

To Control the Morbidity and Mortality Rate of Breast Cancer Through Increasing Knowledge Capacity

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Abstract

Breast cancer in women is a major health burden both in developed and developing countries. It is the second leading cause of death in women worldwide as well as in Uganda. Recent global cancer statistics shows that global incidence is rising at a faster rate especially in developing countries like Uganda. But still breast cancer is not on the top of the priority list for the policy makers, donors and health professionals. But the prevailing situation can be more devastated if early attention is not given. Breast cancer, the third most frequent cancer of women is preventable through knowledge on breast self-examination. Of the 44% of women diagnosed with breast cancer at the Uganda Cancer Institute, only 22% go for check-up in less than three months. This study explored the effect of breast cancer knowledge on the uptake of breast cancer prevention modalities among women in Kampala region. To concentrate on this fast growing health problem will need to know the overall situation concerning incidence, prevalence, risk group, diagnostic and treatment status survival and mortality rate first to make a comprehensive policy to cope with breast cancer situation in Uganda. To evaluate the knowledge and practices about breast cancer among women, this present study was conducted. Knowledge about sign, symptoms, diagnosis and treatment is quite not good among the women. 21% women have knowledge about performing breast self-exam and 17% have heard about mammography. However, to controlling the morbidity and mortality rate of breast cancer we should increase the level of knowledge and we should take some steps to spread the knowledge and awareness about breast cancer.

Methods: A household survey of women in Kampala region was conducted during June, 2016 to August, 2017. This involved studying in-depth using a questionnaire the level of breast cancer knowledge of the respondents. Data was analyzed using logistic regression model. Chi-square test was used to establish relationships between knowledge base factors and the uptake of breast cancer prevention modalities.

Conclusion: The women's level of breast cancer awareness as a primary prevention strategy was found wanting, and requires a boost through community health education.

Breast cancer is the top cancer in women worldwide and is increasing particularly in developing countries where the majority of cases are diagnosed in late stages.

Keywords: Breast Cancer, Women in Kampala, Breast-self Exam, Mammography

Background of the study

Cancer is the generic term for a group of more than 100 diseases that can affect any part of the body and have defining features, namely proliferation of abnormal cells in the affected part of the body, capacity to grow beyond their usual boundaries and tendency to invade adjoining tissues and spread to secondary organs or tissues as metastases.

According to statistics from WHO, cancer from African Region were 571 000 (318 000 in women and 253 000 in men). The commonest

cancers in males were prostate (13.7% of all cancers), liver (11.5%), Kaposi's sarcoma (8.7%) and esophagus (6.2%) and Non-Hodgkin lymphoma (6.2%). In females the commonest cancers were of the cervix (23.8%), breast (21.3%), liver (4.7%) and Kaposi sarcoma (3.8%). The number of deaths due to cancer in the Region in 2008 was 435 000 (226 000 in women and 209 000 in men). But mortality statistics in Africa are even sparse, due to the absence of comprehensive death registration in the great majority of countries. It is estimated that about 12.4% of WHO African Region's 804 million inhabitants will develop cancer before age 75. The risk increases with age: 90% of cancer cases will occur after the age of 40 in Africa other than Burkitt lymphoma, nephroblastoma and leukaemia [1].

Breast cancer is the third commonest cancer after cervical cancer and Kaposi sarcoma. Worldwide, over one million of cases report annually and it causes the high morbidity and mortality in the developing countries (IARC, 2010), breast cancer remains the most frequently diagnosed cancer and the leading cause of cancer death among females accounting for 23% of the total cancer cases and 14% of the cancer deaths with a 3% annual incidence and 1.8% death rate [2]. In Uganda is estimated at 4.5% annually as per the age standardized incidence rate but is curable if promptly diagnosed through breast self-examination (BSE) and clinical diagnosis. Breast cancer accounts for 16% of cancer deaths in adult women, and is regarded as a major life threat requiring prompt intervention. Although multi-factorial, the high burden of breast cancer is ascribed to its invasive and aggressive nature, and being associated with late presentation to a health facility when it has reached advance stages. Further, the condition is intricated by the fact that its onset is often mistaken for other infections and mismanaged at that level, making it more complex and delayed interventions. This as a result leads to poor prognosis. Breast cancer is preventable through the uptake of such modalities like nationwide breast cancer awareness program involving clinics in remote areas and a referral system that to improve detection and treatment.

