Knowledge Toward Cervical Cancer and Its Determinants Among Women Aged 30-49 in Jimma Town, Southwest Ethiopia

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Abstract

Background: Cervical cancer is one of the common causes of premature death and disability in women worldwide. It is preventable through vaccination, and screening for precancerous lesions and early treatment. However, screening service uptake and treatment for cervical cancer face significant challenges in low-income countries due to poor information systems. The aim of this study was to assess knowledge of cervical cancer and its determinants among women aged 30-49 years living in Jimma Town, Southwest Ethiopia.

Methods: A community-based cross-sectional study was undertaken from March 20 to April 15, 2017. The data were collected using a structured interviewer-administered questionnaire and analyzed by SPSS version 21. Multivariable logistic regression anaysis was done and variables with a p-value < 0.05 were considered statistically significant.

Results: Of the interviewed women, only 321(43.6%) had adequate knowledge about cervical cancer and screening. Attending secondary school or above (AOR = 2.42, 95% CI: 1.24-4.74), using modern contraceptives (AOR = 6.31, 95% CI: 2.86-13.89), knowing somebody with cervical cancer (AOR = 2.24, 95% CI: 1.35-3.71) and knowing someone screened for cervical cancer (AOR = 2.23, 95% CI: 1.30-3.80) were associated with knowledge of cervical cancer.

Conclusion: Knowledge of cervical cancer is low in the current study area even if appropriate knowledge regarding the disease is important in decreasing the incidence and prevalence of cervical cancer through screening and human pappiloma virus vaccination. Increasing awereness regarding the disease and prevention strategies are the key issue.

Keywords

knowledge of cervical cancer, cervical cancer, jimma town, cancer screening

Background

Cervical cancer is among the common causes of early morbidity and mortality in women worldwide.[1] It is the fourth most frequently diagnosed cancer and the fourth cause of cancer related deaths among women globally.[2] But, there is a vast difference between low and middle-income countries (LMIC) and high-income countries (HIC) interms of the occurrence, and death related to cervical cancer. About 570,000 cases and 311,000 deaths occurred due to cervical cancer worldwide, and approximately 84% of cases and 88% of all deaths caused by this this cancer occurred in resource limited countries in 2018.[3]

Thirty five women per 100,000 women are newly diagnosed with cervical cancer in Sub-Saharan Africa every year, and

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23 deaths per 100,000 women occur from this disease.[4] In 2018, the incidence rate cervical cancer was 11.7 cases per 100,000 women per year; making it the second leading cause of female cancer in Ethiopia.[5]

Studies indicated that a number of women died from cervical cancer in different places in Ethiopia and this imposed significant effect on the families and children the deceased lead including child survival, education, nutrition and economy.[6]

Cevical cancer is preventable through vaccination for Human Papilloma Virus (HPV), and earlier recognition/screening and treatment of precancerous lesions.[6] However, the treatment and screening for cervical cancer is challenging in low-income countries, including sub-sahara Africa currently. This was mainly due to inadequate information systems (high rates of illiteracy, limited health-specific knowledge), human capacity, and health system infrastructure.[7,8] Several studies have indicated knowledge about cervical cancer is the highest predictor of preventive services utilization for the disease.[9-13] Different factors were identified to be associated with knowledge of cervical cancer and its screening from different corners of the world some of the females with high knowledge had high level of education, knew someone with cervical cancer, had high income[14-16] and used any of the available contraceptive method.[17] There was no studyconducted in the study area previously on the level of womens' knowledge regarding cervical cancer; screening service utilization for the same was also low.[9] Therefore, this study aimed to determine the level of cervical cancer knowledge and its determinants among women aged 30-49 years living in Jimma town, Southwest Ethiopia.

Methods and Materials

Study Area

A community-based cross-sectional study was conducted in Jimma town. Jimma town is the capital of Jimma zone, and located in Oromia regional state at 352 km from Addis Ababa in the southwest direction. Regarding the health cvarage of the town, more than fifteen private clinics, 2 public hospitals, 2 non-governmental clinics, and 4 health centers have been providing health services in the town. Out of the above health facilities, the 2 hospitals and the 2 nongovernmental clinics have been providing cervical cancer screening using visual inspection of the cervix with acetic acid.[18] Besides, accessability to cervical cancer screening sevice in the town and utilization of the service by town residents was very low.[9]

Study Design, Period and Populations

A community-based cross-sectional study was undertaken from March 20 to April 15, 2017, in the town. The source population was an all-female population aged between 30 and 49 years while the study population was randomly selected women 30-49 years of age. This age group was targeted because the Ethiopian cervical cancer sceening guideline recommends that women between 30-49 years of age should be screened for cervical cancer regardless of other health condition.

