Utilization of cervical cancer screening service among female health workforces in public health institutions in south east Ethiopia, a cross-sectional study

Ayantu Melese [a,*], Gezahegn Bekele [b], Ezedin Molla [b], Debora Banga [a], Ayele Agena [c], Ayanalem Loha [a], Tinbete Samuel [b], Yacob Abraham Borie [b], Bruktawit Tadesse [b], Tomas Yeheyis [b]

[a] School of Nursing, College of Medicine and Health Sciences, Arbaminch University, Arbaminch Ethiopia
[b] School of Nursing, College of Medicine and Health Sciences, Hawassa University, Hawassa, Ethiopia
[c] Department of Nursing, College of Medicine and Health Sciences, Wolaita Sodo University, Wolita Sodo, Ethiopia

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ABSTRACT

Introduction: Globally, cervical cancer is the fourth most common cancer, accounting for 6.6%of all female cancers, and ranks as the second leading cause of female cancer deaths. Cervical cancer can be avoided if asymptomatic women are screened for precancerous cervical lesions and treated before they progress to invasive disease. Female health workforces are expected to be in a better position to be motivated and initiate society towards the screening by being role models, but there have been few studies done in Ethiopia to assess the utilization of cervical cancer screening services and its associated factors among female health workforces.

Objective: To assess utilization of cervical cancer screening service and associated factors among female health workforces in public health institutions Bale zone, Sothern Ethiopia.

Methods: An institution-based cross-sectional study design was conducted among 266 female health workforces from May 1 st to May 30th, 2021 using a self-administered questionnaire. Data was entered on Epi data 3.1 software and exported to Statistical package for social science (SPSS) software version 25 for analysis. Logistic regression was used to identify the independent predictors of cervical cancer screening. Statistical significance for the multivariable logistic regression analysis was set at $p < 0.05$.

Result: Out of the total sample size (n = 266), 258 have responded to the questionnaire completely, making the response rate 97 %. The utilization of cervical cancer screening services was 38 (14.7 %). There were significant associations between working in hospitals with an adjusted odd ratio (AOR [95 % CI] = 4.814 [1.774–13.06]) and serving 7 years and above [95 % 44 CI = 5.988 [2.096–17.1]) and utilization of cervical cancer screening services.

Conclusion: and recommendations: The proportion of utilization of cervical cancer screening services among female health workforces in Bale Zone was very low. Working in hospitals and prolonged work experience were independent predictors of the utilization of cervical cancer screening services. Sustaining awareness creation and sensitization of screening through training

* Corresponding author. School of Nursing, College of Medicine and Health Science, Arbaminch University, Ethiopia.
E-mail addresses: ayantu987@gmail.com (A. Melese), bekeledadi@gmail.com (G. Bekele), ezuluv2@gmail.com (E. Molla), deborabanga038@gmail.com (D. Banga), ayehuagana123@gmail.com (A. Agena), aynalem069@gmail.com (A. Loha), Tinbetsamuel@gmail.com (T. Samuel), yacobabraham12@gmail.com (Y.A. Borie), bruktiwaza@gmail.com (B. Tadesse), tyeheyis@gmail.com (T. Yeheyis).

and experience sharing should be given broad emphasis for female health workforces to increase their utilization of screening services.

1. Introduction

Cervical cancer is defined as the uncontrolled growth of abnormal cells in the cervix lining [1]. It is the fourth most frequent cancer in women worldwide, accounting for 6.6% of all malignancies in women [2,3], with an estimated 604,000 new cases and 342,000 deaths globally in 2020 [4]. Approximately 84 % of all cervical cancer cases and 88 % of all cervical cancer-related deaths occurred in lower-resource countries [5].

Cervical cancer screening is looking for precursors, such as cervical intraepithelial neoplasia before a person develops any symptoms, and it may be easier to treat or cure cancer or abnormal tissues if they are found early [6]. Cervical cancer screening programs are being implemented worldwide to reduce the incidence and mortality of this disease, and the introduction of the Papanicolaous (Pap) test has resulted in a significant reduction in mortality and morbidity in developed countries [7].

The World Health Organization (WHO) responded by announcing a Global Strategy to Accelerate the Elimination of Cervical Cancer as a Public Health Issue in 2020, to bring rates down to 4 cases per 100,000 women globally. The American Cancer Society endorsed the use of the cervical smear as a cancer prevention test for cervical cancer in 19,45[8]. The most common screening techniques are the Pap smear test, visual inspection with acetic acid (VIA), and HPV DNA test. In resource-constrained settings, such as Ethiopia, the VIA screening method is preferred for detecting precancerous cervical lesions [8].

