



Original article

Cervical Cancer in Eastern Part of Libya

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Citation: Eljamay S, Elqatani Z. Cervical Cancer in Eastern Part of Libya. Libyan Int J Oncol. 2022;1(2):52-58.

Received: 10-10-2022

Accepted: 12-11-2022

Published: 15-12-2022



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Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

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Abstract

Background and aims: Cervical cancer is the second most common cancer and the third most important cause of cancer mortality worldwide, among women. Approximately half a million women develop cervical cancer each year with an estimated 85% in developing countries. The current study was aimed to estimate the number of women getting cervical cancer and risk factors of cervical cancer in East of Libya. **Methods:** The study is a hospital based retrospective cross-sectional study was conducted at Department of Oncology Benghazi Medical Hospital, Benghazi, Libya. The study utilized all registered cases of cervical cancer among Libyan women during 8-year period (2011-2018). It included information on patients' age, education level, occupation, family income, social status, smoking habit of patient or her husband, husband job, married age, age at cervical cancer diagnosis, and outcome. **Results:** A total of 104-woman diagnosis with cervical cancer were enrolled during the 8-year study period. Their mean age was 53.4 ± 12.9 with 41.7% woman presenting at the age of 45-60 years. Annual frequency distribution pattern was observed to be with high peak frequency in 2014 (23, 24%), 2016 (18, 18.8%) and 2017 (22, 22.9%). There were eight cases of deaths. **Conclusion:** The number of cervical cancer that observed in the present cohort was considered low. However, implementation of screening measures including Pap smears which are currently applied in developed countries could lead to better case finding, early diagnosis, and prevention of cervical cancer.

Keywords: Epidemiology, Risk Factors, Cervical Cancer, East Libya.

Introduction

Cervical cancer is the second most common cancer and the third most important cause of cancer mortality worldwide among women (1). Approximately half a million women develop cervical cancer each year with an estimated 85% in developing countries (2). Worldwide, there were 528,000 cases and 266,000 deaths of cervical cancer in 2012. The incidence is higher in developing countries and it is the second most common cancer in women aged 15–44 years (3). Cervical cancer is an important public health problem for adult women in sub-Saharan Africa, South and Central America, and south and Southeast Asia, where it is the second most common cancer among women. The majority of cervical cancer cases are caused by infection with certain subtypes of human papilloma virus (HPV), a sexually transmitted virus that infects cells and may result in precancerous lesions and invasive cancer (4). Therefore, the risk for developing cervical cancer is associated with early age of first intercourse, multiple sexual partners, smoking and infection with HPV, use oral contraceptive for a longer period and occupation are the risk factors for the developing cervical cancer (5). Cervical cancer is usually developed after prolonged phase of pre-invasive lesions in the cervix. Therefore, early identification and treatment at its pre-invasive stage may decrease the burden of morbidity and mortality resulting from cervical cancer (6).

Libya has a population of 2.21 million women ages 15 years and older who are at risk of developing cervical cancer. Cervical cancer ranks as the 3rd most frequent cancer among women in Libya and the 7th most frequent cancer among women between 15 and 44 years of age (7). Data is not yet available on the HPV burden in the general population of Libya. However, in Northern Africa, the region Libya belongs to, about 2.7% of women in the general population are estimated to harbor cervical HPV infection at a given time, and 78.9% of invasive cervical cancers are attributed to HPVs (8). Current estimates indicate that every year 241 women are diagnosed with cervical cancer and 95 die from the disease (9). Early detection and treatment of pre-cancerous lesions in Libya would lead to significant reduction of the burden of disease. The present study is aimed to determine the frequency and risk factors of cervical cancer in East Libyan.

Methods

The present study is a hospital based retrospective cross-sectional study was conducted between 17th June 2018 up to 21st October 2018 at Department of Oncology Benghazi Medical Hospital (BMH), Benghazi, Libya. BMH is the main tertiary hospital in the in eastern Libya for different subspecialties including Oncology. A formal permission was obtained from the BMH authority to retrieve the hospital cancer registry database using a standard data collection sheet, The study utilized all registered cases of cervical cancer among Libyan women during 8-year period (2011-2018). It included information on patients' age, education level, occupation, family income, social status, smoking habit of patient or her husband, husband job, married age, age at cervical cancer diagnosis and outcome. The study was approved by the college of Medical Technology, Derna, Libya.

