

Socio-Economic And Demographic Factors Influencing Cancer Awareness And Screening Uptake In Kenya

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Abstract: In Kenya, cancer is ranked third among the main causes of death after infectious and cardiovascular diseases. It is estimated that there are 39,000 new cases of Cancer each year in Kenya with more than 27,000 deaths per year and 60% of Kenyans affected by Cancer are younger than 70 years old. In Kenya the Leading Cancers for Women are Breast (34 per 100,000), Cervical (25 per 100,000) and for men Prostate (17 per 100,000), Oesophageal (9 per 100,000). In Kenya 70-80% of cancer cases are diagnosed in late stages due to Lack of cancer awareness, Cancer screening Inadequate diagnostic facilities, Lack of treatment facilities, high cost of treatment and high poverty Index in the country. In Kenya screening uptake is low at just 3.2%. The study assessed the Socio-Economic and Demographic factors influencing cancer awareness and screening uptake in kenya. The study was a cross-sectional study. A multi-stage cluster. This process utilized multi stage sampling method, purposive and quota sampling methods sampling technique to obtain the required sample size of 245 patients seeking treatment in the three major oncology centres in the country namely Kenyatta National and Referral Hospital, Moi Teaching and Referral Hospital and Agha Khan University Hospital. The study was approved by the Kenyatta National Hospital-University of Nairobi Ethics Review Committee. The study was conducted between January 2015 and March 2016. The statistical package for social sciences (SPSS-Version 17) computer programme was used to analyze 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 mean age of respondents was 45 years. A majority 50.9% were married. A majority, 74.2% were aware of cancer and 58% of cancer screening. Significant associations were found between employment status and screening uptake ($P=0.05$), awareness of cervical cancer, awareness of cervical cancer screening and screening uptake ($P=0.000$). The study shows that the uptake of cancer screening was low in kenya. This shows that awareness of l cancer and cancer screening has not translated to uptake of screening. There is need therefore to put more emphasis on educating and creating awareness among the Kenyan populace about cancer, signs and symptoms and the modes of prevention.

Keywords: Cancer, Screening uptake, Awareness, Determinants

I. 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]. Widespread lack of awareness and accurate information about cancer is a major reason why screening is rare and many cancers are detected when it is too late to treat effectively [3]. Several cultural myths exist regarding cancer, which are critical obstacles to expanded cancer control and care in Kenya, especially when it comes to early detection. One popular myth is that cancer is caused by curses from ancestors and elders. In such cases, people even believe that you can 'catch' the disease from those who have it [4]. In most cases, early detection of both breast and cervical cancer in women and prostate cancer in men enables more effective treatment and a better prognosis for the patient. Unfortunately in many instances patients lack important knowledge about cancer. This is a big problem; in contrast vigorous health promotion should be done to rectify the situation. Several factors influencing cancer screening have been reported. They include; lack of awareness, age and marital status, inadequate access to healthcare facility due to poor infrastructure, unawareness among the health care providers in rural areas regarding importance of early diagnosis and treatment [5]. Other factors include; existence of alternative medicine, deficient economic and moral support from husband and family and an inappropriate demand for providing cervical cancer screening from the potential beneficiaries [6].

With regards to education level, several studies have found that women with high screening rates have a high level of education (Liao C C et al 2006; Fernández JV et al 2009). However, women with high education may not necessarily seek screening [7] (Abotchie PN, Shokar NK 2009); thus, additional factors must be considered. Regarding age rates of screening are substantially lower in younger women aged 20-29 years and elderly women aged 60 years and above. [8]. A study done in Kenya on risks and barriers to cervical cancer screening among 219 women attending MNCH-FP clinic at the Moi teaching and referral hospital (MTRH) found that only 12.3% of the participants had ever been screened. In this study, women over 30 years were more likely to have screened for cervical cancer than younger women [9]. With regards to marital status studies have found that unmarried and widowed women are less likely than married women or women living with a partner to obtain screening [8]. In addition, some studies have found that single women are more likely than married women to have pap screening [10]. Studies have found that the clash of economic activities with clinic appointment times can lead to low uptake of cervical cancer screening. Poverty is also one of the factors associated with low uptake since the cost of screening has been found to be high. For instance a study in Camden London among ethnic Somali women found that the clash of clinic appointment time with market days and child care needs were associated with low uptake of screening [11]. In Kenya a study done in Eldoret at the Moi teaching and referral hospital found that 11.4% of the participants lacked the finances to pay for the test and they identified this as the reason they do not go for screening. The study was conducted among 219 women attending the MNCH-FP clinic at the hospital [9]. Cost has also been