Most high-income nations have implemented human papilloma virus (HPV) vaccination and cervical cancer screening; however, coverage of screening services in low- and middle-income countries is low (LMICs) [10]. Surprisingly, the National Cancer Control Plan (NCCP) of Ethiopia intends to increase cervical cancer screening coverage using VIA to more than 80 % in a few years however there are no recent studies to assess the level of progress in the plan. Related to this plan, since 2016 the ministry of health of Ethiopia has started providing cervical cancer screening services free of charge to all eligible women in Ethiopia to reach its ambitious goals [9].

Implementing a primary prevention vaccination is anticipated to have a substantial impact on the medical burden of cervical cancer, in developing countries like Ethiopia. Though many studies have been done in Ethiopia's on cervical cancer screening service utilization; most of the studies were carried out among HIV-positive women, women attending the antenatal/gynecology clinics, and university students. There is a paucity of literature in Ethiopia on the utilization of cervical cancer screening services among female health workforces. The purpose of this study is to provide ample evidence regarding knowledge, attitude, and utilization of cervical cancer screening among female health workers to bring about long-term behavioral change among women by using these health workers as an example. Furthermore, it identifies gaps between their knowledge and actual practice.

2. Methods and materials

Study area this study was conducted in Bale zone, which is found in the Oromia national regional state, southeast Ethiopia with the zonal capital city Robe town which is found 403 km away from the capital city of Ethiopia, Addis Ababa. There are four Public hospitals found in Bale Zone namely Madda Walabu University Goba Referral Hospital, Robe General Hospital, Madda Walabu Primary Hospital, and Dello Menna General Hospital. And a total of 55 health centers are found in Bale zone. The total of 268 and 249 female health workforces are working in those 55 health centers and 4 hospitals respectively. Among those public health institutions found in the Bale zone, only three hospitals, namely (Madda Walabu University Goba Referral Hospital, Robe General Hospital, and Madda Walabu Primary Hospital) and two health centers, namely (Agarfa health center and Goro health center) have screening centers for cervical cancer.

3. Study period

A facility-based cross-sectional study was conducted among female health workforces working in public health institutions in Bale Zone, Southeast Ethiopia from May 1 to 30, 2021.

4. Population

4.1. Source population

All female health workforces working in all public health institution in Bale Zone, southeast Ethiopia 2021.

4.2. Study population

Female health workforces who are working in selected hospitals and health centers in Bale Zone, southeast Ethiopia 2021.

4.3. Eligibility criteria

Female health workforces who are working in Bale zone public health institutions, available at the time of data collection, and whose age is 21 and above were included in the study.

4.4. Sampling

4.4.1. Sample size determination

The appropriate sample size for the study was calculated, by using the formula for a single population proportion, taking a prevalence estimate of 11.4 from a previous study conducted in Sidama zone, southern Ethiopia [10]. Assuming a 95 % confidence interval and margin error of 4 % ($d = 0.04$), the total sample size was calculated as 266, including 10 % non-response rate.

- ➢ $n = (Z\alpha/2)2 \ (p) \ (1 - p)/d2$
- ➢ $n = (3.84)(0.114)(0.886)/(0.04)2$
- ➢ n = 242
- ➢ we add 10 % non-response rate
- ➢ $242 \times 10/100$
- ➢ 24
- ➢ $242 + 24$
- ➢ 266 the final sample size required.

4.4.2. Sampling procedure

Four hospitals and 55 health centers were found in the Bale zone. The total number of female health workers employed in those four hospitals and 55 health centers was used as the source population. A total of 517 female health workers are working in all hospitals and health centers found in Bale zone. Out of a 517 health workforces, 249 of them work in 4 government hospitals and the remaining 268 health workforces are working in those 55 governments health centers found in Bale zone. All hospitals are selected purposefully, and health centers are selected by using a simple random sampling method. A sample of 266 female health workforces were selected for the study from 4 hospitals and 17 health centers after sampling frames of female health workforces were prepared for those working in selected government hospitals and health centers. Through proportional sample size allocation 175 female health workforces are selected from a total of 236 health workers working in public hospitals, and 91 health workers are also selected from a total of 123 female health workers who work in 17 selected health centers.