Eligibility Criteria

Women age range between 30 and 49 were included while women who stayed less than 6 months in the study area were excluded from the study.

Sample Size Calculation and Sampling Technique

The sample size was calculated using single population proportion formula ($n = \frac{\left(z_{\frac{\alpha}{2}}\right)^2 p(1-p)}{d^2}$), based on the proportion (p) of knowledgeable women about cervical cancer in the population to be 25% which was taken from a study done among Mizan Tepi University female students,[19] with a margin of error (d) of 3.2%, at a 95% confidence level ($z_{\alpha/2} = 1.96$), and 5% non-response rate. The finaltotal sample size use for this study was 742. Systematic random sampling technique was employed to select the study participants. First 5 Kebeles were randomly chosen from a total of seventeen kebeles of the town. Kebele is the lower most administration unit next to a district in Ethiopia. Then, the total sample was assigned correspondingly to each Kebele according to the size of their households. Then after systematic random sampling was employed to select the households. An inverval (k) through which sampling process made was calculate by deviding the total househoulds each selected kebele to sample size allocated to that kebele. Finally, the eligible women in selected household were interviewed. The households that did not satisfy the criteria were replaced by the next household, and for a household with more than one eligible women, one woman was randomly selected using the lottery method

Study Procedures

The interviewer-administered structured questionnaires were adapted from related literature[20-22] to collect data. The questionnaire has parts like socio-demographic, reproductive characteristics, and cervical cancer knowledge. Questionnaires were translated to the local language (Afan Oromo and Amharic) from the English version. Then, back to English by an independent person to assure its accuracy. The questionnaire was pre-tested on 5% of the total sample size, which is a similar population to the study area in Agaro town. Agaro town is 40 km away from the study site. The collected data were evaluated for completeness, clarity, and consistency by the supervisor and principal investigator on a daily basis. Ten data collectors and 3 supervisors who were qualified with bacheol of science (BSc) in public health were recruited and trained for 2 days before a data collection on data collection tool, approach to the interviewees, details of interviewing techniques, respect and maintaining privacy, and confidentiality of the respondents.[9] It took 15-20 minutes to complete the questionnaire.

Data Analysis

Epi-data manager version 4.0.2.101 and SPSS version 21 statistical packages were used to enter into software analyzes respectively. Descriptive statistics were done to describe variables using proportions and frequencies. Variables for multivariable binary logistic regression models were selected by cross-tabulations and bivariate analyses. The cutoff point was taken to be 0.25 in variable selection for multivariable analysis. After controlling for confounding, multivariable logistic regression was done and variables with a p-value of less than 0.05 were taken as factors associated with knowledge of cervical cancer. The odds ratio was used to explain the magnitude of the association.

Variables and Measurements

Socio-demographic: Socio-demographic variables like marital status, age, educational status, religion, and occupation. *Reproductive characteristics:* Reproductive characteristics were variables like the history of sexually transmitted infection, age at first sexual intercourse, HIV status parity, contraceptive use, and testing. *Knowledge of cervical cancer:* The outcome variable was knowledge about cervical cancer. It was assessed by 18 questions on cervical cancer and screening which answered as yes, no or I don't know. During analysis, the correct answer was coded as 1 and incorrect answer as 0. The total points to be scored was 18 and the minimum was 0. On assessment, these respondents who answered 9 to 18 adequate knowledge and 0-8 considered as having poor knowledge.[23] *Other variables:* Included knowing somebody with cervical cancer, advice from health professions, and knowing others who screened for cervical cancer.

Results

Sociodemographic Characteristics

Seven hundred thirty-seven women participated in the study, making a response rate of 99.3%. The mean age of the participants was 36.6 ± 5.3 years. Among the study participants, 41.2% were Muslim religious followers. The majority of women (82.8%) were married. Out of the total study participants, 29.2% attended tertiary education and 34.6% were housewives (Table 1).

Reproductive Characteristics

Of the 737 women, 77.8% started sexual intercourse at the age of 20 years. The majority, (90.5%) mothers had given childbirth, and 57.7% of them had 3 or more children. During the survey, approximately 79.6% used modern contraceptives. Fourteen percent of respondents had a previous history of sexually transmitted diseases. The majority of respondents (89.1%) had a history of HIV tests. Forty seven percent of study participants knew somebody with cervical cancer, while 39.1% knew someone who had screened for cervical cancer.

