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The socio economic effect of cancer on patients' livelihoods in kenyan house holds

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Abstract

The study assessed The socio economic effect of cancer on patients' livelihoods in kenyan households. In Kenya, cancer is ranked third among the main causes of death after infectious and cardiovascular diseases. In recent years, cases of cancer in Kenya have increased creating a burden on many households. This has negatively impacted on poverty alleviation and sustainable development in the long run. A Sample of 245 patients seeking treatment in the three major oncology centers in the country namely Kenyatta National and Referral Hospital, Moi Teaching and Referral Hospital and Agakhan University Hospital was used. . Data was collected through self-administered questionnaires, Focus groups discussions and key informant interviews. A triangulation approach involving in-depth interview using questionnaires as the main collection instrument for key informants were carried out. Secondary data was collected through case study, review of documents, reports and publications related to the topic and online journals. Chi square was used to test the independence of variables. The result revealed poverty, late and poor cancer diagnosis and lack of medical cover were found to be the top ranking serious challenges facing cancer patients in the country. Cross-sectional survey, correlational and evaluation research designs were adopted for the study. Both non-probability sampling and probabilistic sampling methods were used in selecting subjects seeking treatment at the three main oncology centers in Kenya.

Keywords: Vulnerability; Cancer; Household; Livelihoods; Poverty.

1. Introduction

In Kenya, cancer is ranked third among the main causes of death after infectious and cardiovascular diseases [1]. In recent years, cases of cancer in Kenya have increased creating a burden on many households. This has negatively impacted on poverty alleviation and sustainable development in the long run [1]. The rapid increase in the number of cancer cases has increased public health crisis with a critical and direct negative impact on the first three Millennium Development Goals (MDGs) namely; poverty, education, and gender equity especially in the developing countries, where 58% of all cancer deaths occur [2].

Although population based data does not exist in the country, it is estimated that the annual incidence of cancer is about 28,000 cases and the annual mortality to be over 22,000. Over 60% of those affected are below the age of 70 years [3]. The treatment and management of cancer is expensive to a poor economy like Kenya and the most recommended treatment regimens including chemotherapy, surgery and radiation are unaffordable to most of the patients and their families. The few who are able to afford the treatment are often forced to a lifestyle change as the treatment and management of the disease eats into finances and investments[1]. Additionally, cancer patients experience psycho socio and economic issues including worry, social stigma, lowered self-esteem, employment factors, impact on family and relationships, an increased sense of vulnerability, uncertainty about the future, and fear of death [4]. Though research has been carried on the occurrence, awareness, causes, prevention, and treatment of cancer in Kenya [1] there's hardly any research that has been conducted to study the socio economic impact of cancer to sustainable livelihood. The rising medical costs associated with cancer have led to considerable financial hardship for patients and their families. A study by WHO in America concludes that approximately one-third of the cancer survivors had gone into debt and 3 percent had filed for bankruptcy, of those who had gone into debt, 55 percent incurred obligations of \$10,000 or more, it further observes that cancer survivors who were younger, had lower incomes, and had public health insurance were more likely to go into debt or file for bankruptcy, compared to those who were older, had higher incomes, and had private insurance, respectively [5]. In Kenya due to the economic status of most patients there is likelihood that more cancer patients will fall into debts.

There are several causes of societal and economic impact of cancer health disparities. This statement attempts to quantify three types of costs: the cost of premature death, the cost of medical care to cancer patients, and the indirect cost of cancer on economic productivity through lost wages and hours worked [6]. In a study done by Arrossi et al (2007) on socio economic impact of cancer, he found out that the impact of cervical cancer is considerable and can have negative consequences on treatment compliance [7].

Mulemi (2010) observes that cancer impacts negatively on the livelihood of people of low socio-economic status because it leads to more poverty [8]. The economic costs of cancer are high for both the person with cancer and for society as a whole. The Agency for Healthcare research and Quality (AHRQ) estimates that the direct medical costs (total of all health care costs) for cancer in the US in 2011 were \$88.7 billion. 50% of this cost is for hospital outpatient and doctor office visits, 35% of this cost is for inpatient hospital stays while 11% of this cost was for prescription drugs [9]. According to *Cancer Facts & Figures 2015*, uninsured patients and those from ethnic minorities are substantially more likely to be diagnosed with cancer at a later stage, when treatment can be more extensive, more costly, and less successful.