In addition, Cancer incidence in Uganda is increasing and annually over 14000 new cancer cases being identified (NCCP, 2009). Furthermore, it is the second leading cause of deaths in hospitals leading to a hospital mortality rate of 17.5/100000 population in 2007 (Ministry of Health, 2007). Cancer prevention and control involves the public health action designed to reduce cancer incidence and mortality and improve the quality of life of patients, through the systematic implementation of evidence-based strategies for prevention, early detection, diagnosis, treatment and palliative care. Well Women Clinics (WWCs) are conducted via office of MOH each area by the team of public health personnel comprising of MOH, Public Health Nursing Sister (PHNS) and Public Health Midwife (PHM). Health education on cancer prevention, including Self Breast Examination (SBE) and services like Clinical Breast Examination (CBE) and Pap smear are provided in these clinics. As it costly and needs economic and human resources, mammography services are available only in few centers government as well as private sector in Uganda. Even though the prevention services available throughout the country, most of the cancer cases reported at late stage. The obstacles for primary, secondary prevention and some tertiary prevention in Uganda are the hesitation to visit the physician, patient's embarrassment and lack of knowledge about the risk factors and screening methods. As the burden of breast cancer increases, there is minimal awareness in most parts of Africa, and this consequently hinders the possibility of cure, prevention and possible elimination. As a result, this has seen unacceptably high infection cases and deaths among females. As global concerted efforts to upsurge cancer awareness and prevention, there are growing needs to explore knowledge as a measure of disease intervention and possible prevention [3]. To this, we report on the effect of breast cancer knowledge on the adoption of breast cancer prevention modalities among women among Kampala region, Uganda.

The aim of this publication is to strengthen and accelerate the translation of cancer control knowledge into public health action. It can also serve as an advocacy and practical tool that helps policy-makers and programme managers to acquire advice on key interventions in cancer control.

Problem Statement

Breast cancer is second most common cancers in Uganda (ASR 23.4 per 100,000), after Cervix uteri (ASR 45.8 per 100,000), and the prognosis for most Ugandans patients is poor, most seeking medical attention and presenting late at stage IV of the cancer (58% poorly differentiated, 33% moderately differentiated and 9% well differentiated and this could explain the poor 5-year survival of 56% [4].

Nurses and midwives constitute 75.85% of the medical care professionals (HSSP II, 2007), the level of breast cancer risk factors and early detection awareness is not known and in view of the expanded roles nurses and midwives are expected to play in for National campaigns on breast cancer prevention and treatment, breast care, and embarking on improved breast cancer services and national prevention programs, and the helping role of nurses in promoting healthy behaviors in communities. It's thus important to assess nurses and midwives' awareness of breast cancer risk factors, and early detection.

Study objectives

1. To determine the awareness level for breast cancer risk factors among nurses and midwives working in among hospitals in Kampala region
2. To determine what factors are associated with the breast cancer risk factors awareness
3. To determine what is the awareness level for breast cancer early detection measures among nurses and midwives working in among hospitals in Kampala region
4. To determine what factors are associated with the awareness of breast cancer early detection measures

Methods

Study design

A household survey of women in Kampala region was conducted during the months of June, 2016 to August, 2017. Mulago, Kisenyi, Kawempe, Kirundu is a part of Kampala city with a proportion of the urban, peri-urban and rural set up. Kampala region was chosen for the study because it is the area from which the Kampala cancer registry captures comprehensive data.

