



(RESEARCH ARTICLE)



Prevalence of cervical cancer - A 6 year Retrospective Study in Jigawa State, Nigeria

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Abstract

Cervical cancer occurs in the cells of the cervix-the lower part of the uterus that connects to the vagina. Various strains of human papilloma virus and sexual transmitted infections play major roles in the development of cancer. A systematic review on cervical cancer incidence and mortality rate shows that the scarcity of information reveals a substantial need for further studies on cervical cancer prevalence and mortality with associated risk factors. The present study aimed at investigating the prevalence and of cervical cancer among women in Jigawa, Northwestern Nigeria. This was a retrospective analytical study conducted at Rasheed Shekoni Teaching Hospital Dutse, Jigawa, Nigeria. Data of 590 subjects retrieved from histopathology laboratory and the subjects' case files were retrospectively analyzed. Out of the 590 participants, apart from those with precancerous lesion, 80 (13.6%) - tested positive for cervical cancer, of the 80 positive patients, age group 35-44, 45-54, 55-64 and above 65 represent 25%, 16.3%, 23.7% and 12.5% of the population respectively. Of the 80 cervical cancer patients, 70% had Squamous cell carcinoma, 18.8% had Adenocarcinoma, while 11.2% constituted the mixed cell carcinoma i.e. adenosquamous carcinoma. Conclusively, the current study revealed 13.6% prevalence of cervical cancer in Jigawa, Northwestern Nigeria. This is alarming and calls for urgent intervention and more studies on the condition.

Keywords: Cervical Cancer; Prevalence; Jigawa; Nigeria.

1. Introduction

Cancer is a group of diseases involving abnormal cell growth with potentials to invade or spread to other part of the body, in contrast with benign tumors which do not spread [1]. Cervical cancer occurs in the cell of the cervix – the lower part of the uterus that connects to the vagina. Various strains of human papilloma virus (HPV) and sexually transmitted infections play a significant role in the development of this cancer [2]. HPV is the main cause of cervical cancer and it is estimated that about 75% of sexually active women and men may acquire a genital HPV infection at some point in time [3]. Cervical cancer is the second most common cancer in Nigeria among female population, second only to breast cancer [2-3]. In 2011, it was reported that 36.59 million women aged more than 15 years in Nigeria were at risk of developing cervical cancer in which there were 9922 cases diagnosed annually with 8030 deaths. The burden of illness borne by women with Cancer of the Cervix in northern Nigeria is similar to that borne by women in other developing countries, it is still too high; and the only panacea to this is institution of early screening programs and immunization. In addition,

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concerted efforts are needed to ensure extension of health insurance coverage for cancer therapy and increase in availability of radiotherapy service as a means of reducing waiting times. Data regarding burden of illness borne by women affected with cancer of the cervix has been largely anecdote [4-5]. Papanicolaou (Pap) smear cytology used in identifying and diagnosis of cervical lesions has helped in achieving massive reduction in the burden of cancer of the cervix especially in developed countries [3]. Other less invasive techniques have also been developed for rapid screening of cancer of the cervix such as Visual Inspection with Acetic Acid (VIA) and Visual Inspection with Lugol's Iodine (VILI) for screening and secondary preventive strategy for sexually active women. The present study aimed at investigating the prevalence of cervical cancer among women in Jigawa, Northwestern Nigeria.

2. Methods

2.1. Study Design

This was a retrospective study; client's data and results were retrieved and retrospectively analyzed.

2.2. Study Site

The study was conducted at Rasheed Shekoni Teaching Hospital Dutse (RSTH), located in the capital city of Jigawa state which is situated in the Northwestern Nigeria. RSTH is one of the largest tertiary health care institutions in the state that provide services to the patients from within and more than 5 other neighboring states in the northwest and northeastern part of the country.

2.3. Study Population

Data from a total of 590 subjects who had cervical cancer screening between July 2014 and August 2020 were retrospectively analyzed. Participants included those that were sent by the gynecologists due to presentation of some cervical cancer symptoms and those that came on their own for routine check-up.

2.4. Statistical analysis

Data collected was inserted in Microsoft excel and reviewed accordingly for omission and finally transferred to SPSS version 26 for coding and analysis. The patients case folders were evaluated for their demographic characteristics. Parameters studied were age, settlement, marital status, level of education and symptoms presented. All the results are presented as mean±SD and in percentages (%).

2.5. Duration of the Study

The study covered a period of six (6) years, from July 2014 to August 2020.

3. Results

Mean age (years) of 46.6 was noted in cervical cancer patients which is significantly higher compared to those who tested negative. Patients from rural areas tend to have more positive cases (9.3%) than those in the city (4.2%). Out of the 80 cervical cancer patients, 59 were married, 14 were single and 9 were widows. Majority of the cervical cancer patients possess no formal education (53.8%) and only 3.8% of them attended tertiary institutions. The most frequent presenting symptom among the cancer patients was unusual vaginal bleeding followed by pain during sex, vaginal discharge and pelvic pain respectively.