4.4.3. Data collection instruments

A Pretested and structured self-administered questionnaire was used to collect data from each study subject. The questionnaire was adapted from different related literature with slight modifications in line with the objectives of this particular study and to fit the local context[15–17.] The questionnaire has five parts: the first part includes socio-demographic characteristics, which have 11 questions; the second part contains reproductive and sexual characteristics, which includes 5 questions; the third part assesses general comprehensive knowledge, consisting of 23 questions; the fourth part measures attitudes, which includes 10 questions; and the fifth part assesses utilization of cervical cancer screening services, which also includes 6 questions. A total of 55 items are included in the questionnaire.

4.4.4. Data collection procedure

Data collection was conducted from May 1–30, with a self-administered questionnaire from female health workforces working in Bale zone public health institutions. Five trained BSc degree nursing students collected data; one MSc student in Adult Nursing was a supervisor. The completed questionnaires were collected daily to be checked for consistency and completeness by the supervisor as well as the principal investigator.

4.4.5. Data quality control measure

Training and orientation were provided for data collectors and supervisors for one day on issues relating to the objectives of the study, confidentiality of information, informed consent, and data collection tools. Day-to-day supervision was carried out by the principal investigator and a trained supervisor for the entire length of the data collection period. The reliability of the variables was checked using Cronbach's alpha ($\geq$0.7) before data collection. The internal consistency Cronbach's alpha result for 23 items of knowledge variables was 0.904 and for 10 items of attitude variables was 0.716. The pretest was conducted in Dodola hospital on female Health workforces of a 5 % sample size. A self-administered questionnaire was administered to 13 Female health workforces of Dodola hospital. Then, the necessary correction was made based on the feedback of the data collectors on the clarity and logical sequence of the questionnaire.

4.4.6. Data processing and analysis

The quantitative data were carefully entered into Epi-data V3.1, edited, and cleaned for inconsistencies and missing values. Data were analyzed using SPSS version 25.0. Descriptive statistic was used to summarize data. Bivariate Correlation analysis was done to assess the association between the dependent variable and independent variables. Simple and multivariable logistic regression was

used to assess the association between the dependent variable and independent variables. The variable with a p-value less than 0.05 was taken as having a significant association.

4.4.7. Operational definitions

- **Cervical cancer screening**: Steps taken to identify women with any form of cervical changes and those without any form of cervical changes using an available method of screening [6].
- **Utilization of cervical cancer screening service**: The action of ever use of available cervical cancer screening service [11].
- **Knowledge**: Is defined in this study, from a total of 23 knowledge-related questions, if the participant responds: less than 60 % correctly categorized as having poor knowledge, 60–79 % correctly categorized as having fair knowledge and those scored 80 % and more categorized as having good knowledge. (On assessment Modified Bloom"s cut off (Bloom cut off points was adopted from MsNahida"s KAP (knowledge, attitude and practice) Study, 2007)

Therefore the scores with their respective knowledge question as.

➢ 18.4 good knowledge
➢ 13.8–18.17 fair knowledge
➢ <13.7 poor knowledge
- **Attitude**: Those who scored ≥60 % were considered to have a positive attitude and those who had <60 % were considered to have a negative attitude. The highest score would expect to be 50 and the lowest score to be 10 [19].

5. Results

Socio-demographic characteristics of the respondents Out of the total sample size (n = 266), 258 have responded to the questionnaire completely, making the response rate 97 %. The age of participants ranges from 21 to 51 years with a median of 30 years and

Table 1
Socio-demographic characteristics of female health workforces in public health institutions Bale zone, Ethiopia, 2021.

Variable	Response		Frequency	Percentage
Age	21–29		132	51.2 %
	30–39		106	41.1 %
	40–49		18	7 %
	50 and above		2	0.8 %
Educational level	Diploma		57	22.1 %
	Degree		201	77.9 %
Type of health facility	Hospital		169	66.5 %
	Health center		89	34.5 %
Service year	Below 7 years		135	52.3 %
	7 years and above		123	47.7 %
Marital status	Single		65	25.2 %
	Married		183	70.9 %
	Divorced		10	3.9 %
Parity	Nullipara		95	36.8 %
	1–2		103	39.9 %
	3 and more		60	23.3 %
Religion	Orthodox		182	70.5 %
	Muslim		45	17.4 %
	Protestant Other		28	10.9 %
	Other		3	1.2 %
Ethnicity	Oromo		198	76.7 %
	Amhara		50	19.4 %
	Other		10	3.9 %
Departments		Medical ward	48	18.6 %
		Pediatric ward	38	14.7 %
		Surgical ward	35	13.6 %
		Gynecology ward	85	32.9 %
		Other departments	52	20.2 %
Monthly income	4500 and less		29	11.2 %
	4501–5500		47	18.2 %
	5501 and more		182	70.5 %
Profession	Nurse		145	56.2 %
	Midwifery		80	31 %
	Other		33	12.8 %