Sampling procedures

Cluster sampling method was used. Kampala region was stratified into 20 parishes [clusters] as the primary stratification variable. At this stage, each parish was further clustered into villages. Each parish comprises 10–20 villages and in each village 50–100 households and the 20 parishes were used as the large clusters from which 10 villages were selected. At the household level, 40 households from each village and one respondent each household was selected randomly giving 400 respondents. Each household had 1–4 women who were aged 18 years of age and above. To minimize bias, 1 woman aged 18 years and above was selected from each household.

The age of 18 years was chosen because it is the age of consent and that the person has insight to develop attitudes based on knowledge that may influence her practices. Inclusion criteria: Women 18 years and above who were able to understand and communicate were included in the study. Only subjects of a sound mind, who were able to hear and speak English and Luganda (a local language used in the area). Exclusion criteria: participants unable to understand and communicate in English or Luganda or those who declined to consent.

Data collection and management

Data was captured using a survey questionnaire that was developed from the existing literature on the topic. This was composed in English and then translated to vernacular (Luganda) after being piloted by research assistants. The questionnaire was pre-tested by research assistants among thirty women in Kisugu, Nakawa division to ensure that the most accurate information was obtained and where necessary changes were made. To ensure internal validity, only completed questionnaires were adopted. The questionnaire was interviewer administered. Study variables: Dependent variable was breast cancer prevention modalities (adopted SBE, clinic breast examination and ultra sound) and the independent variables were background characteristics, knowledge based factors and lifestyle factors. Knowledge of breast cancer was assessed based on the questions that sought to assess women awareness of breast cancer, knew someone that had breast cancer, risk factors of breast cancer, what to do in order to reduce the risk of acquiring breast cancer, what to do to discover breast cancer early, how to check their own breasts for lumps, and those able to recognize breast cancer signs like discharge from the breast nipple, swelling of the breast among others. The quantification was done as a proportion of the total sample size [5].

Data management

Data was entered and analyzed using SPSS IBM version 20. A completely edited dataset was adopted and double checked for errors and corrections done. We considered breast cancer prevention modalities (adopted SBE, CBE and ultra sound) as the dependent variable and the independent variables were background characteristics, knowledge based factors and lifestyle factors. The data was analyzed at univariate, bivariate and multivariate. Variable at univariate and bivariate with a p value of less than 0.05 were considered for multivariate analysis and p values less than 0.05 were considered statistically significant. Only extract of the bivariate and multivariate were used for this article.

Results

General characteristics of study population Only 414 subjects were adopted in the study, (that is 85.5% of those who had consent and had complete questionnaires). The results show that 55.3% were below 30 years, 35.5% were 31–50 years and only 9.2% were above 50 years. The religious affiliation revealed that 25.5% were Muslims, 15.5% were Seventh Day Adventists and atheists, 29.5% were Anglican and Roman Catholic respectively. 74.4% of these women were urban dwellers, 20.8% were in semi urban areas and only 4.8% were in rural areas of Kampala region. However, the study findings revealed that, 36.2% compared to 63.8% had adopted breast cancer prevention modalities in Kampala region [6]. Among the background factors that were found to be significantly associated with adoption of breast cancer prevention modalities among women in Kampala region included: age (p-value=0.049), religious affiliation (p-value=0.054), level of education (p-value=0.000) and place of residence (p-value=0.001). Others background characteristics of the women in Kampala region such as distance to the health facility, type of health facility and source of breast cancer information were not significantly associated with the adoption of breast cancer prevention modalities. Only the results that were found to be significantly associated with the adoption of breast cancer prevention modalities.

Breast cancer knowledge of study participants The study findings indicate that 91.8% of the women were aware of breast cancer, 44.2% knew someone that had breast cancer, only 30.4% knew

what increases the chances of breast cancer, 30.4% of the women knew what to do in order to reduce the risk of acquiring breast cancer, more than half 57.5% knew what to do to discover breast cancer early (that is by going for regular check-ups), 35.2% knew how to check their own breasts for lumps, 32.9% of the women had been examined by a health worker and 2.4% had done an ultra sound or had a mammography done prior to the study. In addition, more than half (56.0%) were able to recognize breast cancer signs like discharge from the breast nipple, swelling of the breast among others. The study revealed that 65.7% of the women knew where to obtain breast cancer treatment services in Kampala.

