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PREVALENCE OF CERVICAL CANCER AND ASSOCIATED RISK FACTORS AMONG WOMEN ATTENDING CERVICAL CANCER SCREENING AND DIAGNOSIS CENTER AT JUGAL HOSPITAL, HARARI REGIONAL STATE, ETHIOPIA, 2019

Arif Hussen

Harar Health Science College, Department of Pediatrics Nursing, East Ethiopia

Email addresses:

arifhussen.ah@gmail.com

Abstract

Back ground:-Globally cancer is the fifth and the second most frequent malignancy in men and women respectively. Overall, 715,000 new cancer cases and 542,000 cancer deaths were estimated occurrence in Africa [2]. Approximately half a million women develop cervical cancer each year with an estimated 85% in developing countries.

Objective:-The aim of this study is to investigate the prevalence and associated risk factors of cervical cancer among clients that have been screened for cervical cancer in jugal hospital.

Methodology:- Retrospective cross-sectional study was conducted for last one year data. Data was collected from June 4th-30th, 2019 E.C. Sample size determination and sampling procedure. Data was collected from secondary data using checklist. For data processing and analysis, SPSS version 20 was used.

Result:- This study showed a prevalence of 11.1% for cervical cancer among our study population. The mean age of the women presenting for screening in this study was 35.2 years and most participants were less than 35 years old (62.2%).

This study showed After controlling the effect of other predictor variables, the multivariate logistic regression analysis showed statistically significant association between Age of first intercourse ,Multiple sexual partner, HIV status, and cervical cancer with p-value<0.05.

Conclusion:- The findings of this study gave insight on the prevalence of cervical cancer among women attending cervical cancer screening and diagnosis center at Jugal hospital.

Key words:- Prevalence Cervical cancer Harari regional state

Introduction

Cervical cancer is a cancer arising from the cervix, in which the cells of the cervix become abnormal and start to grow uncontrollably, forming tumor. Approximately 90% of intraepithelial neoplasia is attributed to human papillomavirus (HPV) infection. Only certain types of HPV cause high grade intraepithelial lesions and cancer. There are different type of HPV but the most Type is type 16. The two major histologic types of cervical cancer are adenocarcinoma and squamous cell carcinoma. From this 99% of women with squamous cervical carcinoma caused by Human Papilloma virus (HPV) infection [1]. Globally cancer is the fifth and the second most frequent malignancy in men and women respectively. Overall, 715,000 new cancer cases and 542,000 cancer deaths were estimated occurrence in Africa [2]. Approximately half a million women develop cervical cancer each year with an estimated 85% in developing countries [2].

According to the report from WHO, globally in 2015, cervical cancer incidence was 7.9%, mortality was 7.5% and five-year prevalence was 9%. In sub-Saharan Africa the incidence was 25.2% and mortality was 23.2% and the five-year prevalence was 27.6%. In Ethiopia the incidence was 17.3% was mortality 16.5% and five-year prevalence was 18.2% [2].

In Ethiopia, Cervical Cancer ranks as the 2nd most frequent cancer among women between 15 and 44 years of age. Every year, 4648 women are diagnosed with cervical cancer and of this, 3,235 ends with death [3].

It was estimated that 20.9 million women were at risk of developing cervical cancer in Ethiopia with an estimated 4648 annual number of new cases and 3235 annual number of deaths respectively [4].

Currently Ethiopia has a population of 20.9 million women aged 15 and older who are at risk of developing cervical cancer. Each year an estimated 7619 women are diagnosed with cervical cancer; 6081 die from the disease. Crude incidence rates of cervical cancer in Ethiopian women per 100 000 population per year are estimated to be 23 [5].

Despites the growing number of cervical cancer cases in Ethiopia as a country and Harari as a region, considering the increasing pattern of the disease and high prevalence of risk factors, the need for cervical cancer prevention program is crucial. To establish and improve any program and strategy, understanding the prevalence and associated risk factors of cervical cancer data from the primary health care facilities are also scarce.

The aim of this study is to investigate the prevalence and associated risk factors of cervical cancer among clients that have been screened for cervical cancer in jugal hospital.

The finding of this study will point in making evidence based public health actions and refine the preventive activities within the national cervical cancer preventive and control strategies. Identification of the factors associated with cervical cancer will help the regional Health bureau and Stakeholders of a cervical cancer health promotion and preventive strategy to mitigate the prevalence and the lethality of the case.

