

The Cancer Burden and Patient Management at the Radiotherapy Department of Mulago Hospital, Uganda

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Abstract: *Introduction:* Cancer is still a world health concern. In developing countries like Uganda, cancer is one of the major health problems that are increasing due to increased life expectancy and the pandemic of HIV/AIDS. *Objective:* To establish the incidence of different cancers among patients presenting at the Radiotherapy department of Mulago Hospital, Uganda. *Methods:* It was a retrospective study in which 2253 medical records of biopsy proven cancer patients who were accrued between January 2007 to December 2008 were retrieved and reviewed. *Results:* Of all cancers reported for females, cervical carcinoma was the most frequent seen with 43.6% of cases, followed by breast cancer seen in 21% of cases. Prostate cancer was the most frequent in males seen in 39.7% of cases. *Conclusion:* There is an increase in the number of cancer patients in Uganda. There has been a similar increase in mortality rates owing to the limited resources to curb the morbidity of the disease. Developing more radiotherapy centres to handle the increasing number of patients is highly recommended.

Keywords: Cancer incidence, radiotherapy department, Uganda.

INTRODUCTION

It has been reported that, with high incident cases and deaths from cancer in Europe, cancer remains an important public health concern and the ageing of the European population will cause these numbers to continue increasing even if age-specific rates remain constant [1]. In developing countries like Uganda, cancer is one of the major health problems that are emerging due to increased life expectancy and the pandemic of HIV/AIDS [2]. Current statistics in the radiotherapy department of Mulago National referral hospital indicate that 1200-1300 new cancer cases are referred every year as compared to 300 patients referred in 1995 when the centre had just been established [3].

The cancer burden in Uganda is still a major challenge. A large proportion of the patients are diagnosed with advanced disease hence high mortality rates due to lack of knowledge of the early symptoms and signs of cancer yet their survival can be improved by early detection and effective management measures. This pattern of disease presentation can be explained by a high incidence coupled with other synergistic conditions such as low socioeconomic status, limited cancer awareness programmes, and difficulties in accessing health care [2]. The WHOIARC (International Agency for Research in Cancer) estimated that in 1990, just over 14,000 new cancers appeared in Uganda [2]. By 2015 it is expected to

increase to 28,000 [4]. Due to limited reporting of cases to the National Cancer Registry, the actual burden of cancer in Uganda is still unknown [5]. The incidence of different cancer types varies considerably between regions and countries [5]. Although registry methods and results have been previously described, there is need to follow up on the trends and incidence rates given the increase in the population, its progressive urbanization and changing social lifestyle as well as effects of HIV/AIDS [6].

Unfortunately, there is limited data collection and availability of information on the cancer burden in many poor countries like Uganda [7]. According to the records at the radiotherapy department of Mulago hospital in Uganda, it is evident that there is an increase in the number of cancer patients attending the only radiotherapy unit in the country. Owing to the limited resources at the department to curb the morbidity of the disease, there has been an increase in mortality rates and progression of cancer in Uganda. The purpose of this study therefore, was to establish the burden of different cancers among patients presenting at the Radiotherapy department, Mulago National referral Hospital.

METHODS

Study Design

It was a retrospective study in which a review of 2253 medical records of patients with a biopsy proven cancer was carried out between January 2007 and December 2008.

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Study Site

The study was carried out at the Radiotherapy department of Mulago National Referral Hospital, Uganda.

Data Analysis

Raw data was entered into SPSS software statistical package for analysis. The two principal measures analyzed in this study were socio demographic characteristics of the respondents and the different types of cancers presented. The analysis generated descriptive statistics like frequencies and percentages.

Ethical Issues

The study was approved by the Radiotherapy department research review committee and the Health and Wellness Research and Ethics Committee, Cape Peninsula University of Technology. All patient records were handled with utmost confidentiality and no patient name was included anywhere in the data presented.

RESULTS

Socio Demographic Characteristics

The mean patient age was 48 years, ranging from 1 to 107 years. The ratio of males to females in both years (2007 & 2008) was 1:2. In 2007, 373 (34.1%) were males and 722 (65.9%) were females. In 2008 387 (31.8%) were males and 831 (68.2%) were females. In 2007, the medical records review revealed that most of the cancer patients were peasants 457 (42.8%) and business people 253 (23.7%). While in 2008, the majority were peasants 502 (42.3%) and housewives 312(26.3%). The lowest, statistics reveal that the occupations were: Salesmen 2%, plumbers 1%, radio presenters/Journalists 0.5%, Administrators 0.1%, politicians and magistrates 0.01% in both years.

Peak Age Distribution

The peak age distribution of cancer patients across the two years is summarised in Table 1. From the table, in both 2007 and 2008, the peak age range was 40 to 59 years. The lowest being 6 to 12 years in 2007 and 13 to 19 years in 2008.

Distribution by Region

This showed that in 2007, the highest numbers of cases were from the central region and the lowest from

the International regions. In 2008, the highest was still the central region and the lowest from the Northern region.

Table 1: Showing Age Distribution of Cancers in 2008 and 2009

Age group in years	Number of patients in 2007	Number of patients in 2008
1-5	40	40
6-12	35	38
13-19	40	36
20-30	120	115
31-39	160	200
40-59	500	560
60 and above	310	300

Different Types of Cancers Presented at Radiotherapy Department

A total of 25 different cancers were registered during the study period. The distribution of the top five types of cancers in 2007 and 2008 is summarized in Tables 2 and 3 respectively. In 2007, the cancers with the highest percentage were gynaecological cancers with cervical carcinoma taking the largest percentage at 27.1 % (n= 289). The cancer with the lowest number of cases was Neuroblastoma at 0.2% (n= 2). In 2008, the cancers with the highest percentage were still gynaecological cancers with cervical carcinoma at 30.8% (n=365). The cancer with the lowest number of cases was Rhabdomyosarcoma with 0.2% (n= 8). There was an increase in the number of cancer patients attending the only radiotherapy unit; 1067 in 2007 and 1186 in 2008.

