212	55.4
	Acquiring HPV virus	276	72.1
	Cigarette smoking	98	25.6
	Don't know	24	6.3
Symptoms of Cervical Cancer*	Vaginal bleeding	256	67.0
	Foul smelling vaginal discharge	254	66.5
	Contact bleeding	252	66.0
	Post-menopausal bleeding	149	39.0
	Don't know	25	6.3
Prevention method of Cervical Cancer*	Avoid multiple sexual partners	209	54.6
	Avoid early sexual intercourse	203	53.0
	Quit cigarette smoking	118	30.8
	HPV vaccination	317	82.8
	Don't know	11	2.9
Screening method of Cervical Cancer*	Pap smear	279	72.3
	VIA	260	68.1
	VILI	68	17.8
	HPV DNA	106	27.7
	Don't know	35	9.2
Knowledge	Good Knowledge	253	66.1
	Poor knowledge	130	33.9

N.B:- Because of multiple responses, those marked with an asterisk (*) did not add up to 100%.

Utilization of cervical cancer screening

According to this study's findings, only 86 (22.45%) (95%; CI 18.4 - 27.0) had ever

been screened at least once for cervical cancer (Figure 1). The main reason for the utilization of the service was to maintain

good health (60.5%) and to detect early cervical cancer (33.7%) (Figure 2).

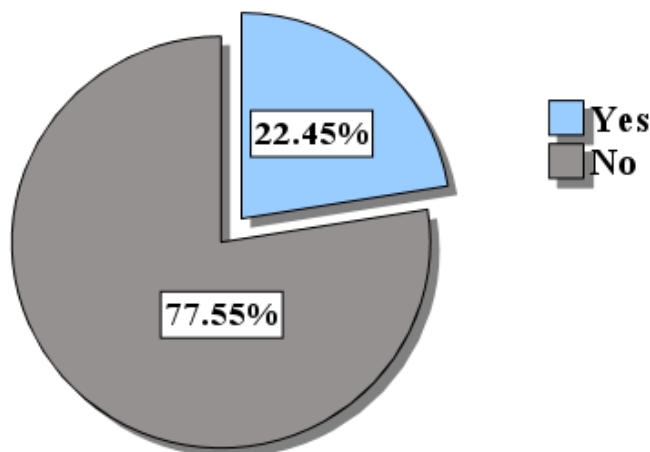


Figure 1 Utilization of cervical cancer screening among female health professionals in Hawassa city public health facilities, Sidama, Ethiopia 2023.

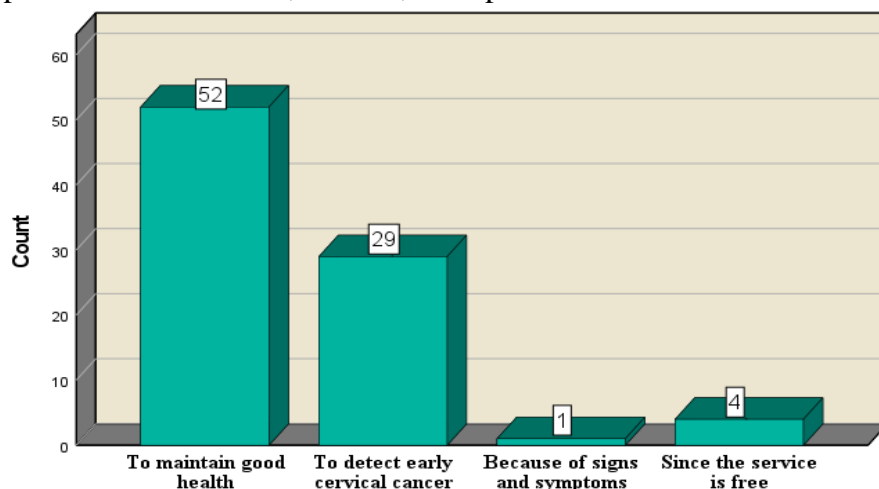


Figure 2. Reasons for cervical cancer screening among female health professionals in Hawassa city public health facilities, Sidama, Ethiopia 2023.

The most common reasons stated by study participants for not using cervical cancer screening were the feeling of being healthy 86 (29.0%), followed by fear of a

positive result 78 (26.3%), and carelessness 36 (12.1%), among a variety of other reasons (Figure 3).

