

Low knowledge and Negative Attitude as Predictors of Poor Cervical cancer Screening in Pastoral Community of Afar Region, Ethiopia

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Abstract

Background: Incidence from cervical cancer in Ethiopia is 26.4/100,000. This figure is probably lower than the actual number of new cases attributed to limited access to screening services. This study was aimed to assess cervical cancer screening practice and associated factors among Reproductive health Service Clients, in case of zone-1, Afar Region, Ethiopia. A facility based cross sectional study was implemented at four public health institutions in Zone-1, Afar Region, from March 1-30, 2017. Simple random sampling technique was employed to get a total of 423 subjects. Data was analyzed using descriptive statistics and logistic regression model was used to identify significant predictors of the outcome variable. Significance level was declared at P-value < 0.05 with 95% confidence interval.

Results: Out of all the respondents, only 27 (6.4%) had cervical cancer screening practice. Respondents at age range of 35-39 years were 12 times more likely to practice screening compared to respondents aged < 20 years, [AOR = 12, 95%; CI (1.29, 17.45)]. Respondents with orthodox religion were 4.8 times more likely to practice cervical cancer screening compared to subjects with Muslim religion, [AOR = 4.73, 95%CI; (1.0, 22.3)]. Study subjects who had poor knowledge of cervical cancer were 98.5% less likely to had practice of cervical cancer screening compared to their counterparts, [AOR = 0.015, 95%; CI (0.003, 0.083)] and study subjects who had negative attitude towards cervical cancer screening were 87.5% less likely to had practice of cervical cancer screening comparing to their counterparts, [AOR = 0.125, 95%; CI (0.025, 0.634)]. Prevalence of cervical cancer screening practice is very low. Hence, awareness creation and health education about cervical cancer and screening should be given to women of reproductive age group.

Keywords: Cervical Cancer; Screening; Samara University; Afar; Ethiopia

Cervical cancer screening is a way to detect abnormal cervical cells, including precancerous cervical lesions, as well as early cervical cancers. Cervical screening is important to reduce the number of newly diagnosed cervical cancer cases and it prevents deaths from cervical cancer. Cervical cancer screening should be performed at least once for every woman in the target age group of 30–49 years, but this can be extended to women younger than age 30 if there is evidence of a high risk. [1]

About 500,000 new patients are diagnosed with cervical cancer annually of which over 250,000 die. Cervical cancer is a major cause of morbidity and mortality among women in resource poor settings, especially in Africa. Sub-Saharan Africa contributed more than 85% of global burden of cervical cancer. The incidence and mortality from cervical cancer in Ethiopia is 26.4 and 18.4/100,000 respectively [1, 2].

The disparity in cervical cancer diagnosis and subsequent mortality between high and low resource countries is largely due to the low rate of screening for pre-invasive cervical disease and limited treatment options in low-resource settings [3].

According to, the United States Preventive Services Task Force, World Health Organization, and the American Cancer Society recommendation all age eligible women should have cervical cancer screening at least once every three years [4, 5].

Women who are never screened or treated and women with well-described sexual and reproductive risk factors, such as an early sexual debut, a history of multiple sexual partners, and a high number of live births are at risk of developing cervical cancer and are prone to cervical cancer deaths [6, 7].

Women in developing countries have a low participation for cervical cancer screening. Only 6% and 8.3% of age eligible women in South Africa and Nigeria have participated in cervical cancer screening service uptake respectively [8, 9].

Worldwide trends show that developing countries going through rapid societal and economic changes, the shift towards lifestyles like that of industrialized countries leads to a rising burden of cancers associated with reproductive, dietary, and hormonal risk factors [10].

The federal ministry of health in Ethiopia (EFMOH) launches guide lines for cervical cancer prevention and control of cervical

Introduction

Cervical cancer is the leading cause of cancer death among women in Eastern and Sub-Saharan African countries [1].

cancer in Ethiopia. FMOH planned to scale up screening service in to public health care facilities [11, 12, 13]. Hence, this study aimed to assess cervical cancer screening practice and its associated factors among Reproductive health Service Clients, in case of zone-1, Afar Region, Ethiopia.

Methods

Study Area

The study was conducted in Afar National Regional State, Zone-1. Afar National Regional State is one of the nine regions of Ethiopia. It is found in the north eastern part of the country and it is found 735 Kms away from the capital city of Addis Ababa. The region has five zones and one special woreda. More than 95% of the people are ethnic Afar. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), Afar Region has a population of greater than 1.3 million; of the total population, 90% are classified as pastoralists. There are seven woredas under administrative Zone 1. Assayita is the largest town in zone 1.

