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Original Article

A Seven Year Review of Cervical Cancer in Benue State University Teaching Hospital, Makurdi

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ABSTRACT

Background: Cervical cancer is the fourth most common cancer in women and the second most common female cancer in women worldwide. In Nigeria, it is the second most common cancer and most common cancer among the female population in the country. Human papillomavirus (HPV) infection of the cervix is implicated in its aetiology. Cervical cancer is preventable through early diagnosis using screening tests and vaccination. ***Objective:*** To determine the socio-demographic characteristics, clinical factors, prevalence and pattern of cervical cancer patients presenting at Benue State University Teaching Hospital (BSUTH) Makurdi within the study period. **Materials and Methods:** A seven-year retrospective study of cases of histologically diagnosed cervical cancer at BSUTH, Makurdi from 2012 to 2018 (both years inclusive) was undertaken. **Results:** The incidence of cervical cancer among gynaecological malignancies was 57.5%. The mean age was 49.8 years ±14.6, with peak incidence occurring at the age range of 35-44 years. The highest incidence was seen among those with parity 5 and above (53.2%). Squamous cell carcinoma was the most common (97.4%) reported histopathology pattern. Early-stage disease (stage I – IIa) comprised 18.2%, while 81.8% presented in the advanced stage (stage IIb – IV). Most cases of histologically confirmed cancer were referred to centres with facilities for radiotherapy. However, early-stage diseases were treated at BSUTH. **Conclusion:** There is a high incidence of cervical cancer in this study. Hence there is a need for an efficient and organized cervical cancer screening program at national and sub-national levels for the prevention, early detection and treatment of the disease, especially in the high-risk group.

Keywords: Cervical cancer, Screening, Gynecological malignancies

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INTRODUCTION

Cancer is an emerging public health problem, especially in developing countries and cancers that affect women primarily are a special subset of health inequity. This is because many women in this region lack access to screening and treatment due many times to discriminatory beliefs and practices[1,2]. Inadequate screening programs and lack of optimal assessment, diagnosis and treatment are common as a result of a dearth of personnel and resources[1]. Cervical cancer is the fourth most common cancer in women worldwide and the second most common female cancer in women aged 15-44 years old worldwide.[3] In 2012 there were an estimated 528,000 new cases of cervical cancer and 266,000 deaths from cervical cancer, with 70% of those deaths occurring in developing countries.[4] In Sub-Saharan Africa, cervical cancer accounts for 22.5% of all cancer cases in women, and the majority of women who develop cervical cancer live in rural areas. It is the second most common cancer in Nigeria and among the female population in the country; it is the most common cancer. The incidence of cervical cancer in Nigeria is 250/100,000 women.[5]

Research has established that the incidence of cervical cancer peaks in the fourth decade of life, with a median age at diagnosis of 48 years. However, the number of elderly patients being diagnosed with cervical cancer is increasing in Europe, and older women account for >40% of the deaths from cervical cancer annually.[3]

The exact aetiology of the disease is unknown but several epidemiological factors have been linked to cancer of the cervix, however persistent high-risk human papillomavirus (hrHPV) infection of the cervix is considered the main etiological factor in over 99% of cervical cancer. The two most common hrHPV types are the HPV-16 found in 50%–70% of cervical cancers and HPV-18 found in 7%–20%.[6] Others include the debut of sexual activity before age of 20 years old, grand multiparity, a low socio-economic status, multiple sexual partners, prolonged use of oral contraceptive pills, family history, smoking and infectious diseases like herpes simplex type II and HIV.[7]

The disease could be asymptomatic or symptomatic in its presentation. It could be discovered accidentally through screening procedures like Papanicolaou smear cytology and colposcopy or during evaluation for family planning. Symptoms such as irregular and/or

abnormal vaginal bleeding, contact vaginal bleeding, vaginal discharge which could be malodourous from secondary infection and in advanced disease, systemic features like cachexia, micturition symptoms, pelvic pain, rectal symptoms and pedal oedema may be seen.[8]

