

Self-care practices and stage at diagnosis of breast cancer among breast cancer patients at a Central Hospital in Zimbabwe

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Abstract: The number of women diagnosed with cancer at advanced clinical stages is increasing locally and globally. One possible cause is lack of self-care practices to facilitate early diagnosis of breast cancer. The purpose of this study was to describe and examine the relationship between breast self-care practices and the stage at diagnosis of breast cancer among breast cancer patients aged 21 years and above attending a Radiotherapy Centre at a Central Hospital in Zimbabwe. The study utilised a descriptive correlational study design. The study was cleared by the Joint Parirenyatwa – College of Health science Research and Ethics Committee. Informed consent was also sought from respondents before data collection. A sample of 80 women with breast cancer, selected through systematic sampling, was interviewed. Their clinical data was also verified using clinical records. The results showed 90% of the respondents had low scores on breast cancer-detection self-care practices. The scale Breast Cancer Self Care Practices Questionnaire yielded a Cronbach's alpha of 0.77. Moreover, 76.2% respondents had their breast cancer detected at either stage II or IV. The correlation between breast self-care practices and the stage at diagnosis was ($r = -0.386$, $p < .01$). Regression analysis showed a significant effect ($R^2 = 0.15$) and ($F = 13.630$, $p < .001$). Low breast cancer detection self-care practices were associated with late detection of breast cancer. If women are with breast self-care practices and motivated to engage in breast self-care we are likely to have breast cancer detected at early stages.

Key Words: Association, Breast Cancer, Self-Care Practices, Zimbabwe

I. Introduction

According to the American Cancer Society (2010), in 2008, breast cancer caused 458 503 (13.7%) deaths in women worldwide. Breast cancer comprises 22.9% of all cancers in women. In addition, 180 000 breast cancer cases are diagnosed annually in the United States of America (USA).

For Zimbabwe, breast cancer is the second most occurring cancer in women and the second leading cause of death after cervical cancer (Zimbabwe Cancer Registry, 2011). In 2010 alone 103 breast cancer patients (2 males and 101 females) underwent radiotherapy and / or chemotherapy at a tertiary care Radiotherapy Centre in Zimbabwe. All these breast cancer patients reported in the late stages of breast cancer and had a poor prognosis.

Results from several studies on breast cancer screening suggest that under-screened women who are at risk of developing breast cancer are likely to benefit from programs that identify and address co-existing prevention needs. Identification of prevention needs might assist in developing interventions that address multiple risk factors for chronic disease. The earlier breast cancer is diagnosed the more effective the treatment and hence the better the prognosis.

Key to curing breast cancer is early detection and early treatment. A physical examination (also known as clinical breast exam – CBE), mammography and breast self-examination (BSE) make up the conventional early detection and screening approaches. Physical examination by a trained health worker should be done at least after every three years for women aged 20 to 40 years and yearly after the age of 40. A mammogram which is a special X-ray picture of the breast, detects tumours which are 2cm or smaller. Routine mammography reduces breast cancer mortality by approximately 25%. Breast self-examination should be practised monthly (American Cancer Society, 2011). Final and proper diagnosis of breast cancer has to be done by biopsy which is sent to the laboratory for final conclusive diagnosis.

Cancer screening means looking for cancer before a person has any symptoms. This helps find cancer at an early stage. Treatment is much easier following early detection of cancer. By the time symptoms appear, cancer might have begun to spread. Screening tests are performed when there are no cancer symptoms. If screening tests results are abnormal one may need to have more diagnostic tests done to detect cancer (National Cancer Institute, 2011).

In the United States of America, current thinking appears to lend more weight to adherence to screening and earlier diagnosis. This is a primary approach that has led to the decrease in mortality rates. The decline in mortality has largely been attributed to screening leading to earlier stage at diagnosis. Therefore, it is understandable that access to and utilisation of breast cancer screening is pivotal in reducing mortality due to

breast cancer. If women adhered to screening, better stages of disease at diagnosis and favourable breast cancer prognosis would be realized (Guidry, Matthews-Juarez & Copeland, 2003).