Table 2: Showing Distribution of Top Five Cancers in 2007

No.	Type of cancers	Percentage distribution (%)
1	Gynaecological cancers	43
2	Breast	10.2
3	Kaposi's Sarcoma	4.1
4	Retinoblastoma	4
5	Prostate	3.1

Of all cancers reported for females, the relative frequency of cervical carcinoma was (43.6%); breast carcinoma (21%); Kaposi's sarcoma (10%); Non-Hodgkin's lymphoma (5.8%) and oesophagus

carcinoma (4.4%). For males, prostate cancer was 39.7% of cases; Kaposi's sarcoma (10.8%); oesophagus carcinoma (7.5%); Non-Hodgkin's lymphoma (5.4%) and ocular tumours (3.6%). Other common cancers documented included cancer of colon, stomach, liver, head & neck, bladder, brain and ovaries. The most frequent reported paediatric tumours were Retinoblastoma (36.3%), Non-Hodgkin's lymphoma (21.7%) and nephroblastoma (12%).

Table 3: Showing Distribution of Top Five Cancers in 2008

No.	Type of cancers	Percentage distribution (%)
1	Gynaecological cancers	41.3
2	Breast	10.3
3	Kaposi's Sarcoma	5.8
4	GIT	4.1
5	Prostate	3.8

DISCUSSION

With the many incident cases in 2007 and 2008, cancer remains an important public health challenge in Uganda. Forty to fifty nine years are considered as middle age patients whose health seeking behavior is higher due to the fact that they can afford to pay for their medical bills because this is considered a working group. This explains why most cancer patients fell into this category. The radiotherapy department of Mulago hospital is located in the central region hence accessibility is easy for people in this region as compared to the rest of other regions. There is also a higher level of enlightenment among the population living in the central region than other areas. This explains why most patients seen were from the central region. Probably many patients from other regions in the country did not even report to the radiotherapy department due to limited accessibility, low incomes, limited awareness or even limited referrals from health centres in the countryside. However, this low reporting by patients from other regions could also be due to poor relationship between doctors and patients which unfortunately discourages many patients from seeking radiotherapy services. It could also be due to poorly coordinated awareness programmes in those remote regions.

Gwatkin reported that the cancer burden in poor countries of the world was found to be a reflection of the impact of the inequitable access to health care resources [8]. For instance, Kaposi sarcoma, principally caused by HPV-8 infection, was found to have a very

high incidence in sub-Saharan African nations like Uganda and Zimbabwe [5]. In the case of Uganda, this proposition may not be a surprise given that HIV/AIDS has taken an epidemic form. In public health, the incidence of any disease or health-related condition is a measure of primary interest because it helps identify a level of burden in the population and on the health care system [8].

This study showed that cervical cancer for females and prostate cancer for males were a point of concern. This therefore calls for timely interventions by health authorities to avert the effects of these cancers. Breast cancer should also not be ignored as it involves both women and men. Although there have been recent declines in breast cancer mortality rates in some European Union countries, breast cancer remains a public health concern [9]. Prospects for primary prevention are unclear at present and tamoxifen no longer appears to be a candidate for chemoprevention in the general population of women [10]. Population screening with mammography is effective at reducing mortality when quality control procedures are in place [11, 12] and there are slow but continual increases taking place in treatment outcome, reflected by the very high ratio of the lifetime risk of getting the disease (7.8%) to that of dying from the disease (2%) observed in the European Union [13]. The continued advocacy and support for mammographic screening programmes will lead to a reduction in breast cancer morbidity and mortality.

Making evidence based decisions to move forward requires reliable estimates of disease burden given the large number of public health priorities competing for the limited public health resources [3]. The challenges for prevention are compounded because cancer cases continue to cluster in the low socio-economic and rural populations, thus requiring strong political and social commitment to ensure effective implementation. Information on the incidence of cancer is therefore vital in defining public policy on the allocation of health resources and services. Unfortunately, due to logistical problems and political turmoil, epidemiological data on the occurrence of cancer in sub-Saharan Africa is limited [14]. The non-existent cancer registries and some with limited coverage and data collection in many poor countries compound the challenges for cancer prevention and management. Even in places where registries are kept, the available information considerably underestimates the true incidences of the disease and yet cancer cases continue to cluster in the low socio-economic and rural populations of poor

countries like Uganda. From this study, a lot of clinical information about the patient could not be obtained from the patient records.

It is therefore important to have complete registries of cancer cases so as to study time trends and frequencies thus helping healthcare providers in the management and planning for effective interventions. Unfortunately, due to operational costs, this study could not be extended to other areas in the country which could be a limitation. Many more studies involving other areas of the country need to be carried out to document the actual current incidence and frequencies of different cancers.

CONCLUSION

There are increasing cases of cancers in Uganda. Cervical and breast cancer for women as well as prostate cancer for men are of particular concern. Focused awareness programmes are needed to educate the population about risk factors, early symptoms of cancers as well as urging them to regularly attend cancer screening as a way of reducing morbidity and mortality from the disease. In a larger picture, a single radiotherapy centre is grossly inadequate to handle the large cancer incidence in the country and beyond. There is an urgent need to develop other similar centres.

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