*Other departments include emergency, ophthalmology, pharmacy, laboratory, Triage, Intensive care unit, expanded plan on immunization, Anti-Retroviral Therapy, Anti natal care, Ear nose, and throat, Voluntary Counseling, and Testing.
* Other Professions include Doctors, lab technicians, health officers, pharmacists, and druggists.

a standard deviation of ±5.809. The work experiences of the respondents range from 1 to 29 years with a median of 6 years and a standard deviation of ±6.022. The majority of the participants 183(70.9 %) were married while more than two third of the participants 201(77.9 %) were first-degree holders and 57 (22.1 %) were diploma by their educational status. Regarding the parity of respondents, the majority of them gave to 1–2 live births with a median of 1.00 and a standard deviation of ±1.419 (Table 1).

5.1. Reproductive and sexual characteristics of respondents

More than two third of the population 223(84.4 %) ever had sex; out of them 155(69.5 %) women had their first sexual intercourse between the age group of 16–24, out of those who had sexual intercourse 177(79.4 %) of them become pregnant and 103 (46.2) of them gave 1 to 2 live births. Nearly two third of respondents 186 (83.4 %) have only one-lifetime sexual partner, and 37(16.6) of them have 2 and more sexual partners (Table 2).

5.2. Knowledge about cervical cancer and its screening

Out of 258 respondents 249(96.5 %) of them reported that they have ever heard about cervical cancer, around three fourth 186 (72.1 %) of them get the information from college or university, 78(30.2 %) participants mentioned tv or radio as a source of information, 242(93.8 %) study subjects reported that they know about risk factors for cervical cancer. Regarding its prevention methods, more than half 177(68.6 %) of respondents answered that screening and treatment are helpful for the prevention of the disease, regarding the frequency of screening only 33(12.8 %) and 39(15.1 %) of study participants correctly answer that screening should be done every 3 and 5 years respectively. Regarding the knowledge level of respondents 108(43.4) of our study participants have poor knowledge, while 89 (35.7) of them have fair knowledge and less than one third of respondents 52(20.9) have good level of knowledge (Table 3).

5.3. The attitude of female health workforces toward cervical cancer and screening service

The majority of respondents 253(98.1 %) of them have a positive attitude while only 5(1.9 %) of respondents have a negative attitude toward the utilization of cervical cancer screening services (Table 4).

5.4. Perceived susceptibility

Out of the total respondents, 128(89.9 %) of them perceived that all reproductive-age women including them are susceptible to acquiring cervical cancer.

5.5. Perceived seriousness

A vast majority of 256(99.2 %) female health workers in our study believed that cervical cancer is deadly cancer once it reaches an advanced stage.

5.6. Perceived benefit

About 251(97.3 %) and 237(91.9 %) respondents believed that cervical cancer screening services can help in the prevention of cervical cancer and screening procedure can find cervical changes before they become cancer respectively.

Table 2
Sexual and reproductive characteristics of female health workforces in public health institutions Bale zone, Ethiopia, 2021.

Variable	Response	Frequency	Percentage
Ever having sex	Yes	223	86.4 %
	No	35	13.6 %
Age at first sexual intercourse	< or equal to 15	2	0.9 %
	16–24	155	69.5 %
	25–34	66	29.6 %
Ever getting pregnant	Yes	177	79.4 %
	No	46	20.6 %
Number of children	Nulliparous	95	42.6 %
	1–2	103	46.2 %
	3 and above	60	26.9 %
A lifetime number of sexual partners	One	186	83.4 %
	Two and above	37	16.6 %

Table 3

Knowledge level of female health workforces about cervical cancer and its screening service in public health institutions Bale zone, Ethiopia.