Breast cancer is detected usually as late stage disease in Zimbabwean women (National Centre for Health Statistics, Health, United States, 2000). Approximately 59% of breast carcinoma deaths are reported to occur in women less than 65 years. The most effective approach to reducing breast carcinoma mortality is early detection and treatment through routine mammography, a physical examination of the breast (also known as clinical breast exam – CBE) by a trained health professional every 3 months between ages 20 – 40 and more frequently after age 40 and breast self-exam (BSE) monthly. The above three make up the conventional screening approach as recommended by the American Cancer Society.

Although questions have been raised concerning the methodological rigor of some studies of breast carcinoma screening, according to Van Harrison, Janz, Wolfe, Tedeschi, Huang & McMahon (2003), the U.S Preventative Services Task Force (USPSTF) recently reaffirmed its recommendation for screening mammography every 1 – 2 years for women aged 50 – 69 years. The USPSTF also expanded the age ranges to include women aged 40 – 49 years.

In Zimbabwe screening mammography has not been available to the general populace of women due to inhibitory pricing of the procedure. Only private institutions were offering screening mammography until October 2011 when the first ever screening mammography machine was commissioned at a Zimbabwean tertiary care facility. However clinical breast exam and breast self – exam have been available to most women of childbearing age as they are taught at most antenatal clinics countrywide.

Despite the teaching on ideal breast cancer screening practices, participation in these practices is low. From several focus group discussions screened on the local media, it is apparent that the general Zimbabwean women have lack of knowledge on screening mammography, breast self-exam and clinical breast exam. It therefore becomes doubtful that the majority of women adhere to recommended self-care practices when they lack knowledge on the screening techniques.

It is disturbing to note that non participation in self-care practices for early detection of breast cancer appears to haunt women and breast cancer appears to be diagnosed late in most women. As a result, breast cancer management has been reduced to palliative care due to late diagnosis of the disease. The situation is further complicated by the fact that the cost of radiotherapy and chemotherapy associated with late disease is prohibitive.

Screening mammography and clinical breast examination (CBE) may decrease breast cancer mortality by 15 – 33% among women older than 50 years according to Lauver, Settersten, Kane & Henriques (2003). However, it appears the majority of women would not have participated in breast self-care practices at least in the past 3 years prior to diagnosis of breast cancer. Although there is debate about the ideal frequency of clinical breast examination, there continues to be a discrepancy between generally recommended and actual screening rates.

Cost-effectiveness analyses have shown that adherence to screening is cost-effective in comparison with other medical interventions. It is against this background that the study sought to determine the levels of self-care practices among women with breast cancer, establish the stage at diagnosis of breast cancer and determine the relationship between self-care practices and stage of diagnosis.

II. Methodology

This study utilized a descriptive correlational study. Study variables were observed in their natural setting.

Study Setting

The study was carried out at the Radiotherapy Centre at Parirenyatwa Group of Hospitals. The hospital is a tertiary referral centre and the Radiotherapy Centre is the only one in Zimbabwe serving the public. By using this study site, it was therefore easy to capture participants with the intended attributes who came from different parts of the country.

Sampling and data collection

The target population was adult women who have breast cancer who attended Parirenyatwa Radiotherapy Centre for either radiotherapy or chemotherapy or both. The accessible population comprised women who were seen at the Radiotherapy Centre during the data collection period. A sample of 80 respondents was selected through systematic sampling using the Radiotherapy Centre attendance register as the sampling frame. The sample was calculated to yield a statistical power of 0.8, an effect size of 0.5 at 0.05 level of significance based on Lipsey & Mark (1990) chart of pre-calculated sample sizes. Possible attrition of 20% was also factored into the sample size determination. Included in the study were all women aged 21 years and above, diagnosed with breast cancer, who could communicate in either English or the vernacular Shona language. Women who had participated in the pre-test of the instruments or were too seriously ill to complete the

instrument were excluded. Data was collected through interviews using an interview schedule which had 19 items in 3 sections namely demographic information, stage at diagnosis of Cancer and the Breast Cancer Self Care Practices Questionnaire (BCSCPQ). Permission to carry out the study was granted by the Joint Parirenyatwa Hospital and College of health Sciences Research and Ethics Committee and the Medical Research Council of Zimbabwe. Informed consent was also sought from all participants before data collection. Data was collected between 26 March and 23 April 2012. Finally, data was analysed using the Statistical Package for Social sciences Version 16.

