

Breast Cancer Awareness Among Pregnant Women at Hoima Regional Referral Hospital, Western Uganda

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ABSTRACT

Breast cancer is a significant public health challenge, especially in less developed regions like sub-Saharan Africa. This study assessed the awareness of breast cancer among pregnant women attending antenatal care services at Hoima Regional Referral Hospital in Western Uganda. A total of 200 participants were involved in this cross-sectional study. The results showed that 86% of the participants had heard about breast cancer, while 14% had never heard of it. Factors like age, level of education, religion, and occupation were found to influence awareness levels. However, most women had insufficient knowledge about breast cancer risk factors. This study highlights the need for intensified health education programs and the decentralization of breast cancer screening services to improve awareness and early detection.

Keywords: Breast cancer, cancer mortality, Antenatal care services, Women, Mammography.

INTRODUCTION

Breast cancer is an important public health challenge and is the leading cause of female cancer mortality globally, with an incidence rate of 25.1%. Recent GLOBOCAN statistics revealed that breast cancer mortality rates in less developed regions of the world, such as sub-Saharan Africa (SSA), are approximately 62%, accounting for almost two-thirds of global mortality before cervical cancer [1-3]. In low- and middle-income countries (LMICs) like Uganda, breast cancer mortality poses a significant public health problem.

More than three-fourths of patients are diagnosed with late-stage disease (stages III and IV), which is associated with greater social stigma, more expensive treatment, and poorer survival [4]. According to Nagini et al. [5], breast cancer is the second most commonly diagnosed female cancer in Uganda after cervical cancer, with an estimated incidence rate of 15.8% and an associated mortality rate of 11.4% among all female cancers, indicating a high incidence and

corresponding mortality due to the disease. Women in Uganda and most LMICs are disproportionately affected by high mortality associated with breast cancer compared to their counterparts in Western countries such as the United Kingdom, Canada, or the United States of America. Although the exact cause of this disparity is unknown, some studies have identified delayed detection as a major contributing factor [6, 7]. Primary randomized controlled trials have shown the importance of mammography in the early diagnosis of breast cancer in asymptomatic women, and it has been effective in decreasing mortality, especially in women aged 50-69 years, with reductions of 20% to 35%. Nevertheless, mammography remains underutilized by women, even though it can be effective in the early detection of breast cancer [8]. Generally, late presentation of cancer including breast cancer leads to poor disease outcomes [9]. Breast cancer is preventable through the

uptake of modalities such as nationwide breast cancer awareness programs involving clinics in remote areas and a referral system to improve detection and treatment [10]. Beliefs can help guide health behavior but can be problematic when not grounded in scientific evidence and obstruct health-seeking behavior. Current efforts to promote breast cancer awareness in Uganda include television and radio commercials and health fairs run by village health teams. Village health teams comprise elected community volunteers who are taught health information by clinical providers from the community health center to deliver to their villages [11]. As the burden of breast cancer increases, there is minimal awareness in most parts of Africa, hindering the possibility of cure, prevention, and possible elimination. This has led to unacceptably high infection rates and deaths among females [10]. For women to present early, they need to be aware of the disease and must be able to recognize the symptoms of breast cancer through routine practice. Poor knowledge about breast cancer symptoms delays early diagnosis, particularly among women in rural areas who are the most vulnerable and least informed individuals. This lack of knowledge can have serious consequences if necessary actions are not taken [12, 13].

The Breast Health Global Initiative, an organization focused on providing resource-stratified guidelines to improve survival in LMICs, recommends an understanding of local beliefs about breast cancer as a prerequisite for effective early breast cancer detection programs [14]. Therefore, gaining a greater understanding of the nature and drivers of poor breast cancer awareness among women will inform much-needed awareness programs aimed at assessing the level and nature of breast cancer awareness in African countries [15]. This study aims to empirically ascertain the level of awareness of breast cancer among women, which will hopefully guide future intervention programs on breast cancer prevention and control in the community. Globally, breast cancer is one of the most

common cancers and a major public health challenge for women's health. There has been a significant increase in the annual incidence of breast cancer, particularly in countries with low incidence rates. According to the World Health Organization (WHO), over 1.15 million women are diagnosed with breast cancer each year, resulting in an annual reported death toll of 502,000 worldwide [16, 17]. In Uganda, the estimated annual incidence rate is 4.5%, as per the age-standardized incidence rate, but it is curable if promptly diagnosed through breast self-examination (BSE) and clinical diagnosis [18]. Breast cancer accounts for 16% of cancer deaths in adult women and is considered a significant threat requiring prompt intervention [10]. Many women with breast cancer present at health institutions with advanced multiple nodal involvements, leading to poor prognostic outcomes [19]. Studies have indicated that this late presentation of breast cancer patients is linked to poor knowledge of the disease [20]. However, for women to present early, they need to be aware of the disease and recognize its symptoms through routine practice. Poor knowledge about breast cancer symptoms results in delayed early diagnosis [21]. Knowledge and awareness of breast cancer promote health-seeking behavior, leading to early diagnosis and increased survival rates of breast cancer cases [21]. The World Health Organization has emphasized the importance of raising awareness among women for early detection and reporting of breast cancer to improve the quality of life and survival, as well as to address the increasing burden of this deadly disease [22]. However, recent studies indicate that there is minimal awareness in most parts of Africa, hindering the possibility of cure, prevention, and possible elimination, resulting in unacceptably high infection rates and deaths among females [10]. The aim of this study is to assess the level of awareness of breast cancer among women attending Antenatal Care services at Hoima Regional Referral Hospital, Hoima District.