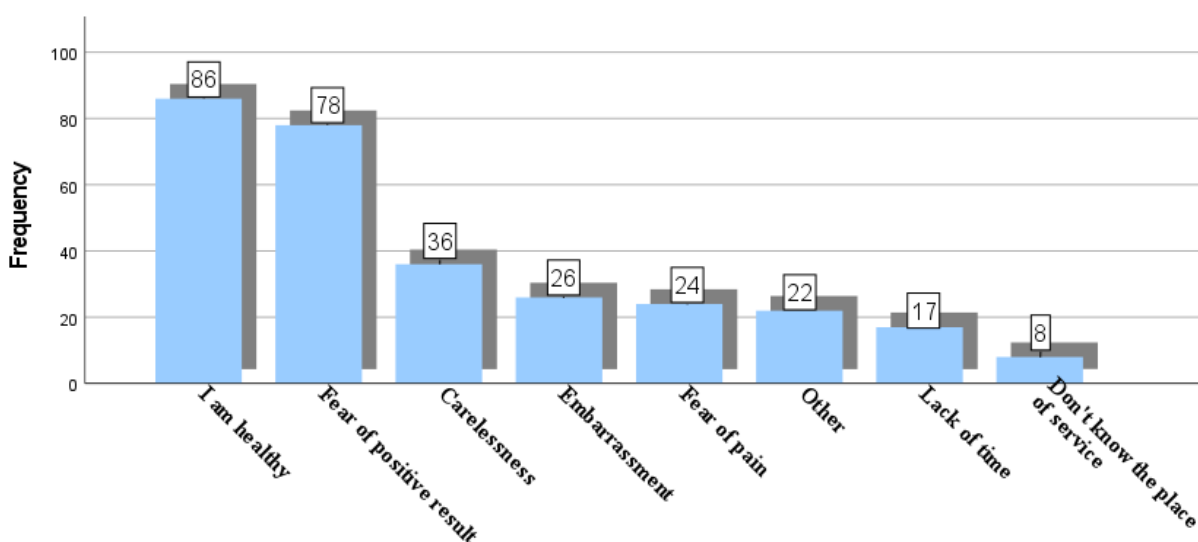


Figure 3. Reason for cervical cancer screening among female health professionals in Hawassa city public health facilities, Sidama, Ethiopia, 2023.

Factors associated with the utilization of cervical cancer screening

To identify factors affecting the utilization of cervical cancer screening, bivariable and multivariable logistic regression analysis were done. In bivariable logistic regression analysis, twelve variables, such as age, marital status, place of work, profession, work experience, knowledge on cervical cancer, screening time convenience, age at first sexual contact, parity, having multiple sexual partners, history of sexually transmitted disease, and ever used contraceptive, were found to be statistically significant at a p-value of less than 0.25 and further examined in multiple logistic regression.

Multivariable logistic regression was done to control variables that could

potentially confound the association between the utilization of cervical cancer screening and the independent variable. After controlling the confounding factors, the multivariable logistic regression analysis revealed that, work experience, history of multiple sexual partners, and comprehensive knowledge of cervical cancer and its screening methods have an association with the utilization of cervical cancer screening (Table 4).

The odds of Cervical cancer screening utilization were 2.764 times (AOR=2.764, 95% CI: 1.192-6.407) higher among participants with a service year higher than 7 years compared to those with a service year less than 7 years. Regarding to knowledge-related factors, the odds of cervical cancer screening service utilization were 1.987 times (AOR = 1.987, 95% CI: 1.088 -3.629)

higher among female health workers who had good knowledge on cervical cancer causative agent, risk factors, symptoms, prevention, and screening method as compared to those who had poor knowledge. Similarly, the odds of cervical cancer

screening service utilization were 2.763 times (AOR = 2.763, 95% CI: 1.468-5.202) more likely among female health workers who had a history of multiple sexual partners as compared to those who did not have a history of multiple sexual partners.

Table 4: Output of bivariable and multivariable logistic regression analysis of factors associated with utilization of cervical cancer screening among female health professionals in Hawassa city public health facilities, Sidama, Ethiopia, 2023.