The diagnosis of a Cancer has far reaching economic and social consequences on the individual, his family and the society. The economic consequences are the direct and indirect costs incurred upon the individual over the course of the disease. Direct costs include cost of medicines, physician consultation charges, hospital admission charges, investigation charges and cost of medical durables like wheel chairs, wound care supplies or respirators especially when hospital stay becomes prolonged and expensive requiring a shift to home care [10]. The indirect costs include loss of productivity of both the patient and a close family member who has to take the role of the care giver [10]. The social impact of cancer is far reaching and often not quantifiable. It involves a huge amount of suffering and pain, both physical and psychological, for the patient and his family. Often the patient has limitation in performing everyday tasks like bathing, dressing or eating; deteriorating his quality of life further [10].

According to Merletti et al., (2011), cancer has adverse social effects on the livelihood of patients. They say that prolonged cancer hospitalization usually alienates cancer patients from their livelihood and social relationships. They acknowledge that cancer hospitalization usually takes six consecutive months, and this makes victim's lives to oscillate around medication and therapy. According to them, cancer patients lose their social identity in the process of seeking medical attention. These authors agree that most cancer patients usually lose employment in the course of seeking medical attention. They posit that those who find themselves in such a situation end up depending on handouts from relatives, and this demeans their social standing [11].

Taylor et al. [12] believe that hospitalization and management of cancer is usually an additional threat to the fragile life of patients. They argue that the lengthy hospitalization associated with cancer treatment exhausts the patient's capacity to cope with illness. By derailing the patient emotionally, the author believes that it affects his/her social wellbeing [12]. These sentiments are shared by Mulemi [8], who considers the case of a caretaker, who experienced the frustrations of cancer patients who were working with a certain company in Nairobi Kenya. The author narrates how patients who receive lengthy cancer treatment are forced to retire early because of becoming less productive.

2. Methods and Materials

Study area

The study was conducted in Kenya. Kenya lies across the equator in east-central Africa, on the coast of the Indian Ocean (Figure 3.1). Kenya has a total area of 224,962 square miles. Kenya borders Somalia to the east, Ethiopia to the north, Tanzania to the south, Uganda to the west, and Sudan to the northwest. The population of Kenya is approximately 44.6 million (KNBS, 2015). 44 % of the country population lives below the poverty line of 1.25 US dollars per day (World Bank, 2014). Kenya current per capita income is about US \$1,700 according to International Monetary Fund which places Kenya as number 154 out of 183 world countries. A study by the Institute of Security Studies (ISS) has found that 18.4 million Kenyans, out of 46.3 million, live in extreme poverty.

3. Methodology

Study population

The study targeted patients seeking treatment in the three referral hospitals and members of affected households (Caregivers) having a surviving family member and Key Informants (Oncologists and nurses). Caregiver's were members of a house hold or the main person responsible for the social wellbeing of the patient. It included close relatives such as spouses, adult children of the patient, brothers, sisters, uncles and Aunts who were actively involved in the patients care. Others target were major stakeholders involved in cancer care including Oncologist and Nurses who are also actively involved in patient care during their stay in the hospital.

Sample size and sample techniques

The sample was determined using the formula by Fisher et al. (1998). The sample size of 245 was arrived at using the following formula. In total 245 cancer patients were selected for the study. A large sample was required to produce salient characteristics of the population to an acceptable degree and also reduce sampling errors [15]. The respondents who formed the sample were from Kenyatta National Hospital, Agha Khan University Hospital and Moi Teaching and Referral Hospital.

Reconnaissance visits were made to the study sites. The information obtained formed the basis for selection of patients for the survey. During the same period, the questionnaires were pre-tested (to 25 patients) and necessary corrections were made on the questionnaire before a full-scale survey was undertaken. This process utilized convenience sampling method, multi stage sampling method, purposive and quota sampling methods.