Data was analyzed using SPSS software version 22. Descriptive statistics, including percentage, mean, range, and standard deviations, were calculated for all variables. Proportions were compared using Chi-square tests and P-value less than 0.05 was considered statistically significant.

Results

A total of 104 woman was diagnosed with cervical cancer for 8 years (2011 to 2018) at Oncology Department, BMH. Annual frequency distribution pattern was observed to be with high peak frequency in 2014 (23, 24%), 2016 (18, 18.8%) and 2017 (22, 22.9%) (Figure 1). More than half of women with cervical cancer 50 (52.1%) were from Benghazi city, 18 (18.8%) from Derna city, 6 (6.3%) from Almaraj, 6 (6.3%) from Albayda and 16 (16.5%) where from other different cities in eastern Libya. There were eight cases of deaths.

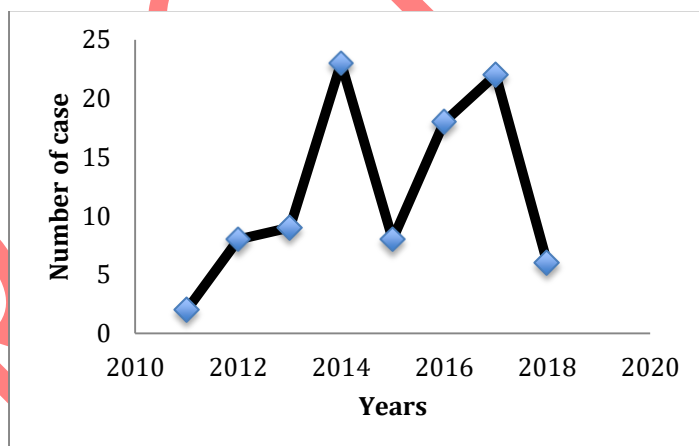


Figure (1): Trend of cervical cancer over eight years (2011-2018)

The mean age of women was 53.4 ± 12.9 ranging from 19-88 years with 41.7% woman presented at the age between 45-60 years. There appears to be a staidly in mean age among woman diagnosis with cervical cancer in 2011 to 2018 (Figer2).



Figure (2): Mean age at diagnosis of cervical cancer in East of Libya by year (2011-2018)

Majority of women 60.5% were married, 41.7% were housewife, 28% have university degree and 71.9% in middle class of family in come (Table 1). Table 2 Show husband job and smoking behavior of women having cervical cancer, while found most of them were businessman 38.5% and 64.6% were smoking. Reproductive and behavior characteristics among women diagnosis with cervical cancer are shown in Table 3. Most women reported 5 or more pregnancies (60.7%). Many women (43.6%) have more than 5 children with 1-2 years birth interval. The majority of women (94.8%) who were taken oral contraceptive and few of them were smoking (9.4%). Most of women 60.4% were married over 18 years with mean age of 19±12 years. A total of 39 (40.6%) of women having cervical cancer have other cancer. History of human papilloma virus was found in 36 (37.5%) patients, however, (13.5%) of them have gotten vaccine against papillomaviruses. In addition to that 24 (25%) said their mother were took contraceptive pill while were pregnancy with her.

Table 1: Socio-demographic characteristic of women attending oncology department at 1200 hospital in the period between 2011 to 2018

Items	No	%
Age		
< 35	7	7.3
≤ 35	89	92.7
Marital Status		
Single	24	25
Married	58	60.5
Divorced	6	6.3
Widowed	8	8.3
Occupation		
Housewife	40	41.7
Employer	4	4.2
Business women	45	46.9
Student	7	7.3
Education Level		
Non	24	25
Primary	14	14.6
Secondary	21	21.9
University	7	7.3
Postgraduate	3	28.1
Family in come		
High	22	22.9
Middle	69	71.9
Low	5	5.2

Table 2: Husband job and smoking behavior with relation to cervical cancer

Items	No	%
Husband smoke behavior		
Yes	62	64.6
No	10	10.4
Unknown	24	25
Husband job		
Not married	24	25
Business man	37	38.5
Employee	7	7.3
Engineer	7	7.3
Police man	10	10.4
Teacher	2	2.1
Doctor	3	3.1
Taxi driver	2	2.1
Worker	4	4.2

Table 3: Reproductive and behavior characteristic of women with cervical cancer.