Study Design

Facility based cross sectional study was conducted in zone 1, Afar National Regional State.

Study Period

The study was conducted from March1-30, 2017.

Source Population

All 15-49 years old reproductive health service clients residing in Zone-1 were Source Population of the study.

Study Population

Study population were all 15-49 years old reproductive health service clients' who visited selected health institutions of zone-1 during the study period.

Eligibility Criteria

Reproductive health service clients who attended ANC, Family Planning and Post-natal care were part of the study and women with known mental illness, women who were in labor and within two hours interval after delivery and Women with the history of the disease (carcinoma of the cervix) were not part of the study.

Sampling

Sample size was calculated using a formula for a single population proportion considering 95% confidence level, 5% margin of error, 50% maximum variability, and 10% contingency. The sample size was 384, after adding 10% non-response rate, the final sample size was 423.

$$n = \frac{(Z\alpha/2)^2 p (1-p)}{d^2}$$

Where, n=the required sample size

Z= standard score corresponding to 95% confidence interval

P= assumed prevalence of cervical cancer screening practice

d= the margin of error (precision) 5%

$$\text{Then, } n = \frac{(1.96)^2 \times (0.5 \times 0.5)}{(0.05)^2} = 384 + 38.4(10\% \text{ non-response rate}) = 423$$

Sampling Procedure and Sampling Technique

Simple random sampling technique was utilized to select two representing woredas from zone-1. Two health institutions from each selected woredas were considered. Population proportion to size technique was used to allocate the sample size from respective health centers based on the number of target group in their catchment and finally, study subjects were selected using systematic sampling technique based on average daily flow and the number of cases needed from the respective health centers.

Data Collection Procedure

Data was collected using a structured questionnaire based interview that was adopted from similar study in Tanzania (26) and modified by the investigator which has five parts (Annex II). The first part had socio demographic characteristics, the second part had risk exposure assessing questions, the third, fourth and the fifth part assessed the knowledge, attitude and practice on cervical cancer and screening. Data were collected by four trained midwives that deliver reproductive health service at the time of data collection and there were 2 supervisors to control the whole work.

Data Quality Assurance

To ensure data quality, training was given to data collectors and supervisors. The supervisors were having routine checkups for completeness and consistency of the data. The questionnaire was prepared in English and translated to Amharic. To check for consistency of the meaning the Amharic version was translated back to English language again. Pretest was done before the actual data collection to check for the accuracy of responses, language clarity, and appropriateness of the tools.

Operational Definitions of Terms

Operational Definitions

Woredas: Are the third level administrative divisions of Ethiopia. They are further subdivided in to a number of kebelles which are the smallest unit of local government in Ethiopia.

Pastoralists: are people who depend for their living primarily on livestock production

Knowledgeable of cervical cancer: Those respondents who score above median score for the cervical cancer knowledge assessing questions.

Positive attitude: Those respondents who score above median score for the attitude assessing question.

Cervical cancer screening practice: Those respondents who screen for cervical cancer at least once.

Reproductive health service clients: Women 15-49 years of age who attend ANC, family planning and post-natal care services.

Health institutions- Public Hospitals and health centers which gives reproductive health services

Data Analysis

The data collection instruments were coded and checked before entry. The data was entered using Epi-data version 3.1 for cleaning and exported to SPSS Version 20 for further analysis. Descriptive statistics like; numerical summary measures and frequencies , univariable and multivariable binary logistic regression analysis was used to assess the association between dependent and independent variables and test significance of the association. Level of significance below 0.05 was considered to determine the association. Hosmer-lemeshow goodness of fit was used to check the goodness of the applied models.

Ethical Consideration

Ethical clearance was obtained from ethical review board committee in Samara University. A support letter was obtained from afar regional Health bureau, the selected woredas and from selected health institutions. Then a verbal consent was secured from the study subjects through informed consent. The participants assured that the information that they had give used only for the purpose of the study and confidentiality was kept. The long term and short term benefits of the study was well explained to the participants.