Table 1. Sociodemographic Characteristics of Women Aged 30-49 Years in Jimma Town (N = 737) June 2017.

Variable		Frequency (percent)
Age	30-39	508(68.9)
	40-49	229(31.1)
Religion	Muslim	304(41.2)
	Orthodox	261(35.4)
	Protestant	167(22.7)
	Catholic	5(0.7)
Marital status	Married	610(82.8)
	Widowed	56(7.6)
	Divorced	37(5)
	Single	34(4.6)
Educational status	No education	166(22.5)
	Primary education	196(26.6)
	Secondary education	160(21.7)
	Above secondary	215(29.2)
Occupational status	Housewife	255(34.6)
	Government employee	199(27)
	Merchant	206(28)
	Daily laborer	76(10.4)

Table 2. Knowledge About Cervical Cancer and It's Preventive and Control Measures Among Women Aged Between 30 and 49 Years of Age in Jimma Town in June 2017 (N = 524).

	Variables	Correct answer F (%)
Prevention methods for cervical cancer	Avoid multiple sexual partners	346 (66)
	Avoid early sexual intercourse	141 (26.9)
	Quit smoking	41 (7.8)
	vaccination of HPV	39 (7.4)
Awareness about cervical cancer	Cervical cancer can happen without symptoms	317 (60.5)
	Cervical cancer is communicable	169 (32.3)
Symptoms of cervical cancer	Vaginal bleeding	374 (71.4)
	Post-coital bleeding	174 (33.2)
	Painful coitus	121 (23.1)
	Post-menopausal bleeding	66 (12.60)
	Vaginal foul-smelling discharges	165 (31.5)
Risk factors for cervical cancer	Having multiple sexual partners	362 (69.1)
	Early sexual intercourse	120 (22.9)
	Acquiring HPV virus	40 (7.6)
	Cigarette smoking	34 (6.5)
Awareness about cervical screening	Screening prevents cervical cancer	269 (51.3)
	Screening used to detect cervical cancer at an early stage	246 (47)
	Early detection of cervical cancer by screening is good better treatment outcome	283 (54)

Knowledge of Cervical Cancer

Of the total participants, 71.1% and 65.7% had heard about cervical cancer and screening test, respectively. Three hundred forty-six (66%) of respondents mentioned avoiding multiple

Table 3. Factors Associated With Knowledge of Cervical Cancer Among Women Aged Between 30-49 Years in Jimma Town in June 2017.

Variables	Knowledge status		Crude OR (95% CI)	AOR (95% CI)
	Good	Poor		
Educational status				
No education	36	34	1	1
Primary school	74	57	1.23 (0.69-2.19)	1.66 (0.83-3.29)
Secondary	68	55	1.17 (0.65-2.10)	1.51 (0.75- 3.06)
Above secondary	143	57	2.37 (1.35-4.15)	2.42 (1.24-4.74)*
Presence of radio as a source of Information				
Yes	296	180	1.31 (0.87 -1.97)	0.90 (0.31-2.60)
No	25	23	1	1
Contraceptive use				
Yes	294	164	2.59 (1.53-4.38)	6.31 (2.86-13.89)*
No	27	39	1	1
Know somebody with cervical cancer				
Yes	186	60	3.24 (2.23-4.71)	2.24 (1.35-3.71)*
No	136	142	1	1
Knowing someone who screened cervical cancer				
Yes	160	41	3.55 (2.38-5.29)	2.23 (1.30-3.80)*
No	162	157	1	1
Advice from a health worker				
Yes	135	53	2.09 (1.42-3.08)	1.39 (0.88-2.19)
No	185	151	1	1
Parity				
Less than 3	115	65	1.29 (0.88 -1.89)	1.29 (0.85 -1.99)
Three and above	167	122	1	1

*Two tails test at p < 0.05, OR: odds Ratio, AOR: Adjusted odds ratio

sexual partners as preventive methods for cervical cancer. More than one-third (33.2%) mentioned post-coital bleeding is a symptom of cervical cancer, and nearly two-thirds (69.1%) cited multiple sexual partners as risk factors (Table 2). From, interviewed women about only (43.6%) had adequate knowledge concerning cervical cancer and screening. The main information source of respondents about cervical cancer and screening was radio followed by TV (73.7%), health care providers (35.7%), written materials (7.6%), teachers (6.1%), and family (4.6%).