Data collection

Data gathering was through multiple methods; primary data was collected using self and researcher administered structured questionnaires. Key informant Interview Schedule and focused groups discussion

(FGDs) were employed to obtain data from the patients' medical personnel and caregivers. FGDs consisted of two groups from each healthcare facility i.e. the patients and the caregivers. A total of 7 FGDs were conducted at KNH, MTRH, and AKUH. In each of the hospitals, one FGDs were conducted for Nurses.

Data analysis

The statistical package for social sciences (SPSS-Version 17) computer programme was used to analyse the data. Two analyses were made: descriptive analyses (by use of means, modes, standard deviations, variance, percentages, and frequencies) and the inferential analyses (by use of chi-square, correlation analyses). The former provided the descriptive and documentation of the state of affairs as they were, while the latter indicated statistically significant relationships between the variables and in the testing of the specific objectives. Means, standard deviation and Chi square test were used to test differences that existed. All this were tested at the probability level of $p=0.05$ or $p=0.01$ level of significance.

4. RESULTS

Demographic characteristics of the respondents

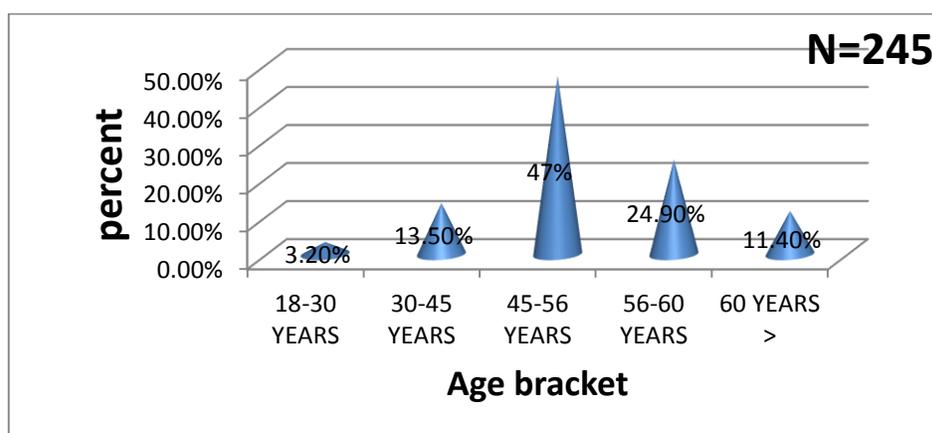


Fig. 1: Age of patients seeking cancer treatment in Kenya.

The results indicated that 47.0% of the respondents were aged between 40 and 50 years, 24.9% of the respondents indicated that they were aged between 51 and 60 years, 13.5% of the respondents indicated that they were aged between 31 and 39years, 11.4% of the respondents indicated that they were aged between 60 years and above and 3.2% of the respondents indicated that they were aged between 18 and

30 years (Fig. 1). A chi- Square test conducted on the respondents age distribution indicated that there was a highly significant (<0.01) variation in the responses $\chi^2_{4.001} = 163.613$ in the distribution of age. It emerged from the FGDs and Secondary data that most of the patients admitted at the cancer hospital were in the working age bracket of between 18 years and 60 years. The key informant interview revealed that most cancer patients are in their early 40's and 50'.

Type of cancer patients were diagnosed with

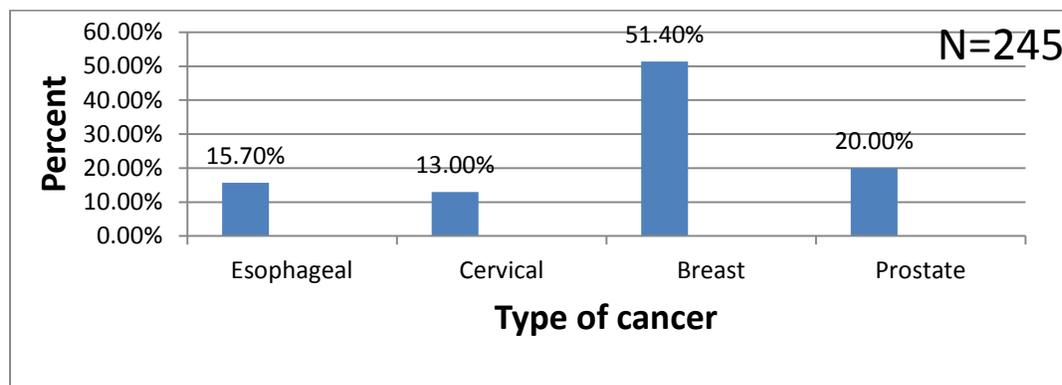


Fig. 2: Type of Cancer Diagnosed.

