

An Epidemiological Analysis of the Pattern of Breast and Gynecological Cancers at Federal Medical Center and Benue State University Teaching Hospital, Makurdi, North-Central Nigeria

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ABSTRACT

The burden of cancer is increasing worldwide. There is absence of data on cancers affecting women in Nigeria. This study was conducted among patients attending the surgical and gynecological departments of the Federal Medical Centre (FMC) between 2003 and 2013 and the newly established Benue State University Teaching Hospital (BSUTH) from 2012 to 2013, both years inclusive. Only histological confirmed breast and gynecological cancers from the hospitals within the study period were compiled and analyzed.

There were 110 breast cancers made up of 96(87.3%) from FMC with 2(1.9%) cases in men, and 14(12.7%) from BSUTH. There was an average of 10 cases seen per year, with a mean age of 48 years and a range of 21-75 years. 102 (28.6%) cancers were seen at BSUTH; with 14(23.7%) breast and 15(25.4%) gynecological cancers. The burden of breast and gynecological cancers in North-Central Nigeria although not documented is real and the establishment of a cancer registry in the region will be beneficial.

Key words: Epidemiological, Pattern, Breast, Gynecological Cancers.

INTRODUCTION

Cancer is an increasingly important public health problem in developing countries including Africa. [1] Cancers that affect primarily women are a special subset of health inequity as many women in developing countries lack access to screening and treatment as a consequence of discriminatory beliefs and practices. [2] Inadequate screening programs and lack of optimal assessment, diagnosis and treatment is common due to the dearth of personnel and resources. This often results in under-treatment leading to reduced survival, whereas over-treatment may be wasteful, especially in the presence of avoidable side effects.

Of the 12.7 million new cancer cases and 7.6 million cancer deaths estimated globally around 2008, about 6.0million cases and 3.4 million deaths occurred in women. [3] Currently, 12.5% of all deaths are caused by cancer, which is more than HIV/Acquired Immunodeficiency Syndrome (AIDS), tuberculosis and malaria combined. [4]

By 2020, the International Agency for Research on Cancer, a brand of the World Health Organization (WHO), predicts 16 million new cases of cancer per year, with cancer overtaking heart disease to become the world's number 1 killer. Breast and cervical cancers alone accounted for almost 1 million of the close to 6 million

cancer cases estimated to have occurred in developing countries in 2002. [5]

The six most common cancers in Nigeria in descending order of frequency are breast, cervix, prostate, colorectal, liver cancer and Non-Hodgkin's Lymphoma and data obtained from various parts of the country show that cancer incidence is increasing with female cancers leading, and increasing incidence has been attributed to lifestyle change and poor awareness about risk factors. [6]

Information on the burden of breast and gynecological cancers is beset with problems and remains unknown because of the paucity of cancer registries in many low-resourced countries like Nigeria due to associated lack of statistics and under-reporting. Women's low literacy level, including cultural and religious practices coupled with a poorly developed health and educational infrastructure with little information on cancer prevention strategies and sources may contribute to the problem.

In a study of cancer registry literature updated from all over the world only 1% of the literature emanated from Africa compared to 34% and 42% from Europe and Asia respectively. [7] Information on cancer patterns, especially those affecting women is valuable towards planning policies for efficient cancer control in our society.

The aim of this study was therefore, to report cancers of the breast and gynecological system diagnosed at FMC, and BSUTH both located in Makurdi, Benue State and to analyze the trends, distribution and pattern of the cases seen in the two hospitals; towards the establishment of a case for a cancer registry, which will help as a data base in the design of effective programs towards the reduction of cancer deaths especially among women in Nigeria.

METHODS

This is a hospital based descriptive study conducted among patients attending the surgical and gynecological departments of the Federal Medical Centre (FMC)

between 2003 and 2013 and the newly established Benue State University Teaching Hospital (BSUTH) from 2012 to 2013, both years inclusive. The two hospitals offer specialist services and are located in Makurdi, Benue State in North-Central Nigeria.

All identified data of cases of breast and gynecological cancers from the case records, surgical, obstetric and gynecological and histological registers were obtained from both hospitals within the study period for compilation and analysis.

RESULT

During the study period, 110 (100%) breast cancers were diagnosed, out of which 108 (98.1%) were in females and two (2) in males, made up of 96 (87.3%) admissions at the FMC in eleven (11) years and 14 (12.7%) at BSUTH (fig.1) in the first two (2) years of its establishment. Both hospitals are located in Makurdi, Benue State, North-Central Nigeria. Of the 96 (100%) breast cancers seen at FMC, Makurdi, 94 (97.9%) were among women and 2(2.1%) were in males with an age range of 25-62 years compared with the combined institutional age range of 21-75years (table 1). The average age of patients diagnosed with breast cancer was 48 years with a yearly average of 10 cases. The highest number of cases diagnosed was from 2012- 2013 with a combined institutional total of 48 (43.6%) of all the breast cancers in the study period.