Out of 590 participants, 80 (13.6%) - tested positive for cervical cancer, and out of the 80 cervical cancer positive patients, age group 35-44, 45-54, 55-64 and above 65 represent 25%, 16.3%, 23.7% and 12.5% of the population respectively. Out of 590 subjects tested, majority of the patients 413 (70%) took the test based on the gynecologist request while only 177 (30%) came for screening on their own accord, just for routine checkup. The prevalence of cervical cancer was more evident among those who were requested by the doctor to take the test based on presenting symptoms and signs compared to those who came for routine screening. This may be due to the possibility that those who came for routine screening might have had a previous negative result and are likely to be more educated lowering adenocarcinoma, while 11.2% constituted the mixed cell carcinoma i.e. Adenosquamous carcinoma.

Table 1 Socio-demographic Characteristics/clinical presentation of the Study Subjects

Parameters	Study Subjects		
	Negative for cervical cancer	Positive for cervical cancer	Total
Mean Age	37.1±8.2	46.6±15.9	38.4±10.1
Marital status			
Single	95(16.1%)	14(2.4%)	109(18.5%)
Married	406(68.8%)	59(10%)	466(79.0%)
Widowed	09(1.5%)	07(1.2%)	15(2.5 %)
Settlement			
Rural	291(49.3%)	55(9.3%)	346(58.6%)
Urban	219(37.1%)	25(4.2%)	244(41.4%)
Level of education			
No formal education	332(56.3%)	43(7.3%)	375(63.5)
Primary	86(14.6%)	23(3.9%)	109(18.5%)
Secondary	49(8.3%)	11(1.9%)	60(10.2%)
Tertiary	43(7.3%)	3(0.5%)	46(7.7%)
Presented Symptoms			
Vaginal bleeding	232(39.3%)	21(3.6%)	253(42.9%)
Vaginal discharge	143(24.2%)	18(3.1%)	161(27.3%)
Pain during sex	59(10%)	20(3.4%)	79(13.4%)
Pelvic pain	59(10%)	12(2.0%)	71(12.0%)
Others	17(2.9%)	09(1.5%)	26(4.4%)

Table 2 Prevalence of Cervical Cancer According to Age Groups among the Study Subjects

Age groups (years)	Results Status		
	Frequency-n (%)	Positive-n (%)	Negative-n (%)
15-24	23 (3.9)	8 (10)	15 (2.9)
25-34	208 (35.3)	10 (12.5)	198 (38.8)
35-44	221 (37.5)	20 (25)	201 (39.4)
45-54	95 (16.1)	13 (16.3)	82 (16.1)
55-64	28 (4.7)	19 (23.7)	9 (1.8)
Above 65	15 (2.5)	10 (12.5)	5 (1.0)
Total	590	80(13.6%)	510(86.4%)

n=number of subjects

Table 3 Classification of Cervical Cancer Based on Cells Type and Keratinization and among the cervical cancer group of the Study Population.

Parameters		Results Status	
		n (%)	Negative (%)
Cells type	Squamous cell carcinoma	56 (70)	0(0)
	Adenocarcinoma	15 (18.8)	0(0)
	Mixed	09 (11.2)	0(0)
Total		80(100)	
Keratinization	Non-keratinized	62(77.5)	510(100)
	Keratinized	18(22.5)	0
	Total	80(100)	510

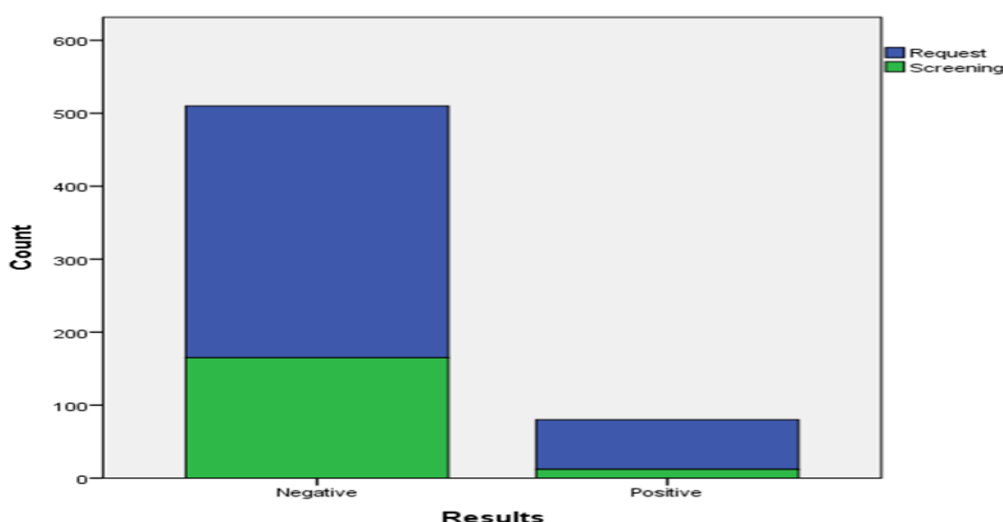


Figure 1 Doctors' request versus routine screening/check-up indices in terms of cervical cancer histopathological result outcome.