Methodology

Study setting and study design

The study was conducted at jugal hospital, Harar city which is found 525 km to East of Addis Ababa. It has a total of 342 staffs among these 208 of them are health care professionals whereas the rest are non-health professionals, (administrative staffs) the hospital is found in Harar towns. It is the first governmental hospital in Ethiopia, named as Misrak Arbegnoch Hospital and the hospital changed its name to jugal hospital. Currently, the hospital is providing different health services including cervical cancer screening activity. Hospital Cervical Cancer Treatment Center was established two years ago. Currently two nurses working at the Cervical Cancer Center.

Retrospective cross-sectional study was conducted for last one year data. Data was collected from June 4th-30th, 2019 E.C. All charts of cervical cancer patients diagnosed and screened from May 2017 to May, 2019 G.C at Jugal Hospital was retrieved from cervical cancer screening and diagnosis logbook that met the inclusion criteria.

Sample size determination and sampling procedure

All charts of women who have attended cervical cancer screening and diagnosis center at jugal Hospital. Non-probable purposive samplings were used.

Data collection, quality and analysis

Data was collected from secondary data using checklist. And, the data collectors were those who work at the cervical cancer screening and treatment center. The checklists filled were gathered and checked for completeness. For data processing and analysis, SPSS version 20 was used. Data checked for completeness and consistency; Coded data was entered into computer programs after the required cleaning was done. Univariate, Bi-variate and then multivariate analysis was carried out. Odds ratio (OR) with confidence intervals and p-values were calculated the output of the analysis were given and odds ratio with their respective confidence intervals. P value of 0.05 taken as level of significance.

Ethical issues

Ethical clearance was obtained from Harar Health Science College research ethical committee before the staring of the field work. An official letter of co-operation was written to jugal hospital. Consent was obtained from administrative body of the hospital. And all data collected were kept confidentially and study was conducted over the dictated time.

Results

Socio-demographic characteristics of study population

A total of 768 patients charts were registered on Harar jogal hospital cervical cancer registration log book. During data collection, 693 were included in the study and the rest 75 cases were completely excluded due to missing of one or more study variables. Out of the total extracted

data, 431 (62.2%) were in the age < 35 years and mean age of the patients was 35.25 + 10.729. 460 (66.4%) of the clients were living in urban. Regarding marital status 526 (75.9%) was married. The majority of the cases, 465 (67.1%) of the client's educational status was primary education. (Table1).

Characteristic	Frequency	Percent
Age		
16-25	111	16.0
26-35	320	46.2
36-45	161	23.2
46-55	58	8.4
56-65	26	3.8
66-75	17	2.5
Residence		
Urban	460	66.4
Rural	233	33.6
Marital status		
Single	81	11.7
Married	526	75.9
Divorced	43	6.2
Widowed	43	6.2
Educational status		
Unable to write &read	17	
Elementary	465	67.1
Secondary	211	

Gynecological-obstetrical and other clinical characteristics of women

Most women chart showed that they have 4 or more pregnancies 128(45.39%). Majority of participants chart 111(39.36) showed that their first pregnancy was between age 20-35 years. The majority of participants 82(80.39%) who were taking oral contraceptives used them for less than 5 years. Majority of the respondents chart 406(62.37%) showed that their first age of intercourse was when they were less than 20 years old, and greater than four-fifth chart showed that they had one sexual partner. Regarding their HIV status, only 12.04 % showed that they were HIV. (Table2).

Number of pregnancies (n=282)		
1	71	25.18

2-3	83	29.43
4-5	111	39.36
≥6	1 7	6.03
Number of children born (n=282)		
1	71	25.18
2-3	83	29.43
4-5	111	39.36
≥6	1 7	6.03
Age of the first pregnancy(n=282)		
< 20 years	91	32.27
20-35 years	111	39.36
> 35 years	80	28.37
Oral contraceptive pills (N=102)		
≤5 years	82	80.39
>5 years	20	19.61
Age of first intercourse (N=651)		
<20 years	406	62.37
≥20 years	245	37.63
Number of sexual partners (N=629)		
1	530	84.26
2-4	97	15.42
≥5	2	0.32
Self-Reported HIV Status (N=681)		
Negative	536	78.71
Positive	82	12.04
Unknown	63	9.25
Suspicion of STI (N=682)		
Yes	81	11.88
No	601	88.12

Factors associated with cervical cancer

Out of the total clients charts, 77 (11.1%) were aceto-white lesion positive and the remaining 616 (88.9%) were negative for aceto-white lesion .The overall prevalence of cervical cancer was 11.1%. The positivity was most prevalent among age greater than35 years group, in those who were married, in participants who had first sexual intercourse before age 20, in those who self-reported HIV positive, in participants who had had more than 1 sexual partners.