51.4% of the respondents indicated that they were having breast cancer, 20.0% of the respondents indicated that they were diagnosed with prostate, 15.7% of the respondents indicated that they were diagnosed with esophageal and 13.0% of the respondents indicated that they were diagnosed with cervical cancer (Fig. 2). This implies that most of the respondents who participated in the study were women. Focused group discussion and key informants observed most patients seeking cancer treatment in their health facilities were diagnosed with both prostate and esophageal cancer for men and breast and cervical cancer for women. They observed that breast cancer was the most common for patients admitted in their facilities which they attributed to better diagnosis.

Table 1: Occupation of cancer patients seeking treatment in Kenya

	Frequency	Percent
Agriculture sector	78	31.8
Formal sector	35	14.2
Informal sector	48	19.5
Student	27	11.3
Unemployed	57	23.2
Total	245	100

Most cancer patients were employed in the agricultural sector 31.8%, , 19.5% of the respondents indicated that they were in the informal sector, 23.2 % of the respondents indicated that they were unemployed while 14.2% indicated that they were in the formal sector employment while 11.3% of the respondents indicated that they were students (Table 1).

A Chi square test carried out and the results indicated that there was a significant ($p < 0.01$) variation ($\chi^2_{3,0.01} = 360.733$) in the distribution of primary occupations of cancer patients seeking treatment in Kenya referral hospitals.. Information obtained from FGDs indicated that most patients were in the agricultural sector which is the largest employer in Kenya. Most of the patients seeking treatment in the government hospitals comprised of informal and agriculture sector. In private hospitals majority of the patients were in the formal sector.

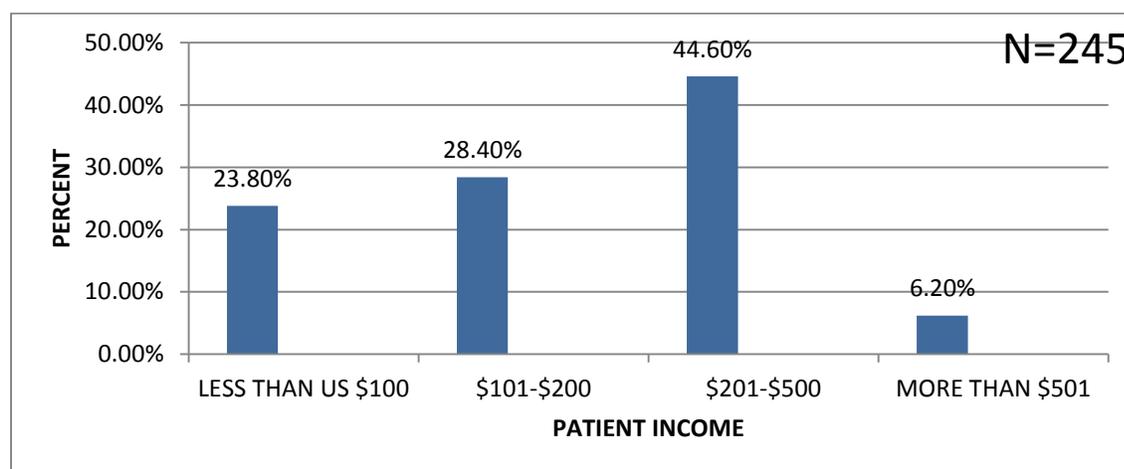


Fig 3: Cancer patients' monthly income.

