SOCIO-DEMOGRAPHIC FACTORS INFLUENCING POST-DIAGNOSIS CHOICE OF TREATMENT BY WOMEN SEEKING BREAST CANCER CARE AT MOI TEACHING AND REFERRAL HOSPITAL

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Abstract

Breast cancer is the most frequent cancer among women worldwide, impacting 2.1 million women each year, and also causes the greatest number of cancer-related deaths among women. In 2018, it was estimated that 627,000 women died from breast cancer – that is approximately 15% of all cancer deaths among women. While breast cancer rates are higher among women in more developed regions, rates are increasing in nearly every region globally. The study sought to determine socio-demographic factors influencing post-diagnosis choice treatment by women seeking breast cancer care. A descriptive cross-sectional study was conducted on a sample of 176 women seeking breast cancer care at Moi Teaching and Referral Hospital. Convenience and purposive sampling was utilized in the selection of participants. An interviewer-administered questionnaire whose pre-testing was done in Eldoret Hospital was utilized. Data management was done using SPSS and analysis was done using relevant descriptive statistics and Chi-square to test for association. The socio-demographic factors identified as significantly associated with post-diagnosis choice of treatment at $\alpha=0.05$ were Occupation, level of education, and economic activity. Therefore, the government of Kenya through the Ministry of Health should consider allocating funds to support breast cancer patients due to the high costs of breast cancer treatment and economic deprivation of the patients. Efforts should be put through to empower women through obtaining information, education and economic empowerment.

Keywords: *Socio-demographics, Breast cancer, Post-diagnosis & Treatment*

Introduction

Breast cancer is the most frequent cancer among women worldwide, impacting 2.1 million women each year, and also causes the greatest number of cancer-related deaths among women. In 2018, it is estimated that 627,000 women died from breast cancer – that is approximately 15% of all cancer deaths among women. While breast cancer rates are higher among women in more developed regions, rates are increasing in nearly every region globally. (WHO, 2018)

In Africa breast cancer is responsible for 28% of all cancers and 20% all cancer deaths in women. The incidence rates are estimated below 35 per 100,000 women in most African countries with the Sub-Sahara being the lead. (Globocan, 2018).

Breast cancer in Africa is characterized by presentation with advanced disease, lack of information about breast cancer incidence, high cost of treatment and inaccessibility of treatment facilities. In Kenya, one out of every nine women is diagnosed with advanced breast cancer (Neondo, 2006) Moi Teaching and Referral Hospital being a referral Hospital has been experiencing an influx of high cases of breast cancer and it provides various treatment methods to the women seeking breast cancer care. Many factors however, are bound to affect post-diagnosis choice of breast cancer care among women. It is, therefore, necessary to obtain information about the socio-demographic factors that influence these choices.

Objective: To assess the socio-demographic factors influencing post diagnosis choice of treatment by women seeking breast cancer care at Moi Teaching and Referral Hospital in Eldoret, Kenya.

Study Design

The study employed cross-sectional study design, where responses were sought at a specific point in time, not repeated and no interventions or follow ups were conducted after the study.

Sample size determination

Fisher *et al.,* (1998) formula was used to calculate the sample size of Breast cancer patients seeking care at Moi Referral Hospital. Since the total number of breast cancer patients seeking care at the hospital was less than 10,000 (500), the two stages of the formula was adopted. The first part of the formula was applied with an assumption of a population of more than 10,000 to enable the researcher get the value of "**n**" which was then used in the second part of the

formula to calculate "**fn**" which represented the desired sample size when the target population was less than 10,000 as illustrated below:

$$n = Z^2 pqD/d^2$$

Where:

n= the desired sample size when the study target population was over 10,000

Z= the standard normal deviate, usually set at =1.96 (@ 95% confidence level).

P= the current proportion of women diagnosed with breast cancer in Kenya was 20% (0.2).

q= I–P = 0.8

D=Study design effect (usually 1 when it's not a comparative study)

d =the Degree of Accuracy required (0.05)

$n = Z^2 pqD/d^2 = [1.96^2 \times 0.2 \times 0.8 \times 1]/[(0.05)^2$ = 245 breast cancer patients

However,

The target population (500) was less than 10,000, and therefore we used:

$$nf = \frac{n}{1 + (\frac{n}{N})}$$

Where:

nf=The desired sample size when population was less than 10,000

n = the desired sample size when the population was more than 10,000

N = the estimate of the population size.

nf={245}/{1+(245/500)}= 164 breast cancer patients.

Attrition Rate =10% of 164= 12 breast cancer patients.

Total Sample Size 164+12 =176 breast cancer patients.

Therefore 176 breast cancer patients were sampled and issued with interviewer administered structured questionnaires for their responses.

Sampling Techniques

Purposive sampling technique and convenience sampling technique were employed in selecting the study site and study elements.