A thorough preoperative investigation is done to detect any systemic effect of the disease, the extent of spread, the presence of medical complications and to determine her fitness for surgery. In the setting of overt disease, an initial examination under anaesthesia is carried out with cervical tissue taken to obtain histological confirmation. This will determine the appropriate mode of treatment. Squamous cell carcinoma accounts for 71% of all carcinoma of the cervix. Other histological subtypes include adenocarcinoma (25%) and adenosquamous carcinoma (4%).[8]

The treatment of cervical cancer frequently requires a multidisciplinary approach. The involvement of a gynecologic oncologist, radiation oncologist, and medical oncologist may be necessary. It varies with the stage of the disease and includes surgery, radiotherapy, chemotherapy or a combination of methods. For early invasive cancer (IA1 to IIA), surgery is the treatment of choice. In more advanced cases (IIB to IVB), radiation combined with chemotherapy is the current standard of care. In patients with disseminated disease, chemotherapy or radiation provides symptom palliation.[9] Prognosis is impacted by stage, tumour volume, depth of cervical stromal invasion and metastases.[10]

Cervical cancer is preventable through screening tests, one of which is the Papanicolaou (Pap) test. It is one of the most essential screening tools for the early diagnosis of cervical cancer and has been found to reduce the risk of developing cervical cancer by 80%[4] in the advanced world. Another screening tool is HPV DNA testing which has been found to have between 66 and 95% sensitivity in identifying women who have abnormal precancerous lesions. Other preventive measures such as vaccination are obtainable in developed countries.[8]

In Nigeria and other developing countries, cervical cancer remains a major cause of morbidity and mortality among women. This is because most patients present in advanced stages due to a lack of organized screening programmes for the detection of pre-invasive stages of the disease.[5] With the establishment of an organised screening programme, female education and effective prevention and treatment of sexually transmitted diseases, there will be a reduction in the incidence and mortality associated with cervical carcinoma.[7,9] What are the socio-demographic characteristics, clinical factors, incidence and pattern of cervical cancer patients presenting at Benue State University Teaching Hospital (BSUTH) Makurdi? Therefore, this study aimed to determine the socio-demographic characteristics, clinical factors, incidence and pattern of cervical cancer patients presenting at Benue State University Teaching Hospital (BSUTH) Makurdi within the study period.

METHODOLOGY

The study was conducted in the Department of Obstetrics and Gynaecology at Benue State University Teaching Hospital. This is a tertiary referral institution located in Makurdi, the Benue State capital. Apart from providing gynaecological care, it also accepts referrals from other health facilities within the North Central zone of Nigeria as well as the neighbouring states of Enugu, Kogi, Nasarawa and Taraba. This was a retrospective study of all cancers of the cervix presenting at BSUTH between 1st January 2012 and 31st December 2018.

Ethical clearance was obtained from the hospital ethics committee and biodata was derived from pathology laboratory records. All the cervical cancers reviewed were confirmed by histological examination. Clinical staging (FIGO Staging) of all cases was performed under anaesthesia, by senior registrars (associate fellows) or consultant gynaecologists. Data for all the cases of histologically confirmed cervical cancer were obtained from the theatre, ward, histopathology and records departments. Using a structured proforma, relevant information including sociodemographic and clinical characteristics was extracted.

The IBM Statistical Package for Social Sciences (SPSS) version 25.0 was used for data analysis based on descriptive statistics, using means, medians, modes, percentages, ratios and standard deviation. Results were presented in the form of tables and charts.

RESULTS

Of a total of 134 cases of gynaecological cancers that were seen and managed, 77 (57.5%) were histologically confirmed primary cervical cancer cases, making it the leading gynaecological cancer in Benue State University Teaching Hospital (BSUTH), Makurdi. Within the study period, the pattern of cervical cancer cases at BSUTH increased for the first three years (2012-2014) and then dropped to a relatively constant level (Figure 1).
The age range of the patients was from 26–84 years. The mean age was 49.8 years ±14.6 years with 35-44 (29.9%) as the peak age group (Figure 2).

