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Cervical Cancer Knowledge Level and Associated Factors among Women of Reproductive Age Groups (15-49 Years) in Harar Town, Eastern Ethiopia

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Abstract

A woman dies every two minutes from cervical cancer. More than any other cancer, apart from breast cancer, the disease worries more women. This study was made to assess cervical cancer knowledge level and associated factors among women of reproductive age group (15-49 years) in Harar Town, Eastern Ethiopia. A community based descriptive cross-sectional study design was conducted from January 1 to February 28, 2014 on a sample of 724 individuals. An interviewer administered structured questionnaire was used and systematic random sampling technique was applied to select the study unit. Bivariate and Multivariable logistic regression method was used to estimate the crude odds ratio and adjusted odds ratio respectively. The result showed that half of the respondents had never heard about cervical cancer. And only 9.7% of the respondents were found to have above-average knowledge level when the comprehensive cervical cancer knowledge was determined. Participants whose ages were older than 25 years were 3 times more knowledgeable than those aged between 15 and 24. Women who knew someone affected with cervical cancer were 10 times more likely to have knowledge than who did not know. However, educational status and economic level of the participants did not show any significance in the multivariate logistic regression analysis respectively. It can be concluded that knowledge level of women's on cervical cancer was very poor.

Key words: cervical cancer; knowledge level

I. INTRODUCTION

Types of cancer are named for the part of the body where the abnormal cells first started growing, even if it later spreads to other parts of the body [1]. Cervical cancer is a cancer type that begins in the cervix of women reproductive system [2]. Chronic infection with one or more of oncogenic types of human papillomavirus (HPV), a common virus that is transmitted through sexual contact, is recognized as the necessary cause of 99% of all cervical cancers [3, 4].

A woman dies every two minutes from cervical cancer [5]. Worldwide, the disease worries more women than any other cancer apart from breast cancer. It alone had 22% of all cancer cases reported globally in 2010 [6]. Although cervical cancer is preventable and often curable if the right interventions are made [7], many developing countries still face high incidence and mortality due to the disease as a result of; lack of awareness of the disease among the general population [8, 9, 10] health care providers and policy makers, absence or poor quality of screening program for premalignant lesions and early-stage cancer, limited access to health care services and lack of functional referral systems. The screening coverage is ranging from 2.0% to 20.2% in urban areas and 0.4% to 14.0% in rural areas [11].

Most patients in countries like Ethiopia present late with advanced stage disease, in which treatment may often involve multiple modalities including surgery, radiotherapy, chemotherapy and has a markedly diminished chance of success [12]. Treatments for late cervical precancer and cancer are associated with increased risk of infertility and poor obstetric outcomes including preterm delivery, low birth weight and premature rupture of the membranes [13, 14]. Understanding local perceptions of health needs, the process of health decision making concerns and considerations of locals are key components to understanding health seeking behavior for any health condition of one community [15].

In Ethiopia there was a recent attempt to introduce cervical cancer vaccine, diagnosis and treatment services after the development of the National Reproductive Health Strategy in 2006 [16]. Some previous studies have assessed the prevalence of HPV [17] and KAP of women [18, 19]. Their findings revealed that there is high (15.9%) HPV prevalence is in the country compared to other countries and awareness and practice of the screening procedure of cervical cancer (Pap smear) is very low. However, data on the level of knowledge and the determinant factors of women regarding cervical cancer has not yet studied especially in Eastern Ethiopia. Hence, this study is aimed to fill this gap by looking on how knowledgeable these women are and what factors are affecting their knowledge.

II. MATERIALS AND METHODS

An interviewer administered structured questionnaire was adapted from questionnaires that had been used in the previous studies [20, 21]. The questions aimed to gather information regarding relevant socio-demographic characteristics of the respondents, their knowledge on etiology, risk factors, symptoms of cervical carcinoma and factors that affect their knowledge. Six trained female laboratory students were used as data collector. The investigators together with 2 BSc Nurses were supervising the data collection process.

i. knowledge level measurement

The knowledge level of a woman related to cervical cancer was assessed using a 28 points scale adopted from Bloom's cut off [22]. Questions regarding knowledge of causative agent (etiology), risk factors, main symptoms, treatment options and prevention measures for cervical cancer were scored and pulled together to determine the overall knowledge level of respondents. There were 9 multiple choice questions that carried a total of 28 correct responses. Each correct response was given a score of 1 and a wrong response score of 0. Total points to be scored were 28 and the minimum was 0. Respondents scored average and above were considered as have knowledge otherwise not.

ii. Statistical analysis

Data were entered in to Epi Info version 6 and exported to Statistical Package for Social Sciences (SPSS) database program version 16.0 for data coding and cleaning. Bivariate logistic regression was done for each independent variables against outcome variable (knowledge level related to cervical cancer) to estimate the crude odds ratio. Multivariable logistic regression method was used to assess the independent effect of different variables after simultaneously controlling for the effect o f other factors. For all statistical procedures applied p-value of less than 0.05 at 95% confidence interval was considered to be statistically significant.