Variables	Screening Utilization		COR [95% CI]	AOR [95%CI]
	No (%)	Yes (%)		
Age				
< 30	139 (88.5)	18 (11.5)	1	1
≥ 30	158 (69.9)	68 (30.1)	0.301(0.171-0.531)	0.464(0.193-1.115)
Marital Status				
Currently unmarried	112 (91.1)	11 (8.9)	1	1
Married	185 (71.2)	75(28.8)	0.242(0.123-0.476)	0.814(0.339-1.951)
Place of Work				
Hospital	152 (84.4)	28 (15.6)	2.171(1.310-3.599)	1.586(0.861-2.921)
Health Center	145 (71.4)	58 (28.6)	1	1
Professions				
Doctors	21 (95.5)	1 (4.5)	6.467(0.857-48.791)	2.994(0.318-28.213)
Other health care Workers	276 (76.5)	85 (23.5)	1	1
Work Experience				
≤ 7	169 (84.5)	31 (15.5)	1	1
> 7	128 (69.9)	55 (30.1)	0.427(0.260-0.701)	2.764(1.192-6.407)*
Knowledge				
Poor knowledge	90 (69.2)	40 (30.8)	1	1
Good knowledge	207 (81.8)	46 (18.2)	2.000(1.224-3.267)	1.987(1.088-3.629)*
Cervical cancer screening time is convenient				
Yes	204 (75.0)	68 (25.0)	0.581(0.327-1.031)	0.545(0.274-1.085)
No	93 (83.8)	18 (16.2)	1	1
Age at first sexual intercourse				
≤ 18	80 (87.9)	11 (12.1)	1	1
> 18	217 (74.3)	75 (25.7)	0.398(0.201-0.787)	0.798(0.343-1.857)
Parity				
Nullipara	130 (94.2)	8 (5.8)	1	1
Primiparous	130 (82.3)	28 (17.7)	0.286(0.126-0.650)	0.493(0.171-1.421)
Multiparous	37 (42.5)	50 (57.7)	0.046(0.020-0.105)	0.072(0.022-1.234)
Have multiple sexual partner				
Yes	141 (86.5)	22 (13.5)	2.629(1.540-4.491)	2.763(1.468-5.202)*
No	156 (70.9)	64 (29.1)	1	1
Ever used contraceptive				
Yes	153 (68.6)	70 (31.4)	1	1
No	144 (90.0)	16 (10.0)	4.118(2.285-7.420)	1.565(0.707-3.460)

COR=Crude odds ratio, AOR = Adjusted odds ratio with CI=confidence interval. Statistically significant at P < 0.05 = *

Discussion

According to the study findings, 22.45% (95% CI: 18.4-27.0) of participants had undergone cervical cancer screening. Working experience, history of multiple sexual partners, and knowledge about cervical cancer and its screening method were found to be independent factors affecting the utilization of cervical cancer screening among female health professionals working at Hawassa city public health facilities. These findings align with prior research, confirming that both individual-level and health-system-level factors influence screening uptake.

The utilization of cervical cancer screening services among female health professionals in the present study was 22.45% (95% CI: 18.4–27.0). This result is in line with similar studies that were conducted in Ethiopia (17%) (21), low-resource settings (20.6%) (22) Tanzania (15.4%) (23) and Baghdad (18.8%) (24). The similarities between studies may be due to a manageable sample size, socio demographic situation and research participants.

In contrast, this result is lower than the study done in Bahrain (54.2%) (25), Qatar (42.2%) (26), Saudi Arabia (26.2%) (27), Uganda (75%) (20), and Cameron (41%) (28). This disparity may be due to differences in study conditions, sample size,

and study participants in Turkey, Qatar, and Saudi Arabia. Another factor could be disparity in countries' health care coverage. The gap between Ugandan studies could be attributed to the fact that non-governmental organizations involved in cervical cancer screening uptake and service provision were more extensive in Uganda than in our study location. Participants in the study in Saudi Arabia and Turkey may have better access to and uptake of cervical cancer screening services. This difference may be due to the higher proportion of married participants in Qatar (83.3%) compared to this study (71.5%), which may lead to a higher uptake of cervical cancer screening.

The current finding is higher than that of a study conducted in Arbaminch town and zuria district, south Ethiopia (9.6%) (14) Mekele town, Northern Ethiopia (11.7%) (18), Benin (7%) (9), Korea (13%) (29), Sokoto, Nigeria (10%) (30), nursing staff in rural India (7%) (31). The possible explanation for this difference might be attributed to the time period of the studies, the types of professions involved in the study, saying that only nurses were involved in Mekelle town, Northern Ethiopia, and rural India, and the recent focus of government policy on chronic diseases, particularly cervical cancer screening and prevention. This suggests the current increase in screening uptake is due to

service availability and accessibility in governmental institutions that are free of charge. It may considerably increase cervical cancer screening uptake.

The most common reasons mentioned by study participants for not utilized for cervical cancer screening were feeling of being healthy 86 (29.0%), followed by fear of a positive result 78 (26.3%), and carelessness 36 (12.1%), among a variety of other reasons. This finding is supported by a study conducted in Korea (29), Addis Ababa, Ethiopia (15), Arba Minch Town, and Zuria District, Southern Ethiopia (14).

Work experience was one of the significant factors in the uptake of cervical cancer screening. Female health workers who had a service year of more than 7 years were 2.764 times (AOR = 2.764, 95% CI: 1.192–6.407) more likely to utilize cervical cancer screening compared with those with less than 7 years of work experience. This finding are similar with studies done in Arba Minch Town and Zuria District, southern Ethiopia (14). The possible explanation may be that when female health workers have more work experience, their knowledge and attention to prevention improve, allowing them to be screened.