Variable	Response	Frequency	Percentage
Ever heard about cervical cancer	Yes	249	96.5 %
	No	9	3.5 %
Source of information	College/University	186	72.1 %
	Training	23	8.9 %
	Staff/colleagues	66	25.6 %
	Tv/radio	78	30.2 %
	Magazines	6	2.3 %
Risk factors for cervical cancer	Having multiple sexual partners	193	74.8 %
	Early sexual intercourse	161	62.4 %
	Acquiring HPV	141	54.7 %
	Cigarette smoking	102	39.5 %
	Family history of cervical cancer	78	30.2 %
	Don't know	7	2.7 %
Vulnerable to cervical cancer	Women more than 50 years old	39	15.1 %
	Reproductive age women	84	32.6 %
	Both	119	46.1 %
	Don't know	7	2.7 %
Symptoms of cervical cancer	Vaginal bleeding	203	78.7 %
	Vaginal foul-smelling discharge	151	58.5 %
	Contact bleeding	115	44.6 %
	Post-coital vaginal bleeding	126	48.8 %
	Back pain	85	32.9 %
	Don't know	12	4.7 %
Is cervical cancer a preventable disease	Yes	236	91.5 %
	No	13	5 %
Ways of cervical cancer prevention	Avoid multiple sexual partners	165	63 %
	Avoid early sexual intercourse	159	59.9 %
	Quit smoking	93	36 %
	Screening and treatment	177	68.5 %
	Through vaccination	152	58.8 %
	Don't know	18	7 %
Do you know about cervical cancer screening	Yes	215	83.3 %
	No	43	16.7 %
What are ways of cervical cancer screening	VIA	51	19.8 %
	Pap smear	31	12 %
	Both	116	45 %
	Don't know	60	23.3 %
How frequent screening should be done	Once every year	64	24.8 %
	Once every two year	23	8.9 %
	Once every three year	33	12.8 %
	Once every five year	39	15.1 %
	Don't know	99	38.4 %
Who should be screened	Women of 21 years and above	197	76.4 %
	Prostitute	7	2.7 %
	Elderly women	24	9.3 %
	Don't know	30	11.6 %
Is there a screening center in your facility	Yes	191	74 %
	No	67	26 %

5.7. Perceived barrier

Less than one-third 56(21.7 %) of them perceived screening services were expensive and about one-third 94(36.4 %) of them perceived the screening procedure as embarrassing.

5.8. Utilization of cervical cancer screening service among female health workforces

The utilization of cervical cancer screening service by female health workers were only 38(14.7 %) of them had utilized cervical cancer screening services, among those who screened for cervical cancer 28(73.7 %) of them screened once in their lifetime and the rest 10(26.3 %) of them screened more than once. Thirty-two (84.2 %) of respondents utilized the screening service within the last five years and only 6(2.3 %) of them screened more than five years ago. All 38(100 %) respondents who screened for cervical cancer have reported that they have planned to continue screening in the future (Table 5).

The major reasons mentioned by respondents for not utilizing available cervical cancer screening services were carelessness 106 (40.7 %), believing not at risk to acquire cervical cancer accounts for 75(29.1 %), embarrassment by the screening procedure accounts for 56(21.7 %), fear of pain during the procedure were mentioned by 43(16.7 %) respondents, fear of positive result were also other reason identified by 37 (14.3 %) health 27 workers & don't know the place of screening service were one of the barriers among 17(6.6

Table 4

Attitude toward cervical cancer and its screening service of female health workforces in public health institutions Bale zone, Ethiopia, 2021.

Variable	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Do you believe cervical cancer is highly prevalent in our country	62(24 %)	158(61.2 %)	15(5.8 %)	13(5 %)	10(3.9 %)
Do you think cervical cancer is a deadly (serious) disease	137(53.1 %)	101(39.1 %)	18(7.0 %)	0	2(0.8 %)
Do you think any adult women including you can be acquiring cervical carcinoma	59(22.9 %)	128(49.6 %)	45(17.4 %)	25(9.7 %)	1(0.4 %)
Do you believe screening helps in the prevention of cervical cancer	99(38.4 %)	135(52.3 %)	17(6.6 %)	5(1.9 %)	2(0.8 %)
Do you think that screening for cervical cancer is expensive	14(5.4 %)	42(16.3 %)	60(23.3 %)	115(44.6 %)	27(10.5 %)
Do you think screening causes no harm to the client	65(25.2 %)	123(47.7 %)	50(19.4 %)	12(4.7 %)	8(3.1 %)
If screening is free and causes no harm, will you screen	67(26.0 %)	108(41.9 %)	66(25.8 %)	17(6.6 %)	0
Do you think screening tests can find cervical changes before they become cancer	56(21.7 %)	125(48.4 %)	56(21.7 %)	19(7.4 %)	2(0.8 %)
Do you think going through the screening procedure is embarrassing	18(7.0 %)	80(31.0 %)	74(28.7 %)	70(27.1 %)	16(6.2 %)
If you want to get a screening, will u allow male doctors to examine your cervix	22(8.5 %)	109(42.2 %)	61(23.6 %)	50(19.4 %)	17(6.2 %)