mentioned as a key determinant to accessing services in Uganda [10].

According to the World Health Organization (WHO) health promotion includes re-orienting health services to place primary focus on promoting health and preventing disease and building a healthy public policy. Public health policy can facilitate positive changes in health behaviour norms as well as provide health enhancing environments at a national and community level. It can, therefore, be assumed that intensive health promotion campaigns on a national and community level concerning cancer can also contribute to empowering people to care for their health by making them aware of the advantages for early cancer screening and detection. Screening for cervical cancer and breast cancer is the most preventive measure and the purpose of the screening is to detect the early pre-cancerous lesions and treat them before they can develop into invasive cervical and breast cancer [13]. Among all the cancers, cervical cancer is the only type that can be totally prevented if there is regular screening and treatment of its precancerous lesions [13]. Many believe that an abnormal screening result means that a woman already has cancer, so they have fear and distress in case they screen and end up with an abnormal result. These studies also showed that, cultural norms of secrecy that bar women from discussing issues of reproductive health has made women not gain knowledge about the importance of cancer screening. Other reasons cited for non-attendance include reluctance to go for a test in the absence of symptoms, uncertainty as to whether the screening is appropriate for certain age-groups (post-menopausal women and young girls up to age of 20 years) [10]

However, though various authors agree that a screening program is crucial in improving uptake, they strongly argue that other factors like knowledge, attitude of both women and health workers, socioeconomic, cultural beliefs and other supporting institutional factors like sufficient and trained staff supersedes just the availability of an organized screening program (Birmingham, 2003). Among men Screening and detection of prostate cancer is the most common type of cancer screening carried out. Prostate cancer screening remains a controversial issue [14]. It is the only method recognized to control prostate cancer disease through early detection. Lots of evidence has shown that prostate specific antigen (PSA) screening can detect early stage prostate cancer [14]. Other research work carried out has revealed economic limitation, low level of education, poor access to health care facilities, lack of knowledge about studies, past negative experience, physicians attitude, cultural and religious beliefs/attitude as various negative factors preventing individual participation in prostate cancer screening [15]. Lack of knowledge about screening is been identified as a negative influence [16]. and only 46.5% of their study participants indicated that they have heard about prostate cancer screening and 68.8% indicated interest for screening. In Abdulwahab, et al (2011) study, only 5.8% of their respondents were aware of prostate cancer screening; none of them have ever been tested for prostate specific antigen and they have never contemplated going for screening [17].

II. METHOD 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. 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's 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.

III. 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 well being of 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 targeted 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 (Mugenda and Mugenda, 1999). 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 personel 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 analyze 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.

IV. RESULTS

The respondents were asked to indicate whether the respondents whether they have ever heard of cancer screening.

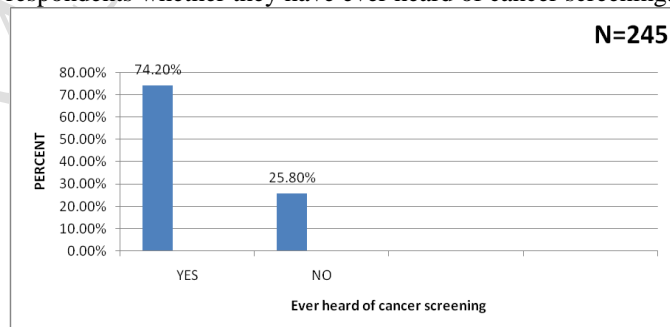


Figure 4.1: Awareness of cancer screening among cancer patients in Kenya

A Chi square test carried out on cancer screening among the respondents indicated that there was significant ($p<0.01$) variation in the responses ($\chi^2_{3,0.01} = 313.234$). Majority of the patients 74.2% have ever heard of cancer screening while 25.8% of the caregivers have never heard of cancer screening. This clearly shows that most of the respondents knew about cancer screening. The FGD discussion revealed that though most patients had heard about cancer screening few have ever visited a health facility for screening

The caregivers were asked to indicate the medium they got the information from about cancer screening.