The history of having multiple sexual partners is also an important predictor of cervical cancer screening uptake. The odds of cervical cancer screening uptake were

2.763 times (AOR = 2.763, 95% CI: 1.468–5.202) higher among female health workers who had a history of multiple sexual partners as compared to those who did not have a history of multiple sexual partners. The findings are similar to previous research in Addis Ababa, Ethiopia (15), Tigray region of Northern Ethiopia (32), Debremarkos town in Northwest Ethiopia (33). The possible explanation could be that the more sexual partners a woman has, the more likely she is to become infected with sexually transmitted illnesses like the human papillomavirus, which are common risk factors for cervical cancer. The positive association between having multiple sexual partners and screening uptake may reflect increased risk perception. Women who consider themselves at higher risk for HPV infection are more likely to seek preventive services. This finding underscores the role of personal risk awareness in motivating screening behavior. As a result, people may require medical attention, and they may also receive cervical cancer counseling as part of this service.

The results of our study showed that the knowledge of female health workers positively affects the uptake of cervical cancer screening. The odds of cervical cancer screening service utilization were 1.987 times (AOR = 1.987, 95% CI: 1.088–3.629) higher among female health workers

who had good knowledge on cervical cancer causative agent, risk factors, symptoms, prevention, and screening method as compared to those who had poor knowledge. Similar studies done in Arba Minch Town and Zuria District, Southern Ethiopia (14) supported our finding. This consistency may be explained by the fact that female health workers with good knowledge of cervical cancer will clear up rumors about cervical cancer and will have the self-initiative to undergo screening, ultimately increasing their awareness about the benefits of knowing about cervical cancer risk factors and screening benefits.

Utilizing cervical cancer screening uptakes is somewhat important because female health workers are in charge of the health personnel who conduct community health education. Female health professionals should therefore be responsible for the opportunistic screening of women, but miserably, they are weak at being screened, so they cannot be committed to screening the women who come under their care (34).

Limitations of the study

This study is limited in terms of generalizability since the study was conducted in restricted area; Hawassa town. No temporal relationships could be identified due to the cross-sectional nature

of the study. The study misses qualitative data or focus group discussions to explore sociocultural, geographic, and psychological barriers to cervical cancer screening utilization. Besides, as this study relied on self-reported data, recall bias and social desirability bias may have influenced participants' responses, particularly since the study population consisted of health professionals who may feel compelled to report more favorable practices.

Conclusions

Despite the expectation that health professionals act as role models in all aspects of health service consumption, the study found a low prevalence of cervical cancer screening service utilization among female health professionals in the study area (22.45%). The most prevalent reasons offered by study participants for not undergoing screening were feelings of healthiness, although they also indicated that cervical cancer screening time is inconvenient for one-third of study participants. Work experience, knowledge of cervical cancer, and a history of multiple sexual partners all had a substantial impact on cervical cancer screening utilization.

Sidama Regional Health Bureau and Hawassa City Administration Health Department should work together to update

health care providers through continuous professional development in order to increase the knowledge, attitudes, practices, and health behaviors of health professionals so that they may be screened early and focus on prevention. In addition, the cervical cancer program should be expanded by organizing camps and scheduling convenient screening times for female health workers based on demand. Health care professionals are encouraged to put their knowledge into practice by getting screened since they are a role model for the community. To enhance the uptake of screening services, they should update themselves and provide health information about cervical cancer to the community.

Despite having adequate knowledge about cervical cancer, the reasons for low cervical cancer screening practice among health professionals must be investigated further using a qualitative study design approach. Future researchers should take into account private healthcare facilities, as this study solely addressed public healthcare facilities; hence, the results cannot be applied to healthcare professionals working in private institutions.

Authors' Contributions

TH was the principal investigator and conceived the study and was involved in the study design, supervised data collection,

analyzed and interpreted the data, report writing. **MG** supervised the idea and approved the proposal and took part in the follow-up of principal investigator, oversaw data analysis and contributed throughout the process of the write-ups. **NG**: Writing - Review and Editing, interpretation of data and approved the final manuscript. All authors have made substantial contributions to this manuscript.

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Availability of data and materials

The datasets produced and/or analyzed throughout the current study are available from the authors upon reasonable request.

Ethics approval and consent to participate

Ethical clearance was obtained from Pharma College. An official letter of permission was written from the Sidama Public Health Institution to Hawassa City Administration's health department and public health facilities. Informed verbal consent was obtained from each respondent prior to the interview after the purpose of the

study was explained, as well as their right to choose whether or not to participate in the study. The confidentiality of the information was assured, and the privacy of the respondents was maintained by removing personal identities.

Consent for publication

Not applicable.

Competing Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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