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ORIGINAL ARTICLE

Demographic Pattern of Cervical Cancer Patients Seen in a Radiotherapy Treatment Facility in Northern Nigeria

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Abstract

Purpose Cervical cancer is the commonest malignancy in females in Northern Nigeria (Oguntayo et al. in Ecancermedicalscience 5:219, 2011. doi:10.3332/ecancer.2011.219). It is therefore important to identify the demographic patterns of the population most frequently affected in order to direct any preventive or interventional activities appropriately.

Methods Patients were recruited serially as they presented to the Radiotherapy department of Ahmadu Bello University Teaching Hospital, Shika, Zaria, to reach the calculated sample size. The data were analyzed using Statistical Package for Social Sciences 20.0 and are presented here in tables and graphs.

Results A total of 73 patients participated in the study, and filled questionnaires were used in the collation of data. Majority of the patients seen were still within the reproductive age group 40–49 years. The mean age at presentation was 51 years, and a modal age of 40 years. The minimum age at presentation was 26 years and maximum age was 76 years. 37% of respondents were Hausa, 4.1% Yoruba, 6.8% Ibo and 52% for others comprising Tiv, Idoma, Urhobo, Igala and other minor tribes. 74% of the respondents were married, 4.1% divorced and 21.9% widowed. 28% had only primary education, 26% had no form of education at all, 16.4% had Qur'anic education and only 11% had attained tertiary education level. Most of them were unemployed housewives (54.8%). More than half, 53.4% earned less than 200 naira a day.

Conclusion Most patients are within the age bracket 40–49 years; they are mostly Hausa, married, housewives with minimal education and within the low socioeconomic class. This result points to a need to adopt a strategy of public education, enlightenment and screening programs that will capture the language barrier that exists as a result of poor education and the generally prevailing culture of being housewives which directly influences the health-seeking behavior of women in Northern Nigeria.

Keywords Cervical cancer · Demographic · Northern Nigeria · Characteristics

Introduction

Cervical cancer is the fourth most common cancer in women worldwide with about 528,000 new cases and 266,000 deaths reported in 2012 [2]. Around 85% of the global burden of cervical cancer occurs in the less developed regions of the world where it accounts for almost 12% of all female cancers [2]. In Nigeria some reports estimate that there are about 25 new cases per 100,000 women per year [3]. The Human Papillomavirus and Related Diseases Summary Report of 2017 gives the annual cervical cancer cases incidence as 14,089 while 8240 deaths were recorded [4]. These figures though alarming have not spurred the government to put in place organized screening programs for women who have attained 21 years of age or who are sexually active. As yet, there is no cervical cancer screening program in place in Nigeria; and there are no structured programs for Human Papilloma Virus (HPV) vaccination uptake [4].

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Cervical cancer generally affects women who are sexually active, and a number of factors have been implicated in its etiology. The most important of these factors is human papillomavirus (HPV) infection, especially serotypes 16 and 18 which have been implicated in over 90% of cervical cancer cases [5]. Other risk factors implicated are multiple sexual partners, sexual intercourse at an early age (17 years), cigarette smoking, low socioeconomic status, exposure to diethylstilbesterol in utero and a history of sexually transmitted diseases [5].

Most cases of cervical cancer occur in women within the reproductive age. The peak age of developing cervical cancer is 47 years, and approximately 47% of women with invasive cervical cancer are younger than 35 years of age at diagnosis [6].

The drive for public health education has been more or less unsuccessful as women, even when aware of the necessary steps taken to be screened, are unable to access screening by simple methods like visual inspection with acetic acid or Pap smear. Furthermore, women in northern Nigeria are generally unaware of the symptoms of cervical cancer because they remain at home for months after the onset of symptoms before they seek orthodox health care. They will rather patronize the traditional approach to treatment, and will only present to the hospital after all efforts have failed.

This paper aims to identify the demographic characteristics of cervical cancer patients in northern Nigeria so that public enlightenment and screening programs can be more effectively deployed to the target population intended.

Methods

Patients were serially recruited into the study until the sample size was reached. Sample size was calculated using the formula:

$$N = Z \times Z\,[P\,(1-p)/(D \times D)]$$

Taking a confidence level of 95% and a confidence interval of 5%

Z value for confidence interval at 95% = 1.96

Confidence level $D = 0.05$

Expected frequency level = 0.5

$$N = Z \times Z[P(1-P)/(D \times D)] = 72.9$$

Only patients who presented to the Radiotherapy and Oncology Department, Ahmadu Bello University Teaching Hospital, Shika who had histological diagnosis of invasive cervical cancer were recruited into the study. Patients were provided with a structured questionnaire which I filled as I asked the questions. Each questionnaire took about 3–5 min to fill per respondent. The data obtained were analyzed using SPSS 20.0, and the results are presented in tables and graphs.