Factors Associated With Adequate Knowledge

After controlling for possible confounders, educational status, history of modern contraceptive use, knowing victim of cervical cancer, and knowing individuals screened for cervical cancer were statistically associated with knowledge of cervical cancer and screening. Women who attended secondary school or above had 2.42 times more likely to have adequate knowledge of cervical cancer (AOR = 2.42, 95% CI: 1.24-4.74). Those who used modern contraceptives were 6.31 times higher odds of having knowledge when compared with had not used it (AOR = 6.31, 95%CI: 2.86-13.89). Also, women who knew victims of cervical cancer were 2.24 times more likely to have adequate knowledge than those who do not know individuals with cervical cancer (AOR = 2.24, 95% CI: 1.35-3.71). Similarly, women knew individuals had been screened for cervical cancer were 2.23 times more likely to have adequate

knowledge than their counterparty (AOR = 2.23, 95% CI: 1.30-3.80) (Table 3).

Discussion

The aim of the study was to determine level of knowledge regarding cervical cancer in women aged 30-49 years. According, only 43.6% of the interviewed women had adequate knowledge about cervical cancer. This finding goes in line with studies conducted among women aged 21-64 years in Addis Ababa (37.4%)[24] and Debre Berhan University students (35.6%).[25] But it is higher than studies conducted Northwestern[26] and Eastern Ethiopia.[27] The discrepancies between the current study and comparative studies might be due to variations in the study period, study population, study setting, sample size among studies or tool, and cutoff point used to measure level knowledge. The poor knowledge about the cervical cancer of the majority might resulted from the fact that cervical cancer got due attention very recently specially in developing countries. Health information, screening and treatment services regarding cervical cancer showed improvement recently globally.[28] The proportion of respondents with adequate knowledge in the current study was also higher the finding of a study done on rural women in Lagos, Nigeria where only 15% of the women had awaress about cervical cancer.[29] The difference might be because the study fromLagos was conducted on rural women, where there might be shortage of health information regarding cervical cancer.

This study revealed that women who had attended secondary school or above were more likely to have sufficient knowledge about cervical cancer and screening. This finding agrees with the study done in Dessie town, Northeast Ethiopia.[15] Educated women can gain information about health topics including cervical cancer during their formal education or have more access to media and therefore, get empowered with health related knowledge/information; improved knowledge/information may inturn increase utilization of screening and treatment services.

The current study indicated that women who knew an individual with cervical cancer were more likely to have adequate knowledge about cervical cancer. This might be because women who knew an individual with cervical cancer, may be more concerned about their health status and search for information about the disease and its prevention methods. This finding is similar to the study done among reproductive-age women in Robe and Goba Towns, Bale Zone, Southeast Ethiopia.[30] A study undertaken on women of reproductive age group (15-49 Years) in Harar Town, Eastern Ethiopia also indicated that respondents who knew someone affected with cervical cancer were 10 times more likely to have knowledge about cervical cancer than those who did not know.[27]

Women who knew an individual screened for cervical cancer also had adequate knowledge in this study compared those who did not know screened indinviduals. This result is consistent with a study conducted in Tanzania.[16] This might be because women who know someone screened for cervical cancer have better knowledge about cervical cancer and screening services, and might share information to others. Thus, the finding implies encouraging women who screened for cervical cancer to educate their neighbor, friends and relatives may improve knowledge of the service and its utilization.

It was also revealed in the current study that using contraceptive methods was strongly associated with higher odds of having adequate knowledge regarding cervical cancer. This could be because health care providers might informe/discuss the issue of cervical cancer during contraceptive service provision. A study have shown that women who received health information from health care providers had good knowledge about cervical cancer screening.[31] It is good to integrate different reproductive services in oder to address women who come to health facility for specific service. Finding from study done in Burkinafaso showed women who had used contraceptive methods had higher odds being screened for cervical cancer.[32]

Limitation of the Study

Since the study was a cross-sectional study it is difficult to establish cause-and-effect relationships between knowledge and other variables.

Conclusion

The level of knowledge of cervical cancer is low among women aged 30 to 49 years living in Jimma town and many health facilities were delivering cervical cancer screening in the town. Using contraceptives, knowing somebody with cervical cancer and knowing someone screened for cervical cancer were factors associated with the womens' knowledge of cervical cancer. The health facilities have to work toward increasing women's awareness of cervical cancer through local media and health extension workers.

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