III. Results

The age of the 80 respondents was positively skewed with a mean of 50.2 years (SD=2.6). Age ranged between 28 and 91 years (IQR=18.3). All 80 (100%) of the respondents in the study sample were blacks. In terms of level of education, 6 (7.5%) had no education at all and the remainder 74 (92.5%) had some form of formal education. Forty four (55%) were unemployed. Forty-seven, (58.8%) earned below US\$100. Only 3 (3.8%) had no children and hence had not breast-fed any children. In terms of the source of information on breast cancer 47 (58.7%) of the study respondents responded that they had no source of information. Only 15 (18.8%) of the respondents had medical aid. Sixty-five (81.2%) of the study respondents did not have medical aid cover. Sample demographic characteristics are summarized in Table I below.

Table I: Sample Demographics (2) (N = 80)

Variable	Frequency	Percentage
<u>Race</u>		
Black	80	100
<u>Level of education</u>		
None	6	7.5
Primary	24	30.0
Secondary	45	56.3
Tertiary	5	6.2
<u>Occupation</u>		
Employed	36	45.0
Unemployed	44	55.0
<u>Monthly income</u>		
Below US\$100	47	58.8
US\$101 to US\$500	29	36.2
US\$501 to US\$1000	4	5.0
<u>Children given birth to</u>		
None	3	3.8
1 child	3	3.8
2 children	12	15.0
3 children	23	28.7
More than 3 children	39	48.7
<u>Children breast-fed</u>		
None	3	3.8
1 child	3	3.8
2 children	12	15.0
3 children	23	28.7
More than 3 children	39	48.7
<u>Source of information on breast cancer</u>		
Nowhere	47	58.7
Newspapers	3	3.8
Television	10	12.5
Health workers	13	16.2
Friends	7	8.8

<u>Medical aid</u>		
Yes	15	18.8
No	65	81.2

Thirty-eight (47.5%) respondents had lived with cancer for a period of 2 years or less and 10 (12.4%) had lived with cancer for more than 5 years. Only 5 (6.2%) respondents got diagnosed with cancer while in clinical stage I. The rest were already in stages II, III or IV at the time of breast cancer diagnosis. Forty-one (51.2%) had cancer diagnosis while already in stage IV of breast cancer. After suspecting breast cancer, 25 (31.3%) had reported to their health care provider in less than one month. Five (6.2%) respondents took more than 2 years to report the breast cancer suspicion to their clinician. Timing of breast cancer diagnosis is shown in Table II below.

Table II: Timing of Cancer diagnosis

Variable	Frequency	Percentage
<u>Duration with breast cancer</u>		
Less than 1 year	11	13.8
1 to 2 years	27	33.8
2 to 3 years	16	20.0
3 to 4 years	9	11.2
4 to 5 years	7	8.8
Above 5 years	10	12.4
<u>Stage at Diagnosis</u>		
Stage I	5	6.2
Stage II	14	17.6
Stage III	20	25.0
Stage IV	41	51.2
<u>Delay in reporting breast cancer after discovering something was wrong with their breast</u>		
Reported immediately	18	22.5
Less than 1 month	7	8.8
1 to 6 months	27	33.8
6 to 12 months	11	13.8
1 to 2 years	12	15.0
Above 2 years	5	6.2

Self-care practices to enhance early screening of breast cancer are summarized in Table III. Twenty-four (30%) respondents had never done breast self-examination before diagnosis of breast cancer. On the other hand, 47 (58.8%) reported having done monthly breast self-examination. Fifty (62.5%) had never had their breasts clinically by a clinician before diagnosis of breast cancer. A mammography proved to be out of reach of many as 73 (91.2%) had never had a mammography before they got diagnosed of breast cancer. After computing total self-care scores 72 (90%) had low self-care, 6 (7.5%) moderate and 2 (2.5%) high levels of self-care on the BCSCPQ scale. The scale yielded a Cronbach's alpha of 0.77.