A review of all the histopathology specimens, cases and results at BSUTH, from January, 2012 to December 2013 showed that 357 specimens were analyzed for cancers in both sexes. Out of these there were 228 (63.9%) females and 129(36.1%) males, with 102 (28.6%) cancers diagnosed; made up of 59(57.8%) females and 43(42.2%) males. There was no case of breast cancer seen at BSUTH in the males in the period under review. Of the 59(57.8%) females diagnosed with cancers 14(23.7%) were breast, out of which 13(92.9%) were invasive ductal carcinomas and 1(7.1%) was

of spindle cell origin. There were 15 (25.4%) gynecological cancers made up of 13(22%) cervical and 1(1.7%) each of the ovary and endometrial tissue. No vulva or the rare vagina cancer was seen in this

study. Other cancers seen among women were skin cancers 11(18.6%) and the remaining 19(32.2%) were cancers from various other tissues (fig.3).

Table 1: Cancers seen at FMC (2003-2013) and BSUTH (2012-2013) Makurdi.

Year	Number	Sex		Age range /year
		Female	Male	
2003	1	1	-	55
2004	11	11	-	25-57
2005	3	3	-	39-55
2006	8	7	1	38-62
2007	3	2	1	38-50
2008	3	3	-	34-48
2009	9	9	-	29-60
2010	21	21	-	25-75
2011	3	3	-	40-50
2012	7	7	-	25-63
2013	27	27	-	21-69
TOTAL FOR FMC	96	94	2	21-75
BSUTH (2011-2013)	14	14	-	25-65
GRAND TOTAL	110	108	2	21-75

Figure 1: Number of Breast Cancer cases seen at FMC over 11yrs and BSUTH over 2yrs

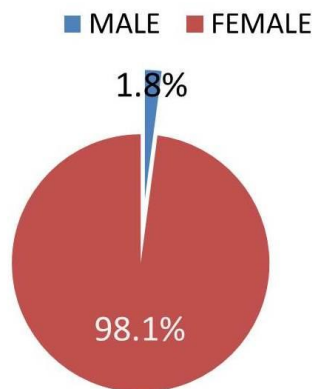
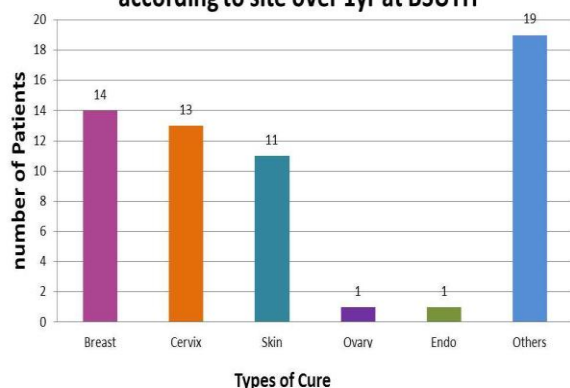


Figure 2: Number of cancers seen in women according to site over 1yr at BSUTH



For the assessment of cervical pre-malignant lesions, 104 Papanicolaou smears were taken in women at BSUTH, Makurdi; most of whom were having the screening

for the first time with cancer of the cervix diagnosed in 3(2.9%) (Figure 3 & 4).

Figure 3: Paps' Smear Result at BSUTH According to Age

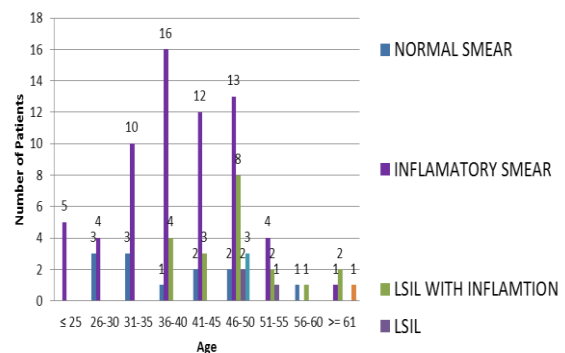
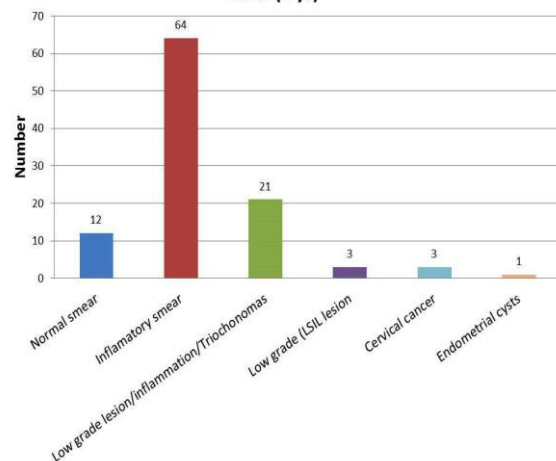


Figure 4: Paps' Smear results at BSUTH from 2012-2013 (2 yr)