Table 4 shows the characteristics that were risk factors for cervical cancer using multivariable analysis.

		VIA positive	VIA negative	AOR for 95% CI
Age of first intercourse				

	<20 years	53	353	1
	>20 years	24	221	1.38 (1.02-5.13)
Number of sexual partners				
	1	26	504	0.04(0-0.1)
	>1	51	48	1
Self-Reported HIV Status				
	Negative	19	517	0.05(0-0.1)
	Positive	58	87	1

Using binary logistic regression, In bivariate logistic regression analysis, Age Residence , , Marital status, , Educational status, Age of the first pregnancy, Oral contraceptive pills, Age of first intercourse, Number of sexual partners, Self-Reported HIV Status were statistically associated with cervical cancer.

Variables which showed statistically significant associations with cervical cancer in the bivariate analysis were entered in to a multivariate logistic regression model to see the independent effect of each potential determinant while controlling for possible confounders.

After controlling the effect of other predictor variables, the multivariate logistic regression analysis showed statistically significant association between Age of first intercourse ,Multiple sexual partner, HIV status, and cervical cancer with p-value<0.05.

This study revealed that having one life sexual partner and being HIV negative decreases risk of getting cervical cancer (AOR=0.04; 95% CI =0-0.13), (OR=0.05; 95%CI= 0-0.97).respectively . In other sense having multiple sexual partners and being HIV positive will increase chance of getting cervical cancer.

Furthermore this study, the odds of getting cervical cancer was 1.38 times higher among those age of the first sexual intercourse was less than 20 years old than age of the first sexual intercourse was greater than 20 years old, [AOR =1.38; 95% CI =1.02-5.13].

Discussion

This study showed a prevalence of 11.1% for cervical cancer among our study population. The mean age of the women presenting for screening in this study was 35.2 years and most participants were less than 35 years old (62.2%). These findings demonstrate higher participation

in screening of younger women, similar to other studies in Africa like in Nigeria, where the population screened was younger than the general population [6].

The finding of this study revealed that having one life sexual partner decreases risk of getting cervical cancer (OR=0.52; 95%CI= 0.28-0.97). In other sense having multiple sexual partners will increase chance of getting cervical cancer. The same type of finding was consistently reported Similar to this study. Study done in Rwandan women the risk of cervical cancer increased with having multiple partner . [7]. A study in Morocco shows that promiscuity and polygamist which is related to multiple sexual partners increases the risk of cervical cancer [8].

In the present study, being HIV negative among women were decreases the risk of getting cervical cancer (OR=0.52; 95%CI= 0.28-0.97) meaning that being HIV positive will increase the risk of getting cervical cancer. A study in Zambia among HIV infected women states that HIV positive women have higher likelihood of having cervical cancer [9].

Cervical cancer has long been associated with HIV infection, and in fact, it was added as AIDS-defining illness to early AIDS case definitions by the CDC..As women with HIV have a higher frequency of HPV co-infection, rates of cancer are typically higher. Previous studies in sub-Saharan Africa have demonstrated a consistent association of cervical cancer and HIV (e.g. Senegal [10]; South Africa, Zimbabwe [11]; and also in other low-and middle income countries [12].

In this study, the odds of getting cervical cancer was 1.38 times higher among those age of the first sexual intercourse was less than 20 years old than age of the first sexual intercourse was greater than 20 years old, [AOR =1.38; 95% CI =95% CI =1.02-5.13]. The same type of finding was consistently reported that initiation of sexual practice too early became a risk factor in most previous epidemiological studies of cervical cancer. [13,14]. Similar to prior studies, study done in Rwandan women the risk of cervical cancer increased with young age of the first sexual intercourse and Having sex at earlier age . (HPV) [7].

Conclusion & Recommendation

The findings of this study gave insight on the prevalence of cervical cancer among women attending cervical cancer screening and diagnosis center at Jugal hospital. The study also has got significant association between Age of first intercourse, multiple sexual partner, HIV status, and

cervical cancer among women attending cervical cancer screening and diagnosis center at Jugal Hospital, Harari regional state.

Advocate delaying of age at initiation of sexual intercourse too early, Giving sexuality education tailored to age and culture, early screening and treatment for cervical cancer and provision of condoms for those who have practice of having multiple sexual partners, STI including HIV, Prepare consistent mass campaign for cervical cancer screening and diagnosis as it is vital to track the cases early and For researchers, Comprehensive and qualitative study became recommended.

Competing interests

The authors declare no competing interests.

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