III. RESULTS

i. Socio demographic characteristics of the study population

A total of 724 women aged 15 to 49 years were included in this study. Of the participants, 172(23.76%) were aged between 20 to 24 years and 160 (22.1%) of them were aged 25 to 29 years. Half (50.1%) of the study population were married, 245 (33.8%) were single and 42 (5.8%) were widowed. Majority of the respondents, 413 (94.5%) have gave birth two or more times. Regarding their educational status, 95 (13.1%) of the respondents were able to read and write, 12 (1.7%) were unable to read and write but more than half 445 (61.46%) of them have attended at least secondary school. Out of the total respondent, 175 (24.2%) were either governmental or nongovernmental (NGO) employee while 150 (20.7%) were students.

ii. Knowledge level

Half of the respondents 366 (50.6%) had never heard about cervical cancer. Among those who had heard of it, health institutions were the main 183 (51.1%) source information followed by media 112 (31.3%). However, only 108 (30.2%) of them listed HPV when asked about the etiology of cervical cancer. Others were mentioned HIV 18 (5.0%), 'Mich' (inflammation due to sun exposure) 30 (8.4%) and unknown cause 46 (12.8%) while 156 (43.6%) of them do not know whether it has causative agent or not.

As shown in the fig 1 below, from those who had heard about the disease, 270 (75.4%) of them knew at least one and more risk factors for cervical cancer. Sexually transmitted infections (STI) and poor personal hygiene were specific risk factors mentioned by 163(20.7%) and 154 (19.5%) of the respondents respectively.

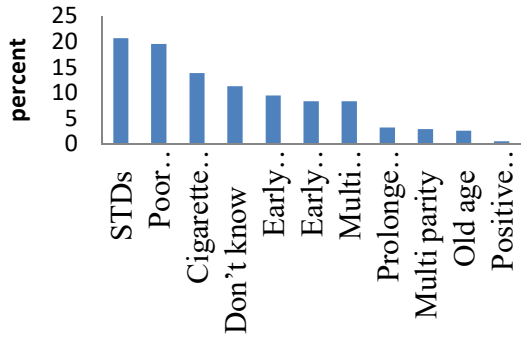

Figure 1: Respondents' knowledge of risk factors for cervical cancer in Harar Town, Eastern Ethiopia

In addition, 168 (27.6%) and 124 (20.4%) of them mentioned excessive and offensive vaginal discharge and abnormal bleeding between periods respectively when they were asked about the symptoms of cervical cancer. However, 94 (15.5%) of the respondents did not know any symptom of the disease. Three hundred fifty three (98.6%) of the respondents reported that cervical cancer can be prevented but 260 (72.6%) of them responded that the cervical cancer can be treated. Regular medical checkup (screening) and chemotherapy were mentioned by 254 (52.8%) and 160 (31.2%) of the respondents as a helpful prevention measure and treatment choice respectively (Table 1).

Table 1: Knowledge of respondents' about main presenting symptoms, prevention measures and treatment options of cervical cancer, Harar town, Eastern Ethiopia

Symptoms*	**Frequency (n= 358)**	**percent (%)**
Asymptomatic at early stage	58	9.5
Bleeding and pain after sexual intercourse	114	18.7
Post menopausal bleeding	50	8.2
Excessive and offensive vaginal discharge	168	27.6
Abnormal bleeding between periods	124	20.4
Don't know	95	15.6
Prevention measures*		
Regular medical checkup/screening	254	52.8
Vaccine for HPV	31	6.4
Delaying sexual debut	59	12.3
Being faithful to sexual partner	45	9.4
Consistent condom use	87	18.1
Don't know	5	1.0
Treatment options*		
Radiation therapy	99	19.3
Surgery	156	30.4
Chemotherapy	160	31.2
Don't know	98	19.1

*Numbers may exceed 358 as multiple answers were possible.