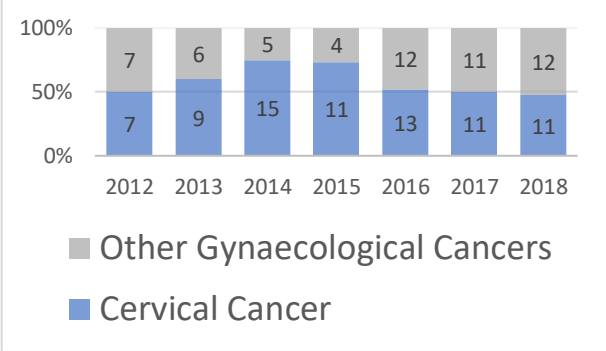

Figure 1. Pattern of gynaecological cancers and cervical cancer between 2012 - 2018

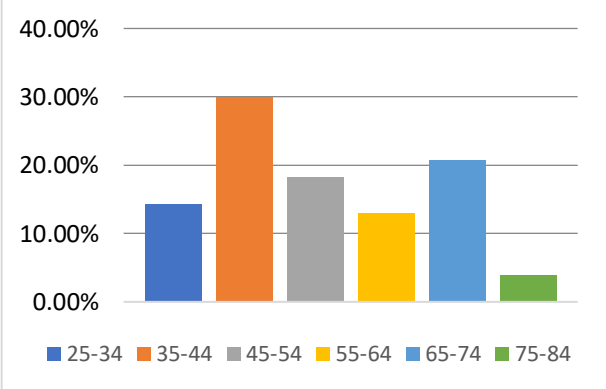

Figure 2. Cervical cancer and Age distribution

Table 1. Other socio-demographic characteristics

Variables	Frequency (N=77)	Percentage (%)
Ethnicity		
Tiv	69	89.6
Idoma	3	3.9
Igbo	2	2.6
Others	3	3.9
Religion		
Traditional	2	2.6
Christianity	75	97.4
Occupation		
House wife	11	14.3
Farming	49	63.6
Trading	11	14.3
Civil Service	4	5.2
Unemployed	2	2.6
Marital Status		
Single	3	3.9
Married	72	93.5
Divorced	1	1.3
Widowed	1	1.3

Table 2. Clinical factors: Parity, HIV status and History of contraceptive use

Variables	Frequency (N=77)	Percentage (%)
Parity		
Para 0	2	2.6
Para 1-4	34	44.2
Para 5 and above	41	53.2
HIV Status		
Positive	15	19.5
Negative	62	80.5
History of contraceptive use	**(N=20)**	
Hormonal	13	65
Barrier	4	20
IUCD	1	5
BTL	2	10

Among the cases, a majority of 69 (89.6%) were of Tiv ethnicity, 3(3.9%) were Idoma, 2(2.6%) were Igbo and 3(3.9%) were a combination of other ethnic groups. Seventy-five (97.4%) were Christians while 2 (2.6%) were Muslims. The majority (63.6%) of the women were engaged in farming as an occupation while 14.3% each were housewives and traders. Only 4(5.2%) were in formal employment. Seventy-two (93.5%) were married. It is important to observe, that none of these patients had or used a Pap smear as a screening tool in the past (Table 1).

Table 3. Histological type and Stage of cancer

Variables	Frequency (N=77)	Percentage (%)
Histological type		
Squamous cell carcinoma	75	97.4
Adenocarcinoma	2	2.6
Stage of cancer		
I-IIa	14	18.2
IIb	13	16.9
III	33	42.9
IV	17	22.1

The disease was more prevalent in women of high parity with the highest prevalence observed in women with parity of more than 5, which represented 41 (53.2%) cases. Fifteen patients (19.5%) were HIV positive while 62 (80.5%) were negative. Amongst those that used contraceptives, those that used hormonal methods were the majority (65%) (Table 2).

Clinical staging of all cases was performed under anaesthesia by Senior Registrars (associate fellows) or Consultant Gynecologists using the FIGO Staging. Sixty-three (81.8%) presented with the advanced stage of the disease (stage IIb – IV). Only fourteen (18.2%) presented early (stage I – IIa). We observed that stage III disease was the commonest accounting for 33 (42.9%) of cases. Two main histological types (squamous and adenocarcinoma) were found and squamous cell carcinoma constituted the majority with 75 (97.4%) cases, while adenocarcinoma accounted for only 2 (2.6%) cases (Table 3).