4. Discussion

In this study, cervical cancer was found to be more common within the age group of 35-44 years. The Mean age at presentation was 46.6 years; this is in keeping with findings of Adewuyi *et al.* [6], Sule and Ochicha [7] as well as Aydin *et al* [8] The prevalence of cervical cancer was found to be 13.6% which is high compared to the study conducted by Adewuyi *et al* [6] in Northern Nigeria. The prevalence in this study is also higher than that obtained in HIV positive women who are considered to have a marginal increase in cervical cancer risk reported in Nigeria by Ononogbu *et al.* [9], the difference may be due to more risk factors for cervical cancer in the far northern regions such as early coitachy, polygamy and grand multiparity. High prevalence of cervical cancer may also be attributed to HPV infection with specific reference to an observational hospital based cross sectional study conducted by Manga *et al.* [10] in North eastern Nigeria, on a total of 209 agreeable women who were tested for cervical HPV infection using PCR, the research identified a high problem of HPV infection among cervical cancer patients, further verifying HPV 18 and 16 as the most leading genotypes. Although the study further justifies the potential benefit of the currently available HPV vaccines in the area, a larger and community-based study is recommended for better representation of the area. Also, majority of the subjects screened already had symptoms that may be associated with cervical cancer. Expectedly, married women had the highest prevalence followed by single women, widows had the lowest prevalence .The finding that women from rural areas had higher percentage of the disease burden could be due to lack of awareness on cervical cancer screening, lack

of adequate facilities to run the screening tests and also poor access to higher health centres that have the capacity to screen for cervical cancer. The educational level of the subjects was also seen to reflect in the prevalence of cervical cancer with the women having no education having the greatest burden due to ignorance, poverty and lack of rural health facilities with the capacity to carry out cervical cancer screening. Poor health seeking behavior is also a notable contributor to late presentation due to cultural and religious barriers that places a high premium on invasion of women's privacy as the screening involves exposing the woman's genitalia, in the male predominant health workforce available to our communities. The commonest presenting complaint among those who tested positive was vaginal bleeding, which implies late presentation, followed by painful intercourse (dyspareunia) and then vaginal discharge. Pelvic pain was the least symptom reported. This is similar to findings by Adewuyiet al. [6] in Northern Nigeria. Among those with negative result for cervical cancer, thirty five (35) Subjects were found to have CIN, which is a pre invasive stage in the development of cervical cancer. As found in most studies, Squamous cell carcinoma is the commonest histopathological type that was seen accounting for 70% of cases followed by adenocarcinoma which accounted for 18.8% and the mixed type-adenosquamous which accounted for 11.2 %. A similar research study was conducted which revealed the high prevalence of cervical cancer among northern Nigerian women, especially the younger age groups [11]. According to this study, cervical cancer in Jigawa, a North western state in Nigeria poses greater threat at a mean age (years) of 46.6.. Socio-cultural barriers to breast and cervical cancer screening in Northern Nigeria exist in moderate to large scales. In a similar study, Human Papillomavirus (HPV) and other germane parameters were considered the leading cause of cervical cancer... In another study conducted by Jeronimo et al [12], the higher percentage attributed to squamous cell carcinomas was obtained as in the current study, this is due to the causal pathogenesis which involves chronic irritation and inflammation that occurs with HPV infection involving certain serotypes. Keratinization was observed in 22.5% of cases while the remaining 77.5% were non-keratinized and this is in line with research documented by Shrestha *et al.* [13-14].It is noteworthy that in this study, cervical cancer was more prevalent among the group that presented with gynaecological symptoms compared those who presented for routine screening. From this study, only 30% of the subjects presented themselves for routine screening while 70% presented with gynaecological complaints and were asked to do the screening test as part of their investigation implying that a good number of people at the community level do present themselves for routine cervical cancer screening..

5. Conclusion

Conclusively, the current study revealed 13.6% prevalence of cervical cancer in Jigawa, a Northwestern state in Nigeria, with settlement, level of education and age playing great roles. The paucity of data on cervical cancer incidence, prevalence and mortality rate in Jigawa state reveals a substantial need for further studies on cervical cancer in the state

Compliance with ethical standards

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Disclosure of conflict of interest

All authors declare no conflict of interest exists.

Disclosure of ethical approval

The research was carried out in accordance with the declaration of Helsinki concerning the ethical principles for medical research involving human subjects.

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