The knowledge level was generally limited with none of the participants being able to answer all 28 questions correctly. Only 70 (9.7%) of respondents were found to have above-average knowledge level when the comprehensive cervical cancer knowledge was determined.

a. Factors associated to knowledge level of cervical cancer

Participants whose age was 25 to 34 years were 2.96 times and those of 35 years and above were 3.61 times more knowledgeable than those aged between 15 and 24 [AOR= 2.96, 95%CI (1.346-6.524)] and [AOR= 3.61, 95%CI (1.379-9.497)] respectively. However married and divorced/widowed women were less knowledgeable than single women [AOR= 0.27, 95%CI (0.137-0.551) and AOR= 0.35, 95%CI (0.124-0.985) respectively]. Whereas, students were about 4 times more knowledgeable than others (house wife, merchants or daily workers) [AOR= 3.65, 95%CI (1.526-8.748)]. However, educational status and economic level of the participants did not show any stastical significance in the multivariate logistic regression analysis [AOR=3.65, 95%CI (0.462-28.768) and AOR=1.77, 95%CI (0.811-3.862) respectively].

Participants who had discussion about their health with anyone else were less likely to be knowledgeable than those who do not have any discussion [AOR=0.01, 95%CI (0.001-0.072)]. However, women those have discussion about their health with health providers were 4.6 times more knowledgeable than those who have

discussion with their friends and families [AOR=4.62, 95%CI (2.334-9.137)]. Whereas, those women who used books or/and health providers continuously for their health information were 6 times more have knowledge than those who used TV/Radio as source of health information [AOR=6.02, 95%CI (2.971-12.209)].

IV. DISCUSSION

In this study, half (49.4%) of women had heard about cervical cancer which is consistent with the study conducted in Iran 44.3% [23], Botswana 46% [24] and Nigeria 50% [25]. But it is less than the findings from India 70% [26], Tanzania 53% [20], Kenya 78% [27] and Gondar Town, Northwest Ethiopia 78.7% [21]. This gap might be due to the difference in countries economic developmental level and nature of the population where the studies were conducted, as the India study was conducted on B.Sc. Nursing students and health education may be given to the participants prior to the study period. Health institution was mentioned as the main source of information (51.1%) for cervical cancer by the respondents concurring with the findings of the study in Iran [23] and Addis Ababa, Ethiopia [19]. Media was also mentioned by 31.3% respondents like that of Nigeria [25] and Gondar Town, Northwest Ethiopia 34.9% [21].

Three quarter (75.5%) of the study participants were able to identify at least one risk factor for cervical cancer like STIs, poor personal hygiene, cigarette smoking and early onset of sexual debut. A study conducted in Gondar Town, Northwest Ethiopia showed that 31.0% of the respondents gave one or more correct risk factors [21]. The difference might be due to the time gap as better attention has been given to cancer these days and area where the studies were conducted, as Harar has higher health coverage than Gondar. More than a quarter (27.6%) and one fifth (20.4%) of respondents mention excessive and/or offensive vaginal discharge and abnormal bleeding between periods as major symptoms of cervical cancer which is consistence with India 24.2% [26] but less than Yemen 77.2% and 35% respectively [28]. This gap may be because of the difference of study population, as the study in Yemen was conducted on women visiting the gynecological out- patient clinic who might develop the infection.

It was observed that only 30.3% of the participants could correctly answer the question pertaining to etiology of cervical cancer which is relatively better than other studies conducted in India where 14.2% [26] were correctly identify HPV as the etiology of the infection and in Botswana [24] and Malaysia [29], none of the study participants had heard about HPV. The awareness difference might be due to the time gap as more attention and media coverage has been given to cancer these days. Additionally, 12.8% and 8.4% of the respondents responded that cervical cancer could be caused by unknown cause and 'Mich' (inflammation of sun exposure) respectively. This could be an indication of the presence of misconception about the disease in this community which may hinder prevention efforts. These results again show insufficient knowledge of HPV infection being the cause of cervical cancer in the community, even though 99% of cervical cancer in our part of the world is due to HPV infection, as reported in studies [3, 4].

Half (52.8%) of the respondents in this study were aware of screening method which is less than Kenya 75% [27]. This can be possibly explained by the fact that Kenyan people are much more exposed to health facilities, screening services and varieties of news media. But the result is higher than India 30% [26], Tanzania 19% [20], Nigeria 38.6% [25] and Gondar Town, Northwest Ethiopia 13.7% [21]. Almost all (98.6%) of the respondents knew that cervical cancer can be prevented. This is higher than the Indian and Gondar Town, Northwest Ethiopia studies which 80% and 63.9% of the respondents respectively reported that cervical cancer can be prevented [21,26]. These all differences can be explained by the difference in the health institution accessibility of the study participants and the time gap as better attention has been given to cancer these days.