According to the findings, 44.6% of the respondents indicated that they earned between 200 and 500 US Dollars, 28.4% of the respondents indicated that they earned between 100 and 200 US Dollars, 23.8.% of the respondents indicated that they earned less than 100 US Dollars while only 6.2% of the respondents indicated that they earned more than 501 US Dollars per month (Fig. 3). This depicts that most of the respondents earned between 200 and 500 US Dollars per month. From the FGDs it emerged that most of the cancer patients earned less than 200 US Dollars and were not able to meet medical cost for cancer treatment. Key informants observed that more than 95% Of cancer patients in Kenya are unable to afford cancer treatment comfortably. A Chi square test carried out on patients income levels indicated that there was a highly significant ($p < 0.01$) variation ($\chi^2_{3,0.01} = 890.796$) in the distribution of patients income.

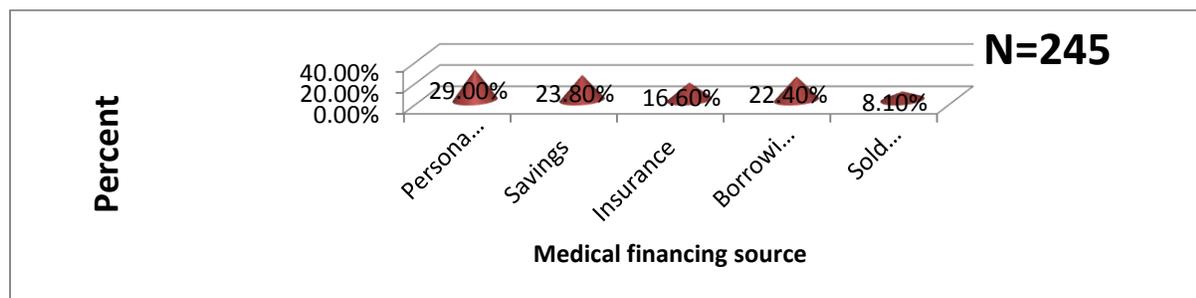


Fig.4: Source of Financing Expenditures.

A Chi square test carried out on responses indicated that there was a significant ($p < 0.01$) variation in the responses ($\chi^2_{5,0.01} = 298.490$). Results from questionnaires indicated that, 29.0% of the respondents indicated that the expenses were financed from self-income, 23.8% of the respondents indicated that expenses were financed by savings, 16.6% of the respondents indicated that the expenses were financed through insurance, 22.4% of the respondents indicated that the financing was through borrowing and 8.1% of the respondents indicated that they sold assets to finance both medical and non-medical expenditures due to cancer (Fig. 4). This shows that most of the patients were financing their expenditures through self-income. Focus group discussion and key informants observed that most of the patients had incurred a form of debt while seeking treatment.

Relationship between the Time patient took to visit Health Facility and Income Status

The study sought to determine whether there was an association between time taken by a patient to visit a health facility and their income status. The results were as shown in table 5.

Table 2: Relationship between times took to visit the Health Facility and Income Status.

Duration	Income Status		
	Low income	Medium income	High income
Five days	0.00%	4.50%	1.70%
Ten days	12.50%	8.20%	5.10%
Twenty days	0.00%	7.30%	6.80%
One month	6.20%	9.10%	6.80%
Two month	31.20%	30.00%	25.40%
Three month	31.20%	6.40%	10.20%
Four month	6.20%	14.50%	18.60%
six months	6.20%	14.50%	13.60%
More than six months	0.00%	1.80%	6.80%
Total	100	100	100

As indicated in the Table 2 above, there is a statistically significant relationship between time it took to get to the health facility and income status. This is because the calculated X^2 (19.159) is greater than the critical X^2 which is 15.507. In addition, the p-value (0.003) is less than the significant level (0.05). This shows that the higher the income the lesser the time took to go to the health facility and the lower the income the more the time took to get to the health facility.

FGDs findings indicated that low income earners were less likely to seek treatment on time due to financial constraints. They observed that some low income patients took as much as two years to seek treatment in their health facilities. They also observed that some patients diagnosed with the disease never came back for treatment due to financial constraints.

The study sought to determine the number of patients who have incurred debts while seeking treatment in Kenya oncology centers. 81% of cancer patients incurred debts while seeking treatment while 19% did not incur debts while seeking treatment (Fig. 5).