From the study 302 (74.57%) of the nurses and midwives had poor awareness as compared to 103 (25.43%) who had good awareness

From the key informants interview, and focused group discussions (FDGs), lack of sensitization, early detection equipments, and cost of screening have indirectly affected the awareness of breast cancer early detection methods (in Mulago there is only one ultrasound, mammography and x-ray machine servicing the entire population visiting the radiology department (Respondent, FDG Radiology Dept). Breast cancer early detection methods are not comprehensive in the school curriculum for nurses (Respondent KII Nursing School).

Individual factors used for assessing awareness of breast cancer early detection measures

The commonly known breast cancer early detection method was Breast Self-Examination (38.8%), and least known method was Ultrasound (10.6%), followed by Clinical breast examination (CBE) (15.7%), and then Mammography (34.9%)

Factors associated to awareness of breast cancer early detection measures

Bivariate analysis was performed to determine the factors associated with the awareness of breast cancer early detection measures. Awareness was considered as poor or good. The nurses and midwives who had ever cared for breast cancer patients were more likely to have good awareness (OR 2.43, 95% CI = 1.54-3.86). Good awareness decreased with experience (OR=0.36, 95%CI=0.19-0.66). Results for association between awareness of breast cancer early detection measures and independent variables

Discussion

Awareness of Breast Cancer Risk Factors

The findings in this study have shown that the nurses and midwives in among hospitals had poor awareness of breast cancer risk factors. Overall, the awareness of breast cancer risk factors was poor (9%), i.e. 9 in every 100 nurses and midwives were aware of breast cancer risk factors. The awareness of breast cancer risk factors among the nurses and midwives of Mulago, Kisenyi, Kawempe and Kirundu is low and is similar to that seen in other developing countries like Nigeria, Pakistan, and Jordan. This could be explained by lack of capacity building, training programs and sensitization workshops for the health care professionals in the hospital. Further lack of enough human resource meant that most nurses and midwives were located to the most pressing conditions and diseases dominating the hospital

The few studies on breast cancer in Uganda have focused on prevalence, clinical presentation by patients and cancer of the breast 5-year survival. Though a few more recent newspaper articles have tried to address issues of knowledge among healthy populations, we

have not found any association with awareness among the nurses and midwives. The study results have shown that over three quarters (96%), of all the nurses interviewed, believed that their profession is an important source of information to the public, early detection through screening and population awareness. Nevertheless, studies from developed countries show that attitudes and orientation of healthcare providers are important determinants of use of breast cancer screening programs.

The nurses and midwives in our study were very knowledgeable in several aspects of breast cancer. As expected, they were able to recognize most symptoms, 30.9% recognized breast lump as a symptom of breast cancer.

It is conceivable that risk factor awareness is mostly acquired during classroom teaching compared to exposure at the workplace, mass media information and training workshops.

The nurses and midwives work with patients so they are mainly exposed to symptoms and signs of disease and to treatment outcomes rather than to the development process of early detection of the disease especially for non-communicable diseases such as cancer.

The low level of risk factor awareness among nurses and midwives in the developing countries is suggestive of insufficient emphasis on the importance of primary prevention in the nursing curricula. In spite of rigorous efforts towards improving medical education in the developed countries, it has been realized that healthcare professionals including nurses are not adequately educated about cancer risk factors, risk assessment and cancer prevention.

Awareness of Breast cancer risk factor among nurses and midwives is important so that they can provide appropriate screening recommendations to women with a high risk profile, especially in the Ugandan context where breast cancer screening is not a national phenomenon.