Table 5

Utilization of cervical cancer screening service among female health workforces in public health institutions Bale zone, Ethiopia, 2021.

| Variables	Response	Frequency	Percentage
Have you ever been screened for cervical cancer	Yes	38	14.7(%)
	No	220	85.3(%)
Indications for undergoing screening	Doctors/nurse consultation	24	63.2(%)
	Personal initiative	9	23.7(%)
	Other	5	13.2(%)
How many times did you screen?	Once	28	73.7(%)
	More than once	10	26.3(%)
Are you planning to have or continue with a screening test in the future?	Yes	38	100(%)
	No	0	0
When was the last time you screened?	Within the past five year	32	(84.2 %)
	More than five years ago	6	(15.8 %)
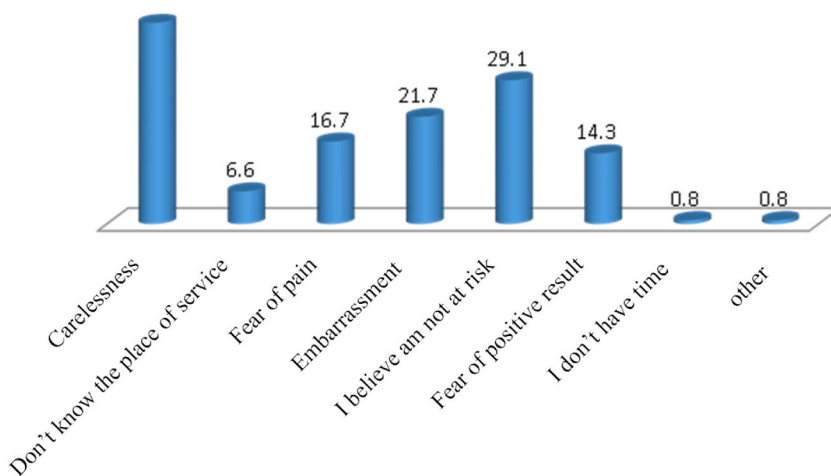
Fig. 1. Reasons for not utilizing cervical cancer screening service by female health workforces in public health institutions bale zone, Ethiopia, 2021.

Table 6

Associations between selected variables and utilization of cervical cancer screening services among female health workforces in public health institutions Bale Zone, 2021. NB: variables having a (P < 0.25) 45 in bivariable (unadjusted) analysis included in the multivariable (adjusted) analysis. * Has shown significant association at p-value <0.05.

Variable	Category	Screened		COR (95%)	AOR (95%)	P value
		Yes	No			
Type of health facility	Hospital	32 (18.9)	137 (81.1)	3.231(1.296 – 8.056)	4.813(1.774-13.06)	0.002*
	Health center	6 (6.7)	83 (93.3)	1	1	
The educational level of respondents	Diploma	2(3.5)	55(96.5)	1	1	
	Degree	36 (13.9)	165 (63.9)	(6.0(1.39 – 25.7)	3.81(0.796 – 18.2)	0.094
Marital status of respondents	Single	4(6.2)	61(93.8)	1	1	
	Married	31(16.9)	152 (83.1)	3.11(1.053-9.185)	0.864(0.111-6.712)	0.889
	Divorced	3 (30)	7(70)	6.536(1.207-35.38)	0.816(0.062-10.45)	0.876
Parity of respondents	Nullipara	5(5.3)	90(94.7)	1	1	
	1-2	19(18.4)	84(81.6)	4.07(1.45 – 11.39)	2.95(0.433 – 20.1)	0.269
	3 and above	14(23.3)	46(76.7)	5.478 (1.86 – 16.15)	1.86 (0.24 – 14.4)	0.55
Service year of respondents	Below 7 years	7(5.2)	128(94.8)	1	1	
	7 years& more	31 (25.2)	92(74.8)	6.0 (1.399 – 25.74)	5.993(2.096-17.1)	0.001*
	4500 and Less	1(3.4)	28(96.6)	1	1	
Total monthly income of respondents	4501 - 5500	4(8.5)	43(91.5)	2.6 (0.277- 24.5))	1.95(0.177-21.49)	0.586
	5501and more	33(18.1)	149(81.9)	6.2(0.814 – 47.2)	3.68(0.425 – 31.86)	

%) respondents for not utilizing the screening service (Fig. 1).