Results

Socio-Demographic Characteristics

A total of 423 women were participated in the study with response rate of 100%. The mean age of participants was 26.13 \pm 5.24SD years, with age range of 15-39 years. About 282(66.7%) of the respondents were Muslim by religion and 341(80.6%) were married. Regarding educational status, about half of the

respondents (48%) were no formal education whereas 22.7% of them were college and above. Majority of the participants (57.7%) were housewife by occupation. The average monthly family income was 2332.29 \pm (1378.14SD ETB) which is about 79.29 \pm (46.85SD USD) and about 14.2% of the respondents were having household monthly income of below 1000 Ethiopian birr (34USD). (Table 1)

Table1: Socio demographic Characteristics of study subjects, Afar, Ethiopia, 2017: n= 423

Variables	Frequency	
	N	%
Age		
<20	37	8.7
20-24	114	27
25-29	160	37.8
30-34	71	16.8
35-39	41	9.7
Religion		
Orthodox	122	28.8
Muslim	282	66.7
Protestant	19	4.5
Marital Status		
Married	341	80.6
Single	47	11.1
Divorced	30	7.1
Widowed	5	1.2
Educational level		
No formal education	203	48
8-Jan	44	10.4
12-Sep	80	18.9
College and above	96	22.7
Monthly income (1 ETB= 0.034USD)		
<1000 ETB	60	14.2
1000-2000 ETB	145	34.3
>2000 ETB	218	51.5

Risk Exposure among the Study Subjects

Out of the total 423 participants, 332(78.5%) had used modern contraceptives. Of those who used modern contraceptives 239 (56.4%) used injectable and 52 (12.3%) used oral contraceptives. Out of those who used Oral contraceptives 26 (50%) used for less than one year. None of the participants had habit of smoking. Mean age of first sexual intercourse was 17.69 \pm 2.2SD years with minimum of 12 and maximum of 27

years. Overall, 65(15.4%) participants started sexual intercourse before the age of 16years. (Table2)

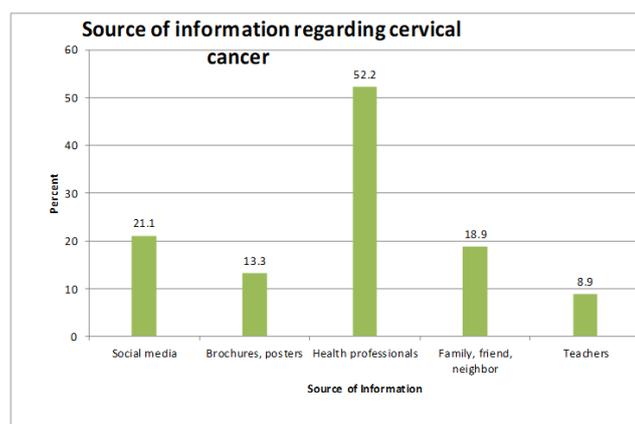
Table 2: Description of Risk exposure among the study subjects, Afar, Ethiopia, 2017: n= 423

Variables	Frequency	
	N	%
Contraceptive use		
Yes	332	78.5
No	91	21.5
Type of contraceptive		
Oral contraceptive pills	52	12.3
Injectable	239	56.5
Norplant	41	9.7
For how long do you use oral contraceptive		
Less than 1 year	26	50
1 year and above	26	50
Current use of oral contraceptive		
Yes	43	10.2
No	380	89.8
Age at first sexual intercourse		
<16	65	15.4
16 and above	358	84.6

Knowledge about Cervical Cancer

Of all the study subjects 90 (21.3%) had heard about cervical cancer. Median knowledge score was 5. Among those who had heard about cervical cancer, health professionals were source of their information 47(52.2%) followed by social media 19 (21.1%). (Figure 1)

Figure 1: Source of information of study subjects regarding cervical cancer, Afar, Ethiopia, 2017: n= 423



Knowledge about Risk Factors, Main Symptoms, Treatment Options and Prevention

There were questions regarding risk factors, main symptoms, treatment options and prevention and early detection measures of cervical cancer. Regarding symptoms of cervical cancer, among respondents who heard of cervical cancer, 41 (45.6%) and 33(36.7%) responded in a way that foul smelling vaginal discharge and vaginal bleeding as symptoms of cervical cancer respectively, where as 22(24.4%) participants did not know any symptoms of cervical cancer. Regarding risk factor, 41(45.6%) and 19(21.1%) of respondents mentioned that having multiple sexual partners and Acquiring HPV virus as risk factors for cervical cancer respectively. Avoiding multiple sexual partners 42 (46.7) and HPV vaccination 14 (15.6) were the most listed preventing mechanisms for cervical cancer. Of the total participants who had heard about cervical cancer, 79(87.8%) reported as cancer of the cervix can be cured in its earliest stages, whereas 9(10%) did not know whether cancer of the cervix can be cured in its earliest stage. About 34(37.8%) of the subjects mentioned surgery as one way of treatment for someone with cervical cancer whereas 12(13.3 %) of the respondents did not know the treatment for cervical cancer. Regarding treatment of cancer of cervix, 40 (44.4%) subjects said that, "it is reasonably priced", whereas 12(13.3%) mentioned, "It is very expensive". (Table 3)