Data Analysis Criteria/Procedures

Descriptive statistical procedures were employed in organizing and summarizing data sets of collected variables. Chi-square analysis was used to determine the association between the dependent and independent variables.

Findings

Table 1 Socio-demographic factors of the respondent

Variable	Frequency (n)	Percentage (%)
Age Category		
28-32 years	7	4.0
33-37 years	50	28.4
38-42 years	88	**50.0**
43 & above years	31	17.6
28-32 years	7	4.0
Marital Status		
Single	16	9.1
Married	88	**50.0**
Divorced/separated	35	19.9
widow	37	21.0
Level of Education		
Primary	20	11.4
Secondary	25	14.2
College	32	18.2
University	32	18.2
None	67	**38.1**
Occupation		
self-employed	43	24.4
Employed	98	**55.7**
Unemployed	35	19.9

Economic Activity		
Farming	59	33.5
Livestock rearing	45	25.6
Sales person	72	**40.9**

Table 1 above shows that the 50% (n=88) of the respondent were of the age category 38-42 years. 50% (n=88) of the respondents were married. 67 respondents have no level of education (38.1%). 55.7% (n=98) of the respondents were employed. The economic activity of 89 respondents was sales person (50.6%).

Table 2 THE RELATIONSHIP BETWEEN KNOWLEDGE GAP AND THE CHOICE OF BREAST CANCER TREATMENT

Variable	Chemotherapy	Radiation	Surgery	χ^2 Value	df	p-value
Effectiveness and importance of chemotherapy to reduce present cancer cells in the body						
Yes	120	11	15	18.807[a]	4	.001*
No	18	2	10			
Knowledge on potential severity of chemotherapy side effects						
Yes	95	11	23	6.719[a]	4	.035*
No	43	2	2			
Knowledge on other types of breast cancer treatment						
Yes	111	13	25	9.169[a]	4	.057*
No	27	0	0			
Source of information regarding the other type of breast cancer treatment						
Media	17	1	2	15.328[a]	6	.018*
Friends and family	50	10	12			
Health professional	44	2	11			

Other types of breast cancer treatment known						
Radiation	29	3	4			
Surgery	81	10	21	10.217[a]	6	.116
Others	1	0	0			

There is a statistical significant positive relationship between the knowledge on effectiveness and importance of chemotherapy to reduce present cancer cells in the body and breast cancer choice of treatment ($\chi2$ =18.807[a], df=4, p<0.05). There is a positive significant association between knowledge on potential severity of chemotherapy side effects and breast cancer choice of treatment ($\chi2$ =6.719[a], df=4, p<0.05) There is a positive significant association between knowledge on other types of breast cancer treatment and breast cancer choice of treatment ($\chi2$ =9.169[a], df=4, p<0.05). There is a statistical significant relationship between the source of information regarding the other types of breast cancer treatment and breast cancer choice of treatment ($\chi2$ =**15**.328[a], df=6, p<0.05) There is no significant correlation between other types of breast cancer treatment known and the choice of breast cancer treatment ($\chi2$ =10.217[a], df=6, p>0.05). These associations are shown in the table 2.

Discussion

The Influence of Socio-demographic Factors on Breast Cancer Choice of Treatment

The demographic factors; levels of education, occupation and economic activity were found to be significantly associated with the choice of breast cancer treatment. There is significant positive association between level of education and breast cancer choice of treatment ($\chi2$=18.423[a], df=8, p<0.05). Majority (n=67) of the respondent had no level of education meaning that the majority could not read and write and hence not knowledgeable enough to make decisions about the choice of breast cancer treatment hence causing a great influence patients' perception of the tumor and the choice of treatment. Karen. S. (2006) has also demonstrated that a lower education level among women is a vital variable associated with breast cancer choice of treatment (section 2.2).

Occupation and breast cancer choice of treatment have a significant association ($\chi2$=11.916[a], df=4, p<0.05) . The financial burden in breast cancer treatment is great and many patients cannot afford the cost of breast cancer treatment considering that fact that they are costly. Yang. L. (2017) also demonstrated that breast cancer choice of treatment is significantly associated with occupation, of which occupation can greatly influence patient's choice of treatment. There was a significant positive association between economic activity and breast cancer choice of treatment, 50.6% of the respondent had indicated sales person as an economic activity. This is in agreement with a study carried out

by Mullins (2012) that demonstrated that there is an association between breast cancer choice of treatment and economic activity.

CONCLUSION

Socio-demographic factors; level of education, occupation and economic activity have significant positive correlation with breast cancer post-diagnosis choice of treatment. However, there is a significant negative association between age, marital status and breast cancer post-diagnosis choice of treatment. This study therefore rejects the null hypothesis that; there is no association between socio-demographic factors and breast cancer post-diagnosis choice of treatment by women seeking breast cancer care.

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