DISCUSSION

Breast, endometrial, and ovarian cancers share some similar risk factors like early menarche, late menopause, obesity, and low parity. [8-9] Infection with human papilloma virus is considered a necessary cause of cervical cancer, [10] with other risk factors such as early age of first intercourse, low socioeconomic status and smoking. The problems associated with cancer diagnosis, treatment and prevention are multifactorial. This may be associated with dearth of information regarding breast and gynecologic cancer care inequality worldwide, and the difficulty in the creation and sustenance of cancer registries in countries lacking basic infrastructure. It is documented that, only 5% of the world's total resources for cancer control reach the developing world. [11]

Worldwide, breast cancer is the most common cause of cancer-related death among women. Recently, there have been rapid increases in the incidence and mortality rates in developing countries. [12] This is due to population aging, urbanization, and the adoption of Western lifestyles and diets. Risk of breast cancer increases by 2% per unit of body mass index, in association with weight gain after age 18. [13] Generally, cancer incidence in Nigeria appears low compared to developed countries which may not truly reflect the burden. [14] similarly, studies now show that breast cancer is now the most common female malignancy, having overtaken cervical cancer. [15]

In this study, of the 110 diagnosed breast cancers, 96(87.3%) were at FMC, Makurdi made up of 2(2.1%) male and 94(97.9%) female breast cancers within the 11 years study period; while 14 (12.7%) were at the newly established BSUTH in the two year period under review. In a similar study of the cancer registry at Lagos State University between 2005-2011 by Popoola et al, a high incidence of breast cancer 974(74.75%) amongst 1315 cancer cases was recorded, male patients accounted for 8(0.82%), while female patients accounted

for 966(99.18%).¹⁶ And at BSUTH over the two year study period, there were 102 cancers diagnosed with 59 (59.8%) female and 43 (42.2%) male cancers in contrast to the Lagos State University Teaching Hospital study mentioned above in which there were 1315 cancer cases recorded with female cancers accounting for 85.9% while male cancers was 14.1%. [16]

Also, from the distribution of cancers seen at the morbid anatomy in Lagos University Teaching Hospital in 2007, Breast cancer was found to have the highest percentage of 38%, [16] unlike the 23.7% breast cancers and 25.4% gynecological cancers, with carcinoma of the cervix 13(22%), and 1(1.7%) each for ovarian and endometrial cancers seen in our study.

Carcinoma of the cervix still remains the leading cause of gynecological cancers in Northern Nigeria accounting for 65.7% of all gynecological cancers. This high incidence was also observed in Ibadan and Maiduguri (Nigeria) with 62.7% and 72.65 respectively. [17] In this study, cervical cancer made up only 13(22%) of the gynecological cancers seen at BSUTH, which may have been as a result of the few number of cancer cases available for this study. From the details from various cancer registries across countries, there is a high incidence of gynecological cancers with carcinoma of the cervix leading in the developing world, which has been attributed to poor awareness, lack of structured national screening programs and weak health systems. Worldwide, however, both incidence and mortality from cervical cancer are second only to breast cancer, and in parts of the developing world, cervical cancer is the major cause of death in women of reproductive age. [18]

Cancer of the uterine corpus is the most common pelvic gynecologic malignancy in developed countries, with wide variation in incidence globally. [19] In our study it was 1.7% of all the cancer cases at BSUTH. It is said to be the seventh most common tumor in women globally. [20] The

incidence of endometrial cancer has been increasing in developing countries and is consistent with countries in socioeconomic transition. [21]

Other incidental non-gynecological female cancers seen in this study include 11(18.6%) cases of skin cancer and 19(32.2%) of other cancers made up of liver, colorectal and non-Hodgkin's lymphoma. The high rate of skin cancers observed may be related to the increasing desire of women to use skin bleaching creams with harmful chemical products such as mercury and hydroquinone, and exposure of the melanin depleted skin to ultraviolet sun rays as a result of the predominantly, tropical sunny climate and the agrarian lifestyle of the local women.

Currently, there is no National Policy on control of cancer in Nigeria; however, the control of reproductive cancers is embedded in the National reproductive health policy and the strategic framework. [22] With about 43% of all cancers said to be preventable, using the various levels of prevention (primary, secondary and tertiary), [23] together with standardized treatment protocols, the burden of cancer and its complications may be reduced in Nigeria. This can be achieved by improving and strengthening the health care systems, and the establishment of oncology centers with multidisciplinary teams made up of well-trained oncologic gynecologists and the maintenance of world class cancer registries.

Some of the draw backs of this study include the absence of some critical demographic data such as age and parity. Also, the data available here as is common with all retrospective studies may be too small for proper analysis and to draw very useful conclusions. It however, serves as a basis for the stimulation of further research in this area.

CONCLUSION

Although cancer burden is increasing worldwide, the gravity of the problem is yet to be ascertained in Nigeria

due to a weak health system. The relatively higher level of Gynecological and Breast cancers in this study further shows the extent of the problem and the urgent need for increased awareness towards cancer prevention. The institutionalization of treatment strategies and documentation using established cancer registers both at the local and national levels will be an asset. These will help in the control of this potential epidemic especially among women in Nigeria.

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Conflict of interest

The authors have no conflict of interest to disclose.

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