Table 3: Knowledge about risk factors, main symptoms, treatment options and prevention among the study subjects, Afar, Ethiopia, 2017: n= 423

Variables	Frequency	
	N	%
Ever heard about cervical cancer		
Yes	90	21.3
No	333	78.7
How can a person prevent getting cancer of the cervix?		
Through vaccination HPV	14	15.6
Avoid multiple sexual partners	42	46.7
Avoid early sexual intercourse	5	5.6
Avoid using of oral contraceptive	13	14.4
Avoid smoking cigarettes	2	2.2
Screening for cancer	11	12.2
Do not know	13	14.4
Can cancer of the cervix be cured in its earliest stages?		
Yes	79	87.8

No	2	2.2
Do not know	9	10
How can someone with cancer of the cervix be treated?		
Traditional medicine	7	7.8
Surgery	34	37.8
Specific drugs given by hospital	26	28.9
Radiotherapy	19	21.1
Do not know	12	13.3

Over All Knowledge of Cervical Cancer

Questions regarding knowledge of risk factors, symptoms, treatment options and prevention and early detection measures for cervical cancer were scored and pulled together and the median score was computed to determine the overall knowledge of respondents. Respondents scored above the median score knowledge considered as knowledgeable, in this case respondents who scored above median value which was 5, was 28 (6.6%), the rest 62 (14.7%) were not knowledgeable.

Knowledge about Cervical Cancer Screening

Of the total respondents who ever heard of cervical cancer (90), about 73(17.3%) heard of cervical cancer screening and the rest 17 (4%) never heard of cervical screening. Among the 73 respondents who heard of cervical screening, 31 (42.5%) mention frequency for screening practice once every year, 25(34.2%) once every three years, 9 (12.3%) did not know. Regarding age of screening from those who heard of cervical cancer screening, 55 (75.3%) replied that a women age 25 and above should screen. Almost above half, 48(65.5%) of the respondents did not know any of the procedures used in screening for cervical cancer. (Table 4)

Table 4: Description of cervical cancer screening characteristics among study subjects who heard of cervical cancer screening, Afar, Ethiopia, 2017: n= 423

Variables	Frequency	
	N	%
Ever heard about cervical cancer		
Yes	90	21.3
No	333	78.7
Have you ever heard of pre cancer screening?		
Yes	73	17.3
No	17	4
How frequent is screening for cervical cancer done?		
Once every year	31	42.5

Once every three years	25	34.2
Once every 5 years	8	11
Do not know	9	12.33
Who should be screened?		
Women of 25years and above	55	75.3
Elderly women	15	20.55
do not know	3	4.12
Can you mention any of the procedures used in screening for cervical cancer?		
VIA	19	26
VIL	2	2.7
Pap Smear	4	5.5
do not know	48	65.5

Attitude towards Cervical Cancer Screening

Seven questions were applied to assess attitude of participants and they were computed and median score value was obtained. Based on the median score obtained subjects were classified as having positive and negative attitudes; Based on this median score of attitudes of respondents were 27 with maximum value of 35 and minimum 10. Based on this among those who heard of cervical cancer, 51(56.7%) had positive attitude and 39 (43.3%) had negative attitude towards cervical cancer screening. From all the respondents who heard of cervical cancer 25(27.8%) strongly agreed that cervical cancer is a major cause of death; whereas 27(30%) strongly disagreed. About 44 (48.9%) respondents strongly agreed that any adult woman including them can acquire cervical cancer. Around Forty four (48.9%) disagreed that cervical cancer cannot be transmitted from one person to another. Regarding prevention of cervical cancer through screening practice 50(55.6%) respondents strongly agreed, whereas 16 (17.8%) disagreed to the idea that screening cause no harm to the client. About 56(62.2%) and 26(28.9%) of the respondents strongly agreed and agreed on their willingness to be screened for cervical cancer, if screening is free and cause no harm respectively. (Table-5)

Table 5: Attitude towards cervical cancer and screening among study subjects who heard of cervical cancer, Afar, Ethiopia, 2017: n= 423