Table IV: Breast Cancer Self-Care Practices

Variable	Frequency	Percentage
<u>Performance of breast self-exam</u>		
<u>Before diagnosis</u>		
Never	24	30.0
Rarely	6	7.5
Once in 3 Months	1	1.3
Once in 2 months	2	2.5
At least Monthly	47	58.8
<u>Frequency of breast clinical</u>		

<u>Examination before diagnosis</u>		
Never	50	62.5
Rarely	25	31.3
Once in 5 months	1	1.2
Once in 3 Months	4	5.0
<u>Frequency of mammography 2 years before diagnosis</u>		
Never	73	91.2
Once	7	8.8
Twice	0	0.0
<u>Overall Level of Self Care Practice</u>		
Low (0 to 10 scores out of 19)	72	90
Moderate (11 to 15 out of 19)	6	7.5
High (16 to 19 out of 19)	2	2.5

Relationship Between Breast Self-Care Practices and Stage at Diagnosis of breast cancer

The Pearson's product-moment correlation coefficient, r , between breast self-care practices and the stage at diagnosis of breast cancer was -0.39 ($P < 0.01$). Since the correlation co-efficient was statistically significant, a simple Linear Regression analysis was done. R^2 was 0.15 ($F = 13.630$, $p < .001$) implying that self-care practices were responsible for 15% of the variation in the stage at diagnosis of breast cancer. The Fisher statistic ($F = 13.630$, $p < .001$) indicated that the variation was statistically significant. The coefficient $B = -0.39$ ($SEB = 0.05$) showed that as self-care practices decreased, women were more likely to get diagnosed of breast cancer at progressively more advanced stages

IV. Discussion

Sample Demographics

The age ranges for the study sample ranged from 28 years to 91 years with a mean of 50.22 years. The mode was 42 years. It is also disturbing to note that the average age at diagnosis of breast cancer in Ghana is 46.29 years, with a range of 26 to 80 years as compared to an average of 65 years in Europe and America according to Opoku, Benwell & Yarney (2012). The chosen age group of 21 years and above sought to have a larger age range to elicit the actual ages at diagnosis of cancer as literature supports that age at onset of breast cancer is around 40 years and majority of patients are postmenopausal women according to Xiong, et al., (2001). This study supported earlier findings in terms of age as the mode was 42 years and the mean was 50.22 years which were above 40 years and above menopausal age at which age risk of breast cancer increases.

In terms of race all the respondents in the study were blacks. Although some have suggested that poor prognosis of breast cancer in black women is due to aggressive tumour biology, published data show that poor outcome is at least in part related to the later stage at diagnosis. Race was not a significant predictor of survival time, but income and education were (Elmore, Mocerri, Carter & Larson, 1998).

Breast cancer is diagnosed at a younger age and more advanced stage in African-American women than in white women. In African-American women the odds of stage III / IV breast cancer at diagnosis were almost 4 times the odds in white women. The racial difference is explained by insurance status, poverty, history of mammogram, method of tumour detection and obesity. African-American women, therefore, are more likely to be diagnosed with late stage disease (Karin, et al., 2007).

The level of education in this study sample was generally satisfactory as more than half (56.3%) of the respondents had secondary level of education. This is so because in Zimbabwe someone with secondary level of education is generally expected to be able to read and write but formal employment can be a problem due to high unemployment rate currently prevailing in the country. Therefore, in this study 55% (44) of respondents were unemployed and hence 58.8% (47) of respondents had a monthly income of less than US\$100. This means that more than half of the study sample could not afford some of the self-care practices like CBE and mammography which are prohibitively expensive.

The majority of the respondents in this study had to pay the hospital using a Ministry of Social Welfare fund in the form of Assisted Medical Treatment Orders (AMTOs) as the majority could not afford to pay for the treatment services. This obviously translates to the fact that these respondents would have been unable to pay for self-care practices like CBE and mammography hence exposing them to the danger of the disease due to their socioeconomic statuses. The majority of the respondents (81.2%) had no medical aid and some had to part with their hard earned assets to pay for medical expenses.