Factors associated with awareness of breast cancer risk factors

The nurses and midwives who had ever cared for a breast cancer patient had a high risk of good awareness which was statistically significant (OR = 2.2, 95% CI=1.02-4.71). Continued education of nurses and midwives, was strongly associated with good awareness of breast cancer risk factors (OR = 5.49, 95% CI=2.08-14.48). Considering the working experience, the nurses with experience of 4-7 years were found more to have good awareness (OR = 1.99, 95% CIV=0.79-5.02), and it tended to decrease as the number of years worked increased. These results suggest that nurses and midwives who had ever cared for breast cancer patient ever had training on breast cancer and those who had worked for 4-7 years by virtue of exposure, specialized training and years worked, had more awareness of breast cancer risk factors.

Awareness of breast cancer early detection methods

The overall awareness of breast cancer early detection measures was low (25%) that is, 25 of every 100 nurses and midwives were aware. The awareness of breast cancer early detection methods among the nurses and midwives of Mulago is low and is similar to that seen in other developing countries like Nigeria, Pakistan, and Jordan. Given the lower incidence of breast cancer in the Uganda, lack of national policy on screening, sensitization, coupled with the lack of specialist, service/care centers, this low awareness could be expected [7].

From the findings, the least known method of early detection was ultrasound followed by clinical breast examination and this is expected since ultrasound, CBE, mammography is not readily available to this population, few specialist and expensive methods as given by the respondents. This could be because most of the respondents who knew the early detection methods, said that they were expensive, few specialists to refer to, and few screening centers and lack of national awareness and screening campaign program

Other studies have also shown that generally awareness of breast cancer early detection methods was low, and the most common known method was BSE. Mammography, Ultrasound and CBE were not commonly known and was attributed to lack or absence of such services in the respective countries and also lack of specialized consultants on breast cancer.

Factors associated with awareness of breast cancer early detection methods

The nurses and midwives who had ever cared for a breast cancer patient were found to have good awareness which was statistically significant (OR = 1.91, 95% CI=1.12-3.26). Results show that good awareness level of breast cancer early detection measures tend to increase with age of the respondents. From the findings, awareness of breast cancer early detection measures showed a weak association with educational levels, and the age of the respondents [8].

Other studies have shown that, the factors influencing awareness scores were related to the nursing profession, namely; nursing qualification, current nursing post and current work place, age group, marital status, history of breast disease, nursing school status (private and government), professional breast cancer exposure and self-history of CBE, lower formal education.

Further, other related studied of awareness have indicated that family history was associated with general breast cancer awareness. Profession, age, and family history significantly influenced breast cancer screening awareness. The findings also show that there was significant associated with age, the level of education, and knowledge of how to examine the breasts.

The study indicates that the odd of adopting breast cancer prevention modalities were higher if a woman had knowledge on the signs of breast cancer than if she did not. The odds of adopting breast cancer prevention modalities were higher for a woman who knew what to do to discover breast cancer early (self-breast examination, clinical examination, breast ultra sound and mammography) than for someone who did not. Merriman (2010) observed that women with a better knowledge level on breast cancer (Adjusted Odds 2.5) where more likely to adopt BSE [9].

The results revealed a strong relationship between adopting breast cancer prevention modalities and exercising. This means that the more a woman exercises the lower the chances of her acquiring breast cancer. Lemanne provides evidence of the benefits of exercising that included: improves cardiovascular (heart and circulation) fitness and that exercise helps one gain a healthy weight; made the muscles stronger; reduces fatigue and helps people have more energy; helps lower anxiety and depression; makes one feel happier and be better about oneself as well as long term effects of reducing breast cancer.

The odds of adopting breast cancer prevention modalities was more likely if a woman was able to identify signs of cancer like a small swelling on the breast than if she did not. It was established that women who had a strange discharge from the breast may signify cancer were 8 times more likely to adopt breast cancer prevention modalities than if they were not. This concurs with Merriman (2010), who argues BSE is a patient-centred, non-invasive screening procedure that allows women to routinely check their bodies. In addition the odds of adopting breast cancer prevention modalities were more likely if a woman was able to examine her breast than if she did not [9].