Variables	N	%
Cervical cancer is major cause of death		
Strongly agree	25	27.8
Agree	25	27.8

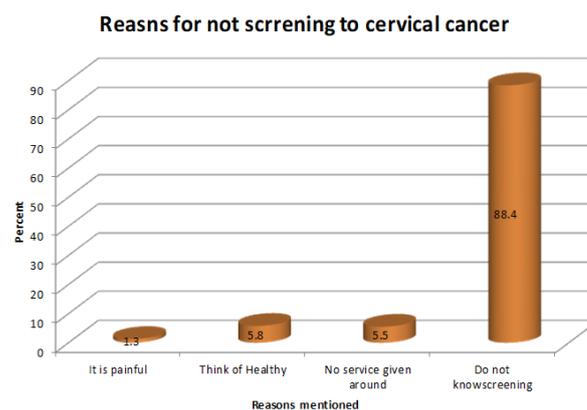
Neither agree nor disagree	9	10
Disagree	27	30
Strongly disagree	4	4.4
Any adult woman including you can acquire cervical carcinoma		
Strongly agree	44	48.9
Agree	35	38.9
Neither agree nor disagree	2	2.2
Disagree	7	7.8
Strongly disagree	2	2.2
Carcinoma of the cervix cannot be transmitted from one person to another		
Strongly agree	16	17.8
Agree	13	14.4
Neither agree nor disagree	7	7.8
Disagree	44	48.9
Strongly disagree	10	11.1
Screening helps in prevention of carcinoma of the cervix		
Strongly agree	50	55.6
Agree	25	27.8
Neither agree nor disagree	6	6.7
Disagree	3	3.3
Strongly disagree	6	6.7
Screening causes no harm to the client		
Strongly agree	49	54.4
Agree	13	14.4
Neither agree nor disagree	8	8.9
Disagree	16	17.8
Strongly disagree	4	4.4
Screening for premalignant cervical lesions is not expensive		
Strongly agree	35	38.9
Agree	32	35.6
Neither agree nor disagree	9	10
Disagree	12	2.2

Strongly disagree	2	
If screening is free and causes no harm will you screen		
Strongly agree	56	62.2
Agree	26	28.9
Neither agree nor disagree	1	1.1
Disagree	1	1.1
Strongly disagree	6	6.7

Cervical Cancer Screening Practice

Among all the respondents of the study only 27 (6.4%) had cervical cancer screening. Of those who screened for cervical cancer 27 (100%) screened in hospitals. Almost all 24(88.9%) respondents got screened by the initiation of health professionals, whereas 3(11.1%) were self-initiated. About 24(88.9%) respondents had only one time exposure for screening and 3(11.1%) screened for more than ones. Regarding screening time 14(51.9%) respondents screened one year before the time this survey was conducted, whereas 11(40.7%) respondents screened one to three years before the time this survey was conducted. Respondents who have no screening practice were asked for their reasons for not to screening and mentioned that 350(88.4%) did not know screening, 18(4.5%) no screening service given around, 23(5.8%) they believed as if they are healthy, and the rest of 5(1.3) mentioned as if it is painful. (Figure 2)

Figure 2: Respondent's list of reasons towards not screening for cervical cancer, Afar, Ethiopia, 2017: n= 423



Binary Logistic Regression Analysis for Determinants of Cervical Cancer Screening Practice

In simple binary logistic regression, religion, educational level, occupation, knowledge of cervical cancer and attitude for cervical cancer screening were some of the determinant factors (with p-value <0.05) for cervical cancer screening. Those variables having P-value of <0.05 in univariable analysis were

taken to multiple binary logistic regression analysis. In multiple binary logistic regression analysis those variables with P-value <0.05 were considered significant predictors of cervical cancer screening practice. Therefore, respondents with age range of 35-39 years were 12 times more likely to practice screening comparing to those with age of <20 years, AOR = 12, 95%CI (1.29, 17.45), respondents with orthodox religion were 4.8 times more likely to practice cervical cancer screening comparing to subjects with Muslim religion, AOR = 4.73, 95%CI(1.0, 22.3), those having poor knowledge of cervical cancer were 98.5% less likely to have practice of cervical cancer screening comparing to their counterparts, AOR = 0.015, 95%CI (0.003, 0.083) and those having negative attitude were 87.5% less likely to have practice of cervical cancer screening comparing to their counterparts AOR = 0.125, 95%CI(0.025, 0.634) (Table 6).