5.9. Reasons for not being screened of health workers

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5.10. Factors associated with utilization of cervical cancer screening

In bivariate logistic regression analysis, the factors having a P value < 0.25 with cervical cancer screening service utilization were the type of health institution in which the respondents working in, marital status, service years of respondents, level of education, parity, and income. However in multivariable logistic regression analysis, the type of health institution in which the respondents work and the service years of respondents were significantly associated with cervical cancer screening practices. The odds of screening are 4.8 times higher for those respondents working in hospitals compared to those who work in health centers (AOR [95 % 11 12 CI = 4.814[1.774–13.06]). Respondents who serve 7 years and above also increased the odds of 13 screening by 6 times more than those who serve less than 7 years (AOR [95 % CI = 5.988[2.096–15 17.1]) (Table 6).

6. Discussion

The proportion of utilization of cervical cancer screening services among female health workforces in Bale Zone was low. In this study only 38(14.7 %) health workforces were utilized the screening service. Working in hospitals and prolonged work experience were independent predictors of the utilization of cervical cancer screening services. Among those who screened 28(73.7 %) of them screened once in their lifetime and the rest 10(26.3 %) of them screened more than once.

The result of this study is consistent with studies done in Ethiopian among health care workers (17 %) [12], Sidama Zone (11.4 %) [10], Mekelle (10.7 %) [13], Mount Meru Regional Hospital, Arusha Tanzania (15.3 %) [14] and India (18.4 %) [15]. In our study, the main reasons for this low utilization could be due to a lack of adequate knowledge, carelessness and those who were knowledgeable were also do not translate their knowledge into practice. The similarity within the above studies could be due to the similar study design they have used.

However the result of the current study is lower than those studies conducted in Ibadan 18 Nigeria(34.6 %) [16], Abakaliki, Nigeria (20.6 %) [17], another study conducted among nurses in Ekiti State, Nigeria (24.2 %)24, Saudi Arabia 103 (26.2 %) [18], Qatar(42.2 %) [19] and study conducted in Northern Uganda 141(75 %) [20]. This could be attributed to differences in strategies for creating a supportive environment and developing a long-term, cost-effective national policy for cervical cancer screening and prevention. Another possible reason for this higher utilization in a study done in northern Uganda is due to their higher level of knowledge around 60 % of respondents had adequate knowledge about cervical cancer which is higher than the present study where only 20.2 % of study participants had adequate knowledge.

On the other hand, the result of the present study is slightly higher than those studies done in Addis Ababa (8.5 %) [21], Arba Minch town 27(9.6)[16], Sokoto, Nigeria 22(10 %) [22], and Less than 10 % of participants had undergone screening in Uttar Pradesh, India [11]. These differences might be due to differences in the types of profession of health care workers involved in the study, the type of health facility from which the respondents selected, the place and time of the study, and also differences in socio-demographic characteristics of the respondents, which could be explained by the different levels of knowledge and attitude toward cervical cancer screening practices among the respondents. For example, the study done in Addis Ababa [21] shows only female nurses are participating in the study but in current study different types of healthcare workers were involved in the study. The difference may be due to the variation of the time the study was conducted, now a day great emphasis is given to cervical cancer screening services and awareness about the service is also increasing from time to time due to this reason the result of this study is higher compared to study done in the past.

In this study types of health facilities in which the respondents worked and the service year of respondents were factors that show significant association with the level of cervical cancer screening utilization. Those Health workers who have been working in hospitals have increased the odds of screening by 5 times compared to those who work in health centers. This might be because cervical cancer screening centers in Ethiopia are very few and are previously available only in secondary and tertiary hospitals. Currently in the study area the total of five cervical cancer screening centers are found in three hospitals and two health centers in Bale zone. The screening centers in those health centers are established recently with few trained personnel even some of the health workers in those health centers are not aware of the presence of screening centers within their facility. In addition, patients with cervical cancer are referred for diagnosis and treatment to the hospitals so those health workers working in the hospital may have increased exposure and motivation toward screening compared to those health workers working in health centers.