DISCUSSION

Carcinoma of the cervix remains the leading cause of gynaecological cancers in Nigeria, accounting for 57.5% of all gynaecological cancers in this study. In an earlier study involving BSUTH and FMC both in Makurdi, out of 15 gynaecological cancers diagnosed, cervical cancer constituted 13 (66.7%)[1] which is similar to our findings in this study. This high incidence was also observed in Zaria[11] and Maiduguri[12] with 62.7% and 72.6% respectively. The reason for this high incidence is the non-availability of health facilities and trained manpower coupled with the lack of affordable and accessible screening facilities. Also, illiteracy as seen in this study remains a major contributing factor to the high incidence, as well as poor health-seeking behaviour[13, 14].

The pattern of cervical cancer cases in this study increased for the first three years (2012-2014) and then dropped to a relatively constant level. This may be a result of two tertiary hospitals in the study area also being involved in screening programs for this disease. It may also be due to increasing levels of enlightenment and the use of condoms during sexual intercourse as vaccines are yet to gain wide use in our environment.

The demographic characteristics of the patients in this study are similar to that reported in other centers[11,15]. For instance, the peak age range of 35-44 years found in this study is similar to that reported by Azeez et. al.,[16] and Eze et. al.,[17] and this confirms that cervical cancer is a disease of women of childbearing age. The risk of developing cancer of the cervix was highest among women of parity of 5 and above, which constituted 63% of the study population. This finding is corroborated by studies which also demonstrated an association between a high number of deliveries and the incidence of cervical cancer[11–17]. This could be due to the increased risk of exposure to the HPV virus in this group of women. HIV is known to be positively associated with cervical cancer.[18] Human Immunodeficiency Virus (HIV) lowers immunity among infected patients thereby increasing the virulence and aggressiveness of HPV in the malignant transformation of the endo-cervical epithelial cells[18]. Fifteen patients (19.5%) were HIV positive indicating a high prior likelihood of association with cervical cancer.

The very high incidence of the disease among the Tiv nationality in our opinion could be a result of the fact that it is the dominant ethnic group in Benue State presenting in the facility. Our observation may, therefore, not be due to a higher susceptibility of the Tiv women to neither cervical cancer nor HIV infection.

Of those who had a history of contraceptive use (N=20), the majority (65%) used hormonal methods. This is in contrast to the study by Hembah-Hilekaan et al[19] in the same institution where the majority (57.9%) of the clients chose implants with hormonal contraception only accounting for 15.2%. The use of hormonal contraceptives especially oral contraceptives increases the risk of invasive cervical cancer[20]. The longer a woman uses oral contraceptives, the greater the increase in her risk of cervical cancer. One study found a 10% increased risk for less than 5 years of use, a 60% increased risk with 5–9 years of use, and a doubling of the risk with 10 or more years of use.[21] However, the risk of cervical cancer has been found to decline over time after women stop using oral contraceptives.[20]

Squamous cell carcinoma was the commonest histological type encountered, accounting for 97.4% of cases seen. This finding is very similar to those of Zaria (95%) [11], Kano (91.1%) [15] Gombe (90.5%) [16], Ilorin (85.7%) [22] and Maiduguri (92%)[12].

The clinical stage distribution of the disease in this study is similar to what is obtainable in other studies with the majority of patients presenting in advanced stages (stage IIb–IVb) to the hospital.[11-17] Stage III carcinoma of the cervix was the most common stage seen in our study which accounted for 42.9% of cases. This figure is similar to the experience in Zaria[11], Kano[15] and Abakaliki[17]. This to a large extent affects the management as well as the prognosis of the disease negatively. Consequently, most of the patients were referred to other facilities for Radiotherapy due to the lack of such at BSUTH, while some were lost to follow-up.

CONCLUSION

This study has shown that cancer of the cervix although preventable is a serious problem in our environment and other developing nations. And despite cancer screening programs being

incorporated in primary health care (PHC) in Nigeria, deliberate efforts must be intensified in the provision of manpower and accessible healthcare facilities towards the institutionalization of screening, education programs and advocacy in the general population and vaccination for HPV among adolescent girls to reverse the trend of the disease.

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