Though half (49.4%) of the respondents had heard about cervical cancer, only one tenth (9.7%) of the total respondents were found to have above-average knowledge about cervical cancer. This is higher than those found in other community based studies conducted in sub-Saharan Africa countries [30]. This could be explained by the very high educational level of the women in this study compared to other Nigerian women widely studied in the 2008 and 2009 [31] and also because they may have high access to health information and services these days.

However, different studies from India [26] 30% and Gondar Town, Northwest Ethiopia [21] 31% of study participants showed that comprehensive knowledge about cervical cancer is higher than the result of this study. This might be due to the research methodology difference as they considered only knowledge of risk factors and sign and symptoms of the infection for classification of participants' knowledge in to knowledgeable and not knowledgeable.

In this study, women aged 25 and above were more knowledgeable than those aged between 15 and 24 years old. Similar results of better knowledge were reported in women aged 30 to 49 years in other studies of Kuwait, Qatar and Nepal [32, 33, 34]. This can be explained by the fact that younger women tend to be healthier and thus would not seek medical advice or would have

relatively less contact with the health service providers. However, married and divorced or widowed women were less knowledgeable than single women with difference to other studies where better knowledge score with respect to longer duration of marriage were reported [33]. The difference might be due to absence of awareness creation programs and campaigns during pregnancy, post natal check up and family planning or when faced with various gynecological problems in the study Town.

The importance of occupational status on knowledge of cervical cancer has been mentioned in the studies conducted in Cameroon and Saudi Arabia [35, 36] where students, like this study, were about 4 times more likely to have knowledge than others (house wife or merchants or daily workers). Even though the results were not statistically significant in this study, lower educational status and monthly house hold income levels were factors that contribute to the poorer knowledge and prevalence of performing breast cancer and cervical screening tests in other many studies [26, 31, 37, 38].

This result also showed that those study participants who continuously used reading materials or health providers as their source of information were 6 times more knowledgeable than those media users. This is common where people always remember what they read and discussed but lost what they heard. They might not gave attention and attend full programs presented by the media too. On the other hand, participants who had discussion about their health with anyone else were less likely knowledgeable than those who do not have any discussion even if women who had discussion with health providers were about 5 times more knowledgeable than those who had discussion with their friends and families.

Having sexual experience and/or pregnancy, number of parities and ever visiting health institution for any reason were not associated with cervical cancer knowledge in this study in contrast to other studies [21, 33, 39, 40]. This might be due to lack of awareness in the health providers too or shortage/absence of health education and counseling time for clients in the study area.

In addition, knowing someone with cervical cancer was significant factor of cervical cancer knowledge among the study participants. Women who knew someone affected with cervical cancer were ten times more likely to have above-average knowledge than women who did not. This is balanced to the study of Gondar Town, Northwest Ethiopia [21] where women who knew someone affected with cervical cancer were five times more knowledge than women who did not.

V. Conclusion

This study showed that knowledge level of women's on cervical cancer was very poor. Participants whose age was older were about 3 times more knowledgeable than those younger aged. Having discussion about their health with health providers, using books or/and health providers continuously for their health information and knowing someone with cervical cancer were also factors that were more likely associated to cervical cancer knowledge level.

VI. Recommendations

The following recommendations are forwarded;

- Ministry of Health together with other stakeholders need to embark on intensive awareness creation campaigns on cervical cancer to complement health education in health facilities.
- Ethiopian Cancer Association and other health groups should continue to write and publish reading materials as well as different campaign for awareness creation.
- Cervical cancer prevention programs have used multiple strategies in efforts to overcome patient limitations. Interventions must incorporate a public educational component, which may consist of posters, pamphlets, media advertising and health education as person to person or in group.
- Harari Regional Health Bureau should give awareness training to change the communication skills of the health care providers. They must also try to break the taboo issues in communication about cervical cancer and cancer control.
- Health providers should use different opportunities to give health information for clients to increase their knowledge.
- Mass Medias may give large coverage for cancers especially about methods of cervical cancer transmission, prevention and control.
- Further research is critically needed to determine the cervical cancer prevalence and practice in the region, which interventions can improve cancer communication and result in better outcomes.

Limitation of the study

- As in other behavioral studies, respondents might not reply openly to sensitive and private questions.

- People in urban areas might not properly respond for the questions.

Conflict of Interest

We declare that there are no conflicts of interest to disclose.

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