This study showed that the odds of ever screening for cervical cancer are 6 times higher for those who served more than or equal to 7 years compared to those who served less than seven years Regarding the service year of respondents similarly, studies done in Arba Minch show that the odds of ever screening for cervical cancer is 5 times higher for those who served more than or equal to 7 years than those who served less than seven years [23]. Another study conducted on the utilization of cervical cancer screening services among nurses in Ekiti State, Nigeria revealed that participants who had long years of professional experience are more likely to utilize cervical cancer screening services than those who had shorter years of professional experience [24]. This can be attributed to the fact that female health workers who have higher work experience may have repeated information and exposure with patients and that help themselves to be screened. On the other hand service year of participants was not significantly associated with the utilization of 49

screening services, which is shown in studies done in Mekelle [13], Southern Ethiopia [10], and Addis Ababa [21]. This study the most common reason given by respondents for not ever being screened was carelessness (40.7 %), a similar reason is given by female nurses in Mekelle (17.9 %) [13]. The other reason was perceived themselves as not at risk to acquire cervical cancer (29.1 %). This attitude is also the reason why female health workers are not being screened (34.4 %) in Sokoto Nigeria [22] and studies in Arba Minch [23] also indicate that considering themselves as healthy (39.5 %) prevents them from utilizing the service. The other reason perceives that the screening procedure is embarrassing; this is also similar to the reason given by study participants from a study in Mekelle, Ethiopia [13]. Fear of pain, fear of the positive result, not knowing the place of service, and lack of time are among the lists of possible reasons mentioned by our study subject.

7. Strength and limitation of the study

7.1. Strength

The use of the self-administered questionnaire provided confidentiality while the questionnaire was being completed.

7.2. Limitation

The questionnaire for this study is self-completed. As medical professionals, the respondents may be prone to subjective concealment or concealment of socially expected findings, such as hiding of marital status, number of sexual partners, and knowledge level, among other things. Female healthcare providers self-report on how often they use the service for cervical cancer screening, and the response was subject to subjectivity.

8. Conclusion

Even though they are health professionals with a positive attitude toward screening services, their utilization of cervical cancer screening services is low. This study revealed that, only 20.2 % of respondents have good knowledge regarding cervical cancer and its screening. Majority of respondents have a positive attitude toward cervical cancer screening services and perceived themselves as susceptible to acquire cervical cancer. Working in hospitals and prolonged work experience were factors which increase the likelihood of utilization of cervical cancer screening services. The overall lack of knowledge, carelessness, and failure to translate their positive attitude toward screening may have a significant impact on the utilization of screening services.

9. Recommendations

Based on the findings the study the following recommendations are forwarded.

1. Federal ministry of health need to consider basic education and on job training is needed for health workers to improve their awareness and to motivate them toward screening service.
2. Individual female health work forces are better to put their effort on updating their knowledge through reading and those who are knowledgeable are also need to translate their knowledge in to action as well as to ensure the long-term viability of national screening program.
3. Researchers are better to conduct further study to address those factors associated with utilization of cervical cancer screening which is not reached by this study.

Ethical approval and consent to participate

Ethical approval was obtained from the institutional review board (IRB) with reference number IRB/121/13 of Hawassa university college of Medicine and Health Sciences. A formal letter was written to selected public health institutions from Hawassa University School of nursing to inform them about the study. The trained data collectors explained the objective of the study to the participants. Verbal consent was obtained from the study subjects who participated in completing the questionnaire after explaining the purpose of the study. Data was kept confidential and anonymous and it was used only for research purposes. The participants were also informed that the information was accessed by the principal investigator, they are not forced to answer the entire questions and they can withdraw at any time if they do not want to continue.

Consent for publication

Not applicable.

Availability of data and materials

The data set used during this study were available from the corresponding author on reasonable request.

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Additional information

No additional information is available for this paper.

CRediT authorship contribution statement

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Abbreviations

AOR	Adjusted Odd Ratio
BSc	Bachelor of Science
CI	Confidence Interval
COR	Crude Odd Ratio
DNA	Deoxyribonucleic acid
HIV	Human Immune deficiency Virus
HPV	Human Papilloma Virus
MSc	masters of Science
NCCP	National Cancer Control Plan
NGO	Non- Governmental Organization
VIF	variance inflation factor

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