Results

More of the patients interviewed, 21 (28.8%) were within reproductive age group; 40–49 years. The mean age at presentation was 51 years with a modal age of 40 years. The minimum age at presentation was 26 years and maximum age was 76 years (Table 1).

37% of the patients interviewed were Hausa, 4.1% Yoruba, 6.8% Ibo and 52% for others comprising Tiv, Idoma, Urhobo, Igala and other minor tribes (Fig. 1).

54 (74%) out of the 73 respondents were married, 3 (4.1%) divorced and 16 (21.9%) widowed as shown in Fig. 2. 58% of the married women were in polygamous marriages and 42% had been married more than once.

21 (28%) had only primary education, 19 (26%) had no form of education at all, 12 (16.4%) had Qur'anic education, 13 (18%) had up to secondary school education and only 8 (11%) had attained tertiary education level, as shown in Fig. 3. Educational levels below secondary school education were considered as low education level.

39 (53.4%) earned <200 naira a day, 19 (26.6%) earned between 200 and 500 naira a day and only 15 (20%) earned more than 500 naira a day, as shown in Fig. 4.

55% were unemployed housewives, 23% unable to specify any particular occupation, 8% were civil servants, 7% business women, 4% were farmers and 3% were artisan as illustrated in Fig. 5.

Discussion

The mean age group for this study was found to be 40–49 years; with 40 years being the most frequent age observed. This finding is similar to that found in a study carried out in Aminu Kano Teaching Hospital, Kano,

Table 1 Frequency distribution table for age

Age groups	Frequency	Percentage
20–29	3	4.1
30–39	9	12.3
40–49	21	28.8
50–59	20	27.4
60–69	14	19.2
70–79	6	8.2
Total	73	100.0

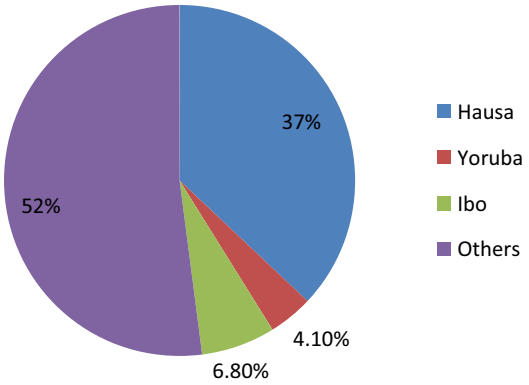

Fig. 1 A pie chart showing percentage distribution by tribe

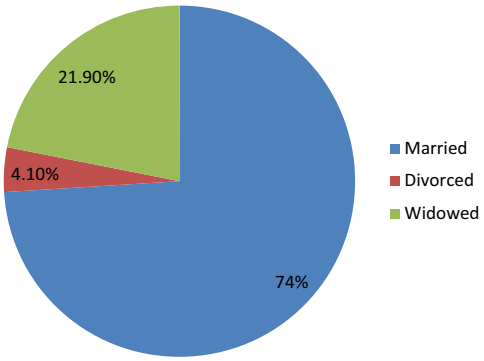

Fig. 2 Pie chart showing percentage distribution of respondents' marital status

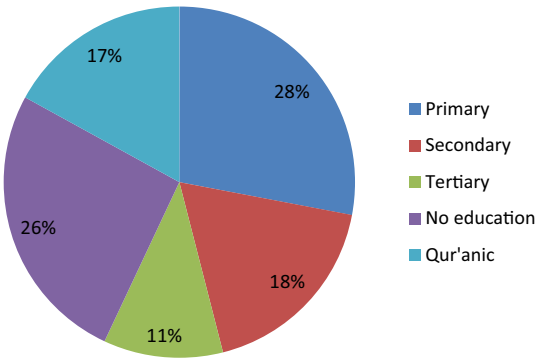

Fig. 3 Pie chart showing percentage distibution of respondents' level of education

Nigeria, where the mean age was found to be 46.25 ± 4.99 years [7]. The results found in this study are in consonance with other studies carried out in Ghana and Pakistan where they found a mean age of 42 and 47 years, respectively [8, 9]. However, a study carried out in India found that the peak age for cervical cancer is 55–59 years, which is higher than the reports found here [10]. The difference in peak age group incidence observed in India in the above example compared to the results of findings here in Nigeria may be accounted for by the presence of an