Associated characteristics	No	%
Parity		
1-2	6	10.7
3-4	16	28.6
≥ 5	34	60.7
Use of contraceptive		
Yes	91	94.8
No	5	5.2
Mariatal Age (year)		
< 18	38	39.6
≥ 18	58	60.4
Cigarette smoking		
Yes	9	9.4
No	81	84.4
Unknown	6	6.3
Number of children		
1	2	3.6
2-3	13	23.6
4-5	16	29.1
≥ 6	24	43.6
Birth interval (year)		
1-2	49	92.5

2-3	4	7.5
Age at diagnosis of cervical cancer (year)	12	12.5
>35	8.4	87.5
≥35		
Family history of cancer		
Yes	37	58.5
No	59	61.5
Age of fist pregnancy (year)		
0	40	41.7
>18	8	8.3
≥18	48	50

Discussion

Cervical cancer is an important cause of morbidity and mortality among females worldwide, more so in developing countries. Data are lacking on rates of cervical cancer for the Eastern Libya. In the present study, during the eight years period we found the highest number of women having cervical cancer in years 2014, 2016 and 2017. It is of notice that in 2015 the rate of cervical cancer dropped from 24 cases in 2014 to 8 cases in 2015. This could be explained by the battle of Benghazi civil war during that time, population dislocation, and location of the hospital in the area of conflict, which resulted in the shortage of chemotherapy and patients had seek medical treatment in other cancer centers in Libya such as Misrata Cancer Institute.

The age trend of cervical cancer reported to occur in the 40-49 aged in developing countries while in developed countries 50-59 years (10). The mean age of diagnosis of cervical cancer in East of Libya is 53.4 ± 12.9 years, suggesting an increase in the mean age of diagnosis of this disease. Most of the patients were in the age group 45-60 years, which is slightly similar to study done in Nnewi in the south east of Nigeria (11); and this is slightly higher than study reported that most women having cervical cancer at age 40-49 years in Ilorin in Middle belt of Nigeria (12). The other study found cervical cancer tends to occur in midlife and is most frequently diagnosed in women between the ages of 35 and 44 (10), however, it is rarely developing in women younger than 20 (10).

Several reports have documented poor sociodemographic factors are associated with early development of cervical cancers in the developing world. In this study we found the majority of women with cervical cancer were married at age of 18, housewife, have university degree and in middle class of family income. In contrast to other study which was found that most of the patients belonged to low socioeconomic classes and majority of them were married at age between 16-20 years with mean marital age of 18.72 ± 5.58 (13). Adewuyi et al. in Northern Nigeria reported that majority of the cohort they studied had initiated sexual activity by age 17, were in polygamous marriages and were multiparous (14). The study results showed that the majority of women having cervical cancer their husbands have smoked cigarette.

The present study results are similar to other study which suggest that the effect of the number of cigarettes smoked by a patient's husband may have an effect on the patient developing cancer of the cervix (15). Their results showed that patients who smoked cigarettes had an increased risk (1.7 times) of developing invasive cervix cancer. Our study indicates that it may be necessary in future to distinguish between the cigarette smoking habits of the patient and those of the husband to determine their relative effects on the patient. This study reveals that, few of women who had cervical cancer were smoked. Although other study found majority of the women who had cancer were smoked cigarettes (16). Nearly half women reported 5 or more pregnancies and have more than 5 children with 1-2 years birth interval, which is similar to study by Australian concernment suggested that giving birth to 5 or more children in a short period between pregnancies might slightly increase the risk of cervical

cancer for women (17). The link between oral contraceptives and cancer risk is well apparent. Therefore, in this study found the majority of women having cervical cancer were taken oral contraceptive. Overall, however, most of studies have provided consistent evidence that the risks of cervical cancers are increased in women who use oral contraceptives (18-19). In contrast, in 2011, Iranian research showed that the longer women were on birth control pills, the greater the risk of cervical cancer and their inheritance. The researchers found that the use of oral contraceptives can triple the incidence of triple the risk of cervical cancer (20). An important finding in this study was 40.6% of cervical cancer women had other cancer. cervical cancer occurs when the cells of the cervix grow abnormally and invade other tissues and organs of the body. When it is invasive, this cancer affects the deeper tissues of the cervix and may have spread to other parts of the body (metastasis), most notably the lungs, liver, bladder, vagina, and colon, rectum (21).

In conclusion, the number of cervical cancer that observed in the present cohort was considered low compared to other study. There is need for nationwide awareness and screening programs that can be made successful with coordination of governmental organizations. Implementation of screening measures including Pap smears which are currently applied in developed countries could lead to better case finding, early diagnosis, and prevention of cervical cancer.

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