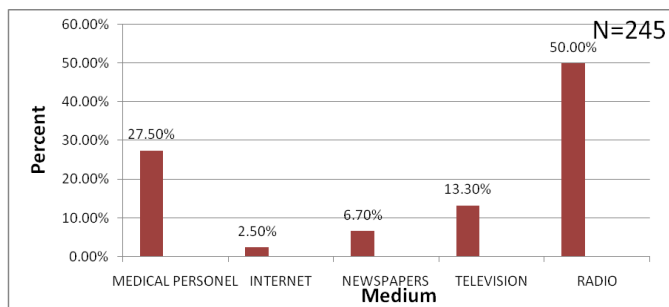


Figure 4.2: Medium patients got information about Cancer Screening

A Chi square test carried out on the results indicated that there was a highly significant ($p < 0.01$) variation ($\chi^2_{3,0.01} = 743.463$) in the distribution of how caregivers had received information on cancer screening. According to the findings, 50% of the respondents indicated that they heard through radio, 27.5% of the respondents indicated that they heard from the medical personnel (nurses and doctors), 13.3% of the respondents indicated that they had from the television, 6.7% of the respondents indicated that they heard from newspapers and 2.5% of the respondents indicated that they heard from the internet. This conveys that most of the information was heard from radio and nurses and doctors. Further interrogation from FGDs revealed that radio programmes especially the vernacular stations had played a big role in passing information about cancer screening. They observed that most caregivers could understand the information when passed in their mother tongue.

RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS AND UPTAKE OF CANCER SCREENING

The study sought to find out the relationship between socio-demographic characteristics and uptake of cancer screening. A Chi-square statistics was used to determine the association.

The predictor variables included socio-demographic characteristics, awareness of cervical cancer, knowledge of cancer signs and symptoms and whether the patient has ever heard of cancer screening. A statistically significant association was observed between employment status and uptake of cancer screening; $p = 0.05$. There was no statistically significant association between socio-demographic characteristics of the respondents and uptake of cancer screening is summarised in Table 4.1

Characteristics	Classification	Frequency	Percent	P-Value
Age In Years	18-30	8	3.2	0.535
	31-39	33	13.5	
	40-50	115	47.0	
	51-60	61	24.9	
	Over 60	28	11.4	
	TOTAL		245	
Marital Status	Single	37	15.1	0.827

Characteristics	Classification	Frequency	Percent	P-Value
	Married	125	50.9	
	Separated	17	7.0	
	Widowed	33	13.5	
	Divorced	33	13.5	
	Total	245	100	
Education Level	None	35	14.2	0.245
	Primary	62	25.2	
	Secondary	98	40.2	
	Tertiary	50	60.0	
	Total	245	100	
Religion	Muslim	37	15.1	0.610
	Catholic	66	27	
	Protestant	125	50.9	
	Other	17	7.0	
	Total	245	100	
	Agriculture Sector	78	31.8	0.05
	Formal Sector	35	14.2	
Employment Status	Informal Sector	48	19.5	
	Student	27	11.3	
	Unemployed	57	23.2	
	Total	245	100	
Monthly Income	Less Than 50,000	144	58.7	0.369
	50,000-100,000	86	35.1	
	Above 100,000	15	6.2	
	Total	245	100	

Table 4.1: Association between demographic characteristics and cancer screening uptake

ASSOCIATION BETWEEN CANCER AWARENESS AND SCREENING UPTAKE

The study sought to find out the relationship between cancer awareness and screening uptake. There was a statistically significant association between respondent's awareness of cancer and screening uptake; $P = 0.000$. Table 4.10 summarizes the results