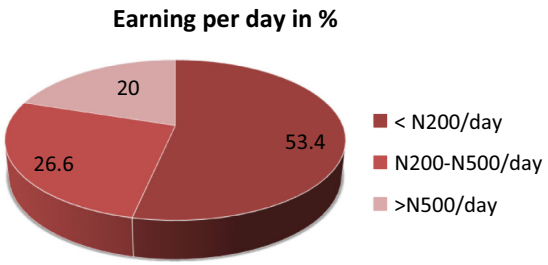

Fig. 4 Pie chart showing percentage distribution of respondemts' daily earning

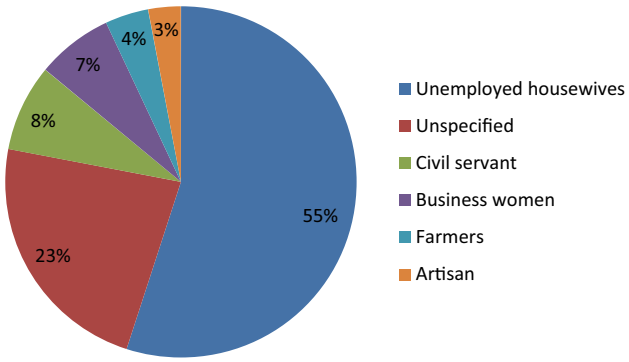

Fig. 5 Pie chart showing percentage distribution of respondents' occupation

organized screening program in India which allows for early diagnosis of cervical cancer and early treatment. They may also have a more robust public enlightenment programs which make the women population more aware of the risk factors for cervical cancer and therefore take appropriate measures to protect themselves.

It was important to include tribe in demographics of this study because of the difference in the incidence of cervical cancer reported in the southern and northern regions of Nigeria. Whereas reports from the South find that cervical cancer is the second commonest cancer in women (after breast cancer), most studies from the North find that cervical cancer is the commonest. This study finds that 37% of respondents were Hausa, 4.1% were Yoruba and 6.8% Igbo. Although this does not explicitly indicate a higher prevalence of cervical cancer among the Hausas because the study was conducted in a facility in Northern Nigeria where an overwhelming majority of the population is Hausa, it serves as a basis for further research to establish this theory. Studies carried out in India found that there are variations in incidence of cervical cancer among the different regions of the country [8].

Illiteracy is a major contributing factor to the persistence of the high incidence of cervical cancer in Nigeria, as our poor health decision making can only be attributed to a lack of knowledge [1]. The finding in this study further reinforces this fact as only 18 and 11% of the study sample

had education up to secondary and tertiary levels respectively, which is essentially similar to findings in studies carried out in India and Tanzania [11, 12]. The marital status of the respondents which is used here as a measure of sexual activity shows that all the patients were either currently married, or had been married at some point. 74% were married, 4.1% divorced and 21.9% widowed. 95% of married women were in plural marriages and 42% of them were in their second or third order of marriage, which is clearly a risk factor for cervical cancer. We could not assess promiscuity in the husbands; we however used the type of marriage (monogamous or polygamous) and the number of times the respondent has been married as an indication of multiple sexual partners. A study done in Kwara state, Nigeria, found that out of 200 participants, 90% were married and 31.5% were in a polygamous marriage; the number of sexual partners was found to be a statistically significant risk factor for cervical cancer incidence [13].

Low socioeconomic status has been identified as a risk factor for cervical cancer [1, 8]. About 78% of the patients interviewed had no specific source of income. 53.4% earned <200 naira a day, 26.6% earned between 200 and 500 naira daily and only 20% earned more than 500 naira daily. This clearly shows that indeed cervical cancer is more common among women of low socioeconomic status. This finding is similar to that by Oguntayo et al. where they found 75.7% of women were of low socioeconomic status [1].

Conclusion

Most patients seen in Northern Nigeria with cervical cancer are within the age range 40–49 years, and they are predominantly married, unemployed housewives with little or no formal education. The lack of education reflects in the poor health-seeking behaviors prevalent among women in Northern Nigeria, resulting in late presentations and poor utilization of few screening facilities available and vaccination uptake. This study brings to fore the need for the government to establish nationwide cervical cancer screening programs and HPV vaccination, and to embark on a massive public enlightenment campaign targeted at the demographic population highlighted in this study to curb the menace of cervical cancer.

Compliance with Ethical Standards

Conflict of interest We the authors of this original article declare that we have no potential of conflict of interest in the course of carrying out this research and we have not received any grants from any company or organizations.

Ethical Standards No procedures were performed on the persons who participated in this study. A questionnaire was administered to collect the required data in strict compliance with international ethical standards, and that of the institution where the research was carried out.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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