Although not uniformly consistent across studies, the majority of studies have found out that among African-American women, there is a positive correlation between mammography use and higher income and education levels. However, as compared to white women of similar socioeconomic status, some investigators have found greater use among African-Americans with low income and limited education. This suggests that programmes aimed at increasing breast screening among low socioeconomic status minorities might have a positive effect (Jones, Patterson & Calvocoresi, 2003).

The majority of the respondents, that is 39 (48.8%) had given birth to more than 3 children and breast-fed all of them. Previous literature supports that multi-parity, and breast-feeding is protective against breast cancer. This is supported by a study by Lee, et al., (2004) in which they documented that “other factors that increase breast cancer risk include null-parity or having the first child after age 30. Factors that decrease breast cancer risk include breast-feeding”. Most women lack access to this information.

The majority of the respondents 58.7% reported that they had no source of information on breast cancer. Only 16.3% got the information from mass media (televisions and newspapers) which was not anticipated as mass media is increasingly being abundant in the country. Health professionals must in the near future devise strategies to reach out to these women before it is too late as only 13(16.2%) of the respondents reported that they got the information from health care workers.

Most of the respondents (81.2%) had no medical aid. This finding was anticipated in a sample gotten from a country coming from economic doldrums where the majority of respondents were unemployed. Lack of health insurance and poverty were contributing to low levels of adherence to screening in a study by Karin, et al., (2007). There is need to address the issue of poverty and health insurance to increase the coverage of usage of screening to detect tumours with favourable stages.

In terms of the duration with breast cancer 33.8% (27) of the respondents had lived with the disease for 1 to 2 years. Only 10 (12.4%) of the respondents had lived with the disease for more than 5 years suggesting a low survival rate from the disease once its diagnosed. Most literature suggest survival period of 10 years or less from the time of diagnosis. Only 18 (22.5%) reported immediately. This implies that a lot still needs to be done in terms of educating women on the dangers of reporting the disease late as most women seem ignorant on this issue.

Stage at Diagnosis

The Stage at Diagnosis in the study sample ranged from I to IV. The mode was stage IV which was reported in 41(51.2%) of the respondents. Stage IV also happened to be the median. Only 20(25%) of the respondents reported with stage III at diagnosis. This implies that the majority of respondents (76.2%) in this study reported with late stage disease requiring palliation and with a poor prognosis. This is so because the majority of respondents in this study had no source of information on breast cancer and hence had poor breast self-care practices and hence the late stages at diagnosis.

Rosmawati (2010) observed low survival rates in breast cancer patients related to late stage at presentation despite the availability of BSE as a reliable screening method for early detection. The present study sample cannot be an exception to this assertion. Late presentation has been observed as the hallmark of breast cancer in Ghana's women, where over 60% of patients report with either Stage III or IV (Opoku, Benwell & Yarney, 2012). These findings are in agreement to the findings of this study as 76.2% of the respondents presented with stage III or IV.

Among carcinomas diagnosed at the Breast Examination Centre in Harlem during the study period, 46% were Stage 0 or I and were associated with an excellent prognosis. Non-palpable, mammographically detected tumours, which accounted for approximately one third of breast tumours diagnosed during this period, were particularly likely to be in the early stages and therefore potentially curable. This finding is in contrast to the findings of this study. Although some have suggested that poor prognosis of breast carcinoma in black women is due to aggressive tumour biology, published data show that poor outcome is at least in part related to late stage at diagnosis according to Elmore, Mocerri, Carter & Larson, 1998.

Significant proportion of women with cancer present late with the disease. Reason behind this delay was poorly understood. Widespread denial and diversity of beliefs was the reason found in a study by Phelan, Dobbs & David (1992). A study by Karin et al., (2007) found out that African-American women are more likely to be diagnosed with late stage disease than white women.

Breast Self-Care Practices

A total score of 19 was the highest expected score in this study. 19 represented the presence of most of the expected breast self-care practices. Respondents with the least breast self-care practices were expected to get scores of 0 out of 19. The mean score in this study was 6.14 out of 19 and the mode was 0 out of 19 as 21 (26.2%) of the respondents had this score. A score of 0 out of 19 meant that these respondents had not done any breast self-care practices prior to diagnosis. Only 1 respondent had the highest score of 18 out of 19.