EVER HEARD OF CANCER	VARIABLES	EVER BEEN SCREENED		TOTAL	P-VALUE
		YES	NO		
TOTAL	YES	61	173	199	0
	NO	0	45	46	
	TOTAL	61	183	245	

Table 4.2: Association Between Cancer Awareness And Screening Uptake

ASSOCIATION BETWEEN AWARENESS OF CANCER SCREENING AND UPTAKE

The study sought to find out the relationship between awareness of cancer screening and uptake. A statistically significant association was observed between awareness of cancer screening and uptake of the same; $p=0.000$. Table 4.11 summarizes the results.

VARIABLES		EVER BEEN SCREENED		TOTAL	P-VALUE
		YES	NO		
EVER HEARD OF CANCER	YES	58	129	187	0.000
	NO	0	56	56	
TOTAL		58	185	243	

Table 4.3: Association between cancer awareness and screening uptake

THE INFLUENCE OF PSYCHOSOCIAL FACTORS ON CANCER SCREENING UPTAKE

The study sought to find out the relationship between psychosocial factors and cancer screening. The table 4.12 presents psychosocial factors that influence cancer screening uptake. Fear, pain, stigma and embarrassment are significantly associated to cancer screening uptake.

Psychosocial Factors	Level of Agreement	Cancer Screening Uptake	
		Uptake	No Uptake
Fear	Agree	61.3%	73.7%
	Disagree	9.8%	90.2%
Pain	Agree	5.3%	94.7%
	Disagree	77.3%	22.7%
Stigma	Agree	63.1%	36.9%
	Disagree	8.2%	91.8%
Embarassment	Agree	73.6%	26.4%
	Disagree	4.8%	95.2%

Table 4.4.: The Influence of Psychosocial Factors on Cancer Screening Uptake

A chi square was carried out and results indicated that there was a significant association between fear and cancer screening uptake ($\chi^2_{1,0.01} = 97.162$, $df = 1$, $p < 0.001$) and 73.7% of the respondents did not undertake cancer screening due to the fear associated to finding cancer. The anticipated pain during a mammogram is significantly associated to the uptake of mammograms among the respondents ($\chi^2_{1,0.01} = 218.444$, $df = 1$, $p < 0.001$) and 94.7% of the respondents did not undertake a mammogram due to the anticipated pain. Socio-stigma is highly associated to clinical cancer screening uptake ($\chi^2_{1,0.01} = 103.605$, $df = 1$, $p < 0.001$) and 36.9% of the respondents who did not undertake cancer screening attributed it to the socio – stigma associated to it. The concern that cancer screening is embarrassing is significantly associated to the uptake of clinical cancer examination ($\chi^2_{1,0.01} = 230.576$, $df = 1$, $p < 0.001$) and 26.4% of the respondents who did not undertake cancer screening

indicated that embarrassment influences clinical cancer screening uptake.

V. DISCUSSIONS

The study revealed the probable factors that influences cancer screening uptake in Kenya are; socio-economic status, religious practices, stigma associated to cancer and perception that cancer screening is not important, the cost of screening, social and work related commitments, cultural practices and distance to screening facilities all had an impact in cancer screening uptake. There was a significant negative association between; age and clinical cancer screening uptake, travel distance to the screening facility and cancer screening uptake, the cost of screening and the uptake of cancer screening,. However, significant positive association was found between; marital status of the respondents and cancer screening uptake, the socio -economic status of the respondents and cancer screening uptake, Socio- cultural factors and cancer screening uptake, educational level of the respondents and screening uptake. The study established that pain, stigma, embarassment and fear influenced cancer screening uptake in kenya.

VI. CONCLUSION

Screening uptake was very low despite the high levels of awareness of cancer and cancer screening. This therefore indicates that there is disconnect between the respondents awareness and their health seeking behavior with regards to cancer and screening uptake. At the same time awareness of cancer, awareness of cancer screening and knowledge of of cancer were found critical in determining cancer screening uptake in Kenya.

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