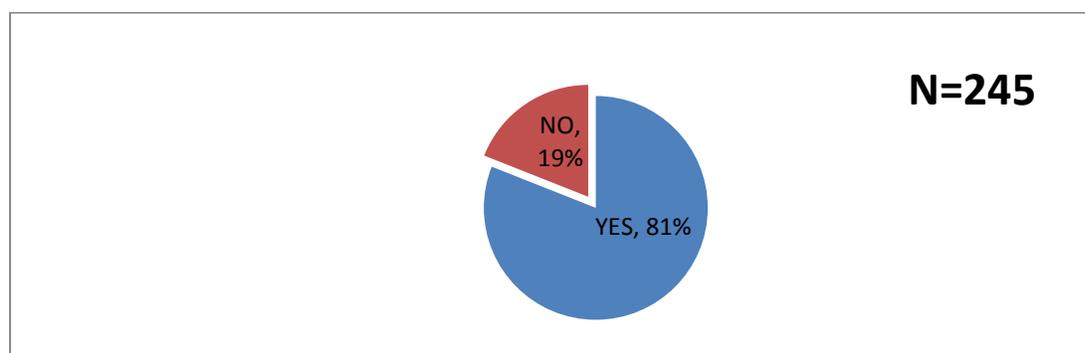


Fig 5: Cancer patients who incurred debts while seeking treatment in Kenya.

A Chi square test carried out on the responses indicated that there was a highly significant ($p < 0.01$) variation in the responses ($\chi^2_{1,0.05} = 156.960$). According to the findings, 81% of the respondents indicated that they incurred debt when seeking treatment for cancer while 19% of the respondents indicated otherwise. This shows that most of the respondents were not in a position to finance their medication process. From FGDs finding it emerged that most cancer patients had borrowed cash from relatives, from savings and credit societies and others from banks. Other patients observed that they had to call upon friends and families to contribute to their medical expenses.

Amount Incurred by patients while seeking cancer treatment

Further, the respondents were asked to indicate the amount they incurred as a debt while seeking treatment.

Table 3: Amount Incurred by patients while seeking cancer treatment

	N	Mean	Std. Deviation
Amount Incurred	245	\$5533.37	\$10845.21

Source: field data (2015)

According to the findings, the respondents indicated that they had relatively incurred a debt of 5533.37 US dollars as indicated by the mean in the Table 3 above (Tab. The focus group discussion and key informant interviews observed that Debts accrual was the most common economic effect of cancer on the affected households. They observed that most families had accrued debts to pay for cancer treatment. Pamuk, (2009) found that although cancer patients are willing to invest huge resources into the treatment of cancer, diseases often find them ill prepared for emergencies, and this is the reason as to why they solicit for funds elsewhere. This is in consideration of the fact that most of the resources are committed in other areas e.g. businesses, fees, agriculture etc (Pamuk, 2009).

5. Discussions

The study established that majority of the cancer patients admitted in the hospitals were female and were diagnosed with breast and cervical cancer. Men admitted in the oncology centers were diagnosed with prostate and esophageal cancer. The study established that most of the patients were also found to have reached tertiary level of education. Also, most of the respondents were found to working in the informal sector contrary to those who were in the formal sector. Majority of the patients were found to be residing in rented houses. The study established that most of the cancer patients were of low socio economic group. From the study findings most respondents spent between US Dollars 5000 to US Dollars,10000 on cancer treatment a year which is unaffordable for most Kenyans. The study established that the socio and economic impact of cancer on patient livelihoods was high, and patients have to dispose their assets to finance cancer treatment. From the FGDs it was established that most patients had either disposed their assets or borrowed money from financial institutions to pay for the medical bills when they depleted their savings. The study established that cancer stigma is still rampant in the country.

6. Conclusions and Recommendations

The study established that most households in Kenya cannot afford cancer treatment and that families have to dispose assets, borrow from financial institutions, call for fundraising (harambees) after depleting all their family savings to pay for cancer treatment. The study established that households resource base were negatively affected, it further established that Loss of wages, under employment/unemployment, immature death, Stigma and lose of autonomy due to protracted cancer illness was prevalent and increased household vulnerabilities. The study concluded that cancer patients and their families

experienced socio and economic vulnerabilities including human, financial and social capital, owing to the fact that cancer impacts on household demographic structure.

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