Table 6: Multiple binary logistic regression analysis for determinants of cervical cancer screening practice, Afar, Ethiopia, 2017: n= 423

Variables	Cervical Cancer screening		COR (95%CI)	AOR (95%CI)
	Screened	Not screened		
Age				
<20	1(3.7%)	36(9.1%)	1	1
20-24	11(40.7%)	103(26%)	3.84 (.47-30.8)	22.5 (.87-586.4)
25-29	11(40.7%)	149(37.6%)	2.65 (.332-21.25)	16.52 (.61-445.4)
30-34	2(7.4%)	69(17.4%)	1.04 (.091-11.9)	27.07 (.57-1284.07)
35-39	2(7.4%)	39(9.8%)	1.84 (.16-21.24)	12 (1.29-17.44 5)*
Religion				
Orthodox	21(77.8%)	120(30.3%)	8.05 (3.16-20.44)	4.73(1.0-22.3)*
Muslim	6(22.2%)	276(69.7%)	1	1
Educational level				
No formal education	2(7.4%)	201(50.8%)	.064 (.015-.27)	.907(.075-10.9)
1-8	1(3.7%)	43(10.9%)	.147 (.019-1.12)	.215 (.004-13.03)
9 and above	24(88.9%)	152(38.4%)	1	1
Occupation	4(14.8%)	240(60.6%)		
House wife	9(33.3%)	86(21.7%)	0.41 (.013-.133)	.38(-.03-4.81)
Employee	1(3.7%)	38(9.6%)	.258 (.1-1.66)	.58 (.05-5.6)
Merchant	13(25.5%)	32(8.6%)	.065 (.008-.52)	.05 (.002-1.32)
Student	4(14.8%)	240(60.6%)	1	1

Knowledge				
Good	10(77.8%)	18(1.8%)	1	1
Poor	17(22.2%)	378(98.2%)	.005 (.002-.017)	.015 (.003-.083)*
Attitude				
Positive	12(77.8%)	39(7.6%)	1	1
Negative	15(22.2%)	357(92.4%)	.023 (.009-.062)	.125 (.025-.634)*
NB; *P-value <=0.05				

DISCUSSION

In our current study we tried to assess cervical cancer screening practice and its associated factors. In this study, the prevalence of screening practice for cervical cancer was 6.4% which is slightly lower compared to studies conducted in different parts of the world which was 19% in Uganda (14), 40% in Botswana (15), 14% in Tanzania (16), 22% in Kenya (17), 17% in Gondar Ethiopia (5) and 6.5% Addis-Ababa Ethiopia (18). This difference can be attributed to the difference in the study area, a difference in background of study subjects and a difference in study setup.

This study was conducted in one of the emerging regions in Ethiopia and the livelihood nature of the people was pastoralism. Most of the people in pastoral community lead a nomadic way of life where in it would be difficult to access health care service and could be less accessible to social Medias in which they could get health related information.

Regarding factors associated with cervical cancer screening practice; Increase age of respondents, being orthodox religion follower, having good knowledge of cervical cancer and having positive attitude towards cervical cancer screening were some of the significant predictors of cervical cancer screening. This can be explained by: subjects with good knowledge of cervical cancer and screening practice as well as subjects having positive attitude are more likely to have screening practice for cervical cancer, but in this study knowledge and attitude towards cervical cancer screening was very low which in turn negatively affect the screening practice to be relatively lower. In the pastoral community where in this study is conducted, most of the study participants were Muslim by religion and it is a bit difficult to use contraceptive due to cultural and religious reasons. Cervical cancer screening is also part of reproductive health services in which the mothers can consider it difficult; hence those mothers from Muslim religion were less likely to had cervical cancer screening. As age increases mother's exposure towards health-related information could increase. Hence, mothers can have information regarding cervical cancer screening and this can relatively push them to have screening practice.

Strength and Limitation of the Study

Strength of the study

Primary data Source was used

Limitation of the study

Due to the fact that the study was cross sectional study, describing cause and effect relationship of the exposure and outcome variables is difficult.

CONCLUSION

This study was conducted in pastoral community and this was done in an emerging region where by the overall health service coverage is very low comparing to national level. The prevalence of cervical cancer screening practice in this study was very low (6.4%). Increased age of respondents, being orthodox religion follower, having poor knowledge of cervical cancer and having negative attitude towards cervical cancer screening were some of the significant predictors of cervical cancer screening.

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