The women who acknowledged that there is treatment of breast cancer had higher chances of adopting breast cancer prevention modalities than their counterparts. This affirms the findings among female undergraduate students in Buea where a gap in knowledge was established in the practice BSE in the prevention of breast cancer Fon, et al. 2015; 8 Therefore this study is in agreement with what Fon already reported that acquiring cancer knowledge, cancer detection and treatment among women increases women's practice of BSE, Samuel YO, et al. 2012 [10,11]. This may enable a woman to make an informed decision about breast cancer screening risks and the benefits. Although our findings are factual, it falls short of the following; a) being a field based survey, our findings solely relied on the respondents have given us accurate information; otherwise the study did not have a confirmatory basis to validate the trueness of their responses. b) this study could have been subjective to forms of bias particularly recall bias, in addition, since we used an interviewer administered questionnaire, it is likely that interviewer bias was encountered, c) since our study targeted a single adult female respond as a proxy to each household, it is likely some selection bias was encountered.

Conclusion

Breast cancer awareness ought to be rolled out particularly to the school girls with emphasis on how to conduct breast self-examination and where to obtain a clinical breast exam so as to minimize late breast cancer detection and treatment at stage 4. In addition, health programs in form of the media coverage through newspapers, local written and oral, radio and television could alleviate breast cancer awareness. Through these, it is hoped to harness awareness of breast cancer, the need of its early diagnosis, as well as prompt treatment.

Reference

1. Oluwatosin OA, Oladepo O (2006) Knowledge of breast cancer and its early detection measures among rural women in Akinyele local government area, Ibadan, Nigeria. *BMC Cancer* 271.
2. Christine A, Dinah A, Steven M, Elly A (2016) The Influence of life style on the adoption of Breast Cancer Prevention Modalities among women. A case study of Kyadondo County. *Journal of Health, Medicine and Nursing* 29.
3. Ahmadian M, Abu SA (2013) Application of health behavior theories to breast cancer screening among Asian women. *Asian Pac J Cancer Prev* 14: 4005-4013.
4. Olumuyiwa O, Odusanya, Olufemi O Tayo (2001) Breast Cancer Knowledge, Attitudes and Practice among Nurses in Lagos, Nigeria. *Acta Oncologica* 40: 844-848.
5. Gondos A, Brenner H, Wabinga H, Parkin DM (2005) Cancer Survival in Kampala, Uganda. *British Journal of Cancer* 92: 1808-1812.
6. Knight JA, Bernstein L, Largent J, Capanu M, Begg CB, et al. (2009) Alcohol intake and cigarette smoking and risk of a contralateral breast cancer: the Women's environmental cancer and radiation epidemiology study. *Am J Epidemiol* 169: 962-968.
7. Gakwaya A, Kigula-Mugambe JB, Kavuma A, Luwaga A Fuala J, et al. (2008) Cancer of the breast: 5-year survival in a tertiary hospital in Uganda. *British Journal of Cancer* 99: 63-67.
8. Yaren A, Ozkilinc G, Guler A (2007) Awareness of breast and cervical cancer risk factors and screening behaviors among nurses in rural region of Turkey. *European Journal of Cancer Care* 2007.
9. Merriman A (2010) Emerging breast cancer epidemic: impact on palliative care. *Breast Cancer Res* 12: s11.
10. O Abimbola Oluwatosin, Oladimeji Oladepo (2006) Knowledge of breast cancer and its early detection measures among rural women in Akinyele Local Government Area, Ibadan, Nigeria. *BMC Cancer* 6: 271.
11. Fon PN, Jules CNA, Tebit EK, Anna LN, Taddi RGT (2015) Knowledge, attitude and practice of breast self-examination among female undergraduate students in the University of Buea. *BMC Research Notes* 8.

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