The total score of 19 was derived from the sums of the scores of breast self-care individual practices scores whose sum was 19. These were the performance of BSE 2 years prior to diagnosis scores out of 3, performance of BSE frequency 2 years prior to diagnosis scores out of 4, CBE done 2 years prior to diagnosis scores out of 3, CBE frequency 2 years prior to diagnosis scores out of 4, undergoing mammography 2 years prior to diagnosis scores out of 3 and mammography frequency 2 years prior to diagnosis scores out of 2.

Based on the performance of BSE scores, 41 (51.2%) of the respondents had high scores of 3 which means they strongly agreed to performance of BSE. In terms of BSE frequency most respondents, (47), had a high score of 4 which means they performed BSE as recommended, that is, at least once a month. This finding in this study can be explained by the fact that BSE is almost always taught and / or done at most antenatal clinics in the country, and since most women (48.7%) in this study had had 3 or more children they might have picked up this practice during the course of childbearing. What is however disheartening in this study is the finding that despite high scores in BSE there seems to be no similar impact on the stage at diagnosis as the stages remain high. Therefore, it can be concluded that, BSE as a self-care practice had little impact on the stage at diagnosis in this study.

The reason in this study and other studies for extending BSE as a screening test is the fact that breast cancer is most frequently detected by women themselves without any other symptoms. Women in these studies are from diverse backgrounds mainly of low socioeconomic backgrounds and this meant that these women might not have ready access to mammography or CBE but the American Cancer Society no longer recommends BSE according to Smith et al., (2003). However in developing societies like ours, BSE should still be encouraged because access to CBE and most importantly mammography is mostly limited. Some health facilities are not easily accessible and mammography is expensive for the majority, yet BSE can help to some extent. A study by Loh & Chew (2011) found BSE to be a potent breast cancer detecting tool. Findings showed that 80% of breast cancer survivors self-detected the lumps, even though 85% of the women reported that they had never been taught about BSE.

In terms of CBE done 2 years prior to diagnosis scores out of 3, the majority of respondents (56.3%) of the respondents had scores of 0 which means they strongly disagreed to performance of CBE and in terms of CBE frequency prior to diagnosis the majority (62.5%) had scores of 0 which means they never performed CBE. Therefore it can be concluded that the respondents in this study had very low self-care practices in terms of the practice of CBE. This exposes the gap that still exist in the health sector in terms of dissemination of the life-saving services that we can offer and a lot needs to be done in this area.

Mammography scores were the poorest in the findings of this study, with 88.7% of the respondents scoring zero. This could be attributable to the costs associated with the service and accessibility of this crucial service in-country. The first ever mammography machine in Zimbabwe was commissioned at Parirenyatwa's Radiotherapy Centre in October 2011. Prior to this it had been a preserve of those who could afford it at private hospitals where it was and is still prohibitively expensive leaving women with no options but to forgo it until only when necessary. The implications of this, is that women will continue to present with late stage disease. This finding is similar to findings in studies in developing countries like Uganda and Ghana.

Opoku, Benwell & Yarney (2012) in their study in Ghana found out that routine mammography screening is not feasible in Ghana at the moment and therefore screening requires a different approach. The self-reported breast cancer screening (BSE 32%, CBE 12% and mammography 2%) rates among the respondents were found to be low. According to Kiguli-Malwadde et al., (2010), in a study in Uganda they found out that all the women in their study had never had a mammogram. Majority of them reported not undergoing mammography because they had never heard of its use in investigating breast cancer. Few women who had knowledge of it feared its expenses. The study also showed that the majority of women were informed about BSE and CBE but knew little about mammography. This was explained by the limited mammography services in Uganda a finding similar to this study's. Mammography can only be accessed at National referral hospitals and a few private health facilities found in the capital city which leaves the majority of women and even health care workers in rural areas ignorant about it. Their finding was similar to the findings of this study.

Professional breast cancer screening-mammography and CBE may decrease breast cancer mortality by 15 – 33% among women older than 50 years (Nystrom et al., 2002). However approximately 35% of women older than 40 years had not had both a mammogram and CBE in the prior 2 years. External conditions that are barriers to breast screening include high costs and lack of accessibility (Lauver, Settersten, Kane & Henriques, 2003) a finding similar to that of this study. Breast screening trials, in which one group is randomised to receive an invitation to screening and the other to receive no invitation to screening provides a comparison between the two tumour populations, one which is diagnosed on average at an earlier stage than the other (Tabar, Duffy, Vitak, Chen & Prevost, 1999).

Evidence that screening has significant impact on mortality reduction is mounting. However, interval adherence to mammography screening continues to be problematic. Research indicates that only 40 – 70% of

women aged 50 years and above routinely under-go mammography screening, leaving significant room for improvement according to Tabar et al., (2002).

Relationship Between Self-Care Practices and Stage at Diagnosis

The results of this study show a moderate and significant negative correlation ($r = -.386$, $p < .01$) between breast self-care practices and stage at diagnosis among breast cancer patients aged 21 years and above attending the Radiotherapy Centre. The results indicate that as self-care practices increase, the stage at diagnosis decrease. Simple Linear Regression performed showed an R^2 of .149 of which expressed as a percentage was 14.9%. This result implies that the effect of self-care practice accounts for 14.9% of the variance in the stage at diagnosis. In other words 14.9% changes in the stage at diagnosis are a result of the self-care practices.

The unstandardized regression coefficient ($b = -.079$, $p < .001$) was significant and represented a change in the stage at diagnosis with every unit in self-care practices. Therefore self-care practices have a negative effect on the stage at diagnosis.

Several studies concur with the findings of this study that self-care practices namely BSE, CBE and mammography have a negative effect on the stage at diagnosis or reduces the stage at diagnosis. Primary randomised controlled trials had shown the importance of mammography in early diagnosis of breast cancer in asymptomatic women and had been effective in decreasing mortality especially in women aged 50 – 69 years with reductions of 20 - 35%. However for the women who know about mammography, the cost involved are still very high which prevents them from undergoing it according to Freeman & Wasfie (1989).

Several hospital-based and practice-based studies have found out that invasive tumours detected by mammography tend to be smaller and are less likely to be accompanied by positive axillary lymph nodes (stage IV) than tumours found by other means. A study of breast carcinomas detected in Vermont during 1975 – 1984 and 1989 – 1990 found a shift towards earlier detection in the latter period attributable to increased screening uptake (Vacek, Geller, Weaver & Foster Jnr, 2002).

According to Michaelson et al., (2002), far too many women did not comply with the American Cancer Society recommendation of prompt annual screening from the age of 40 years. Consequently, almost 50% of the invasive tumours emerged as large and, thus potentially more lethal, palpable masses. Strategies to increase repeat mammography screening and ensuring that women obtain needed follow up of abnormal mammograms may increase early detection and improve survival among African-American women. Notwithstanding earlier age at diagnosis for African-American women, mammography screening is not recommended, but screening of women aged more than 40 years is critical.

Recommendations

In addition to routine breast self-examination, women need culturally-sensitive clinical examination of breasts to enhance screening for breast cancer. The Government(s) should subsidise the costs of mammography to improve survival rates from breast cancer. Robust breast cancer awareness campaigns need to be implemented from community level.

Limitations

This study was conducted at a Central Hospital. Hospital based samples usually carry a limitation of selection bias. Patients who could not make it to this centre during the time of the study were excluded. Patients in this study were being asked to recall some of the information as per the requirements of the questionnaire and as a result a recall bias was a possibility.

V. Conclusion

There is a negative correlation between breast self-care and stage at detection of breast cancer. The majority of women do not engage in consistent activities aimed at early screening of breast cancer. Most women get diagnosed of cancer when it is already in either stage III or IV. If patients were equipped with breast self-care practices and thus motivated to engage in self-care we were likely to see patients with favourable staging at diagnosis and hence lessen the burden on the already strained health professionals. There is great need to increase advocacy levels at community level, subsidise screening services and decentralise them for maximum use by the most vulnerable and marginalise groups of women.

AUTHOR DISCLOSURE

The authors declare that there is no conflict of interest arising from this publication

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