METHODOLOGY

Study Design

A descriptive cross-sectional study involving both qualitative and quantitative data analysis was conducted on women attending ANC services at HRRH.

Area of Study

The study was conducted at the antenatal clinic at Hoima Regional Referral Hospital, which is in Hoima municipality. It is located 101 km away from Kijjunga Road and is situated 200 km west of Kampala, in Hoima district, western Uganda. Hoima Regional Referral Hospital caters to the population of the Bunyoro region, encompassing the districts of Hoima, Kibale, Masindi, Bulisa, Kiryandongo, Kagadi, Kikuube, and the eastern part of DR Congo, overall serving over 3 million people. The present bed capacity is 300. The hospital is one of the oldest hospitals in Uganda, dating back to 1935. Initially, it served a very small area in Hoima district, but in 1994, it was upgraded to a referral hospital targeting the Bunyoro region with pregnant women attending ANC services every day, including those from large areas.

Study Population

The study included all women attending ANC services at HRRH.

Inclusion Criteria

The study included all women attending ANC services at HRRH who would consent to participate in the research or the study.

Exclusion Criteria

The study excluded any woman not seeking services at HRRH, women from districts in Uganda other than the study area, women from other countries who were residing there temporarily, and those who had not consented or were not willing to participate.

Sample Size Determination

The sample size was determined using Kish Leslie's (1965) formula[23]:

$$n = (Z)^2P(1-P)/(E)^2$$

Where:

n = estimated minimum sample size required

P = proportion of a characteristic in a sample = 95% (Corrected value from

87.4%)(Ghrayeb FA., et al., 2018).

Z = 1.96 (for 95% confidence interval)

E = margin of error set at 5%

$$n = (Z)^2P(1-P)/(E)^2$$

$$n = (1.96)^2 * 0.95(1-0.95)/(0.05)^2$$

n = 73 participants.

Sampling Techniques

A simple random sampling technique was used to select participants.

Sampling Procedures

I selected one convenient day per week to visit the ANC clinic for the whole month. On each visit, 25 patients and one medical personnel (one of a clinician, nurse, dispenser, social worker, or any staff in the hospital) were selected. The interviewer wrote papers with numbers from 1 to 50, which were then folded and put in an opaque box. Questionnaires were then given to respondents who picked papers with odd numbers. Medical personnel who were conveniently selected were also served with a questionnaire.

Data Collection Methods and Management

A semi-structured questionnaire composed of open-ended questions was used to collect data. The questionnaire was translated into the local languages of the area and then back-translated to English to ensure consistency of meaning. After the questionnaires were filled, and data collected, forms were packaged in envelopes, and a database was formulated using Microsoft Office tables before analysis using the SPSS version.

Data Analysis

The data collected from the study's different specific objectives were assembled, processed, and analyzed using different computer programs and applications. Discussion, conclusion, and recommendations were done afterward to have a meaningful research report.

Quality Control

The participants were informed about the purpose of the research and reassured that the research would not cause any psychological or physical discomfort to them. Therefore, the quality of the research depended on their collaboration and faithfulness. To ensure quality during

data collection, notes against each question asked and answered respectively in their corresponding orders were made. A simple random sampling technique was used to offer equal chances to respondents to avoid bias. The research focused objectively on the relevant information, leaving out the non-relevant information. A team of researchers or investigators was trained before the research and were able to speak the local language or had translators. The questionnaires were clearly read,

Level of Awareness about Breast Cancer

This study determined the level of awareness about breast cancer among women attending antenatal care services.

Magumba understood, and translated to the participants who had consented in the local language.

Ethical Considerations

The principles of ethics were put into consideration, such as the principles of autonomy, confidentiality, justice, informed consent, beneficence, and non-maleficence, among others, to ensure that the patients were not negatively affected during the research processes and to ensure the rights and well-being of the patients were optimized.

RESULTS

Out of the 200 participants, 172 (86.0%) had heard about breast cancer and 28(14.0%) had never heard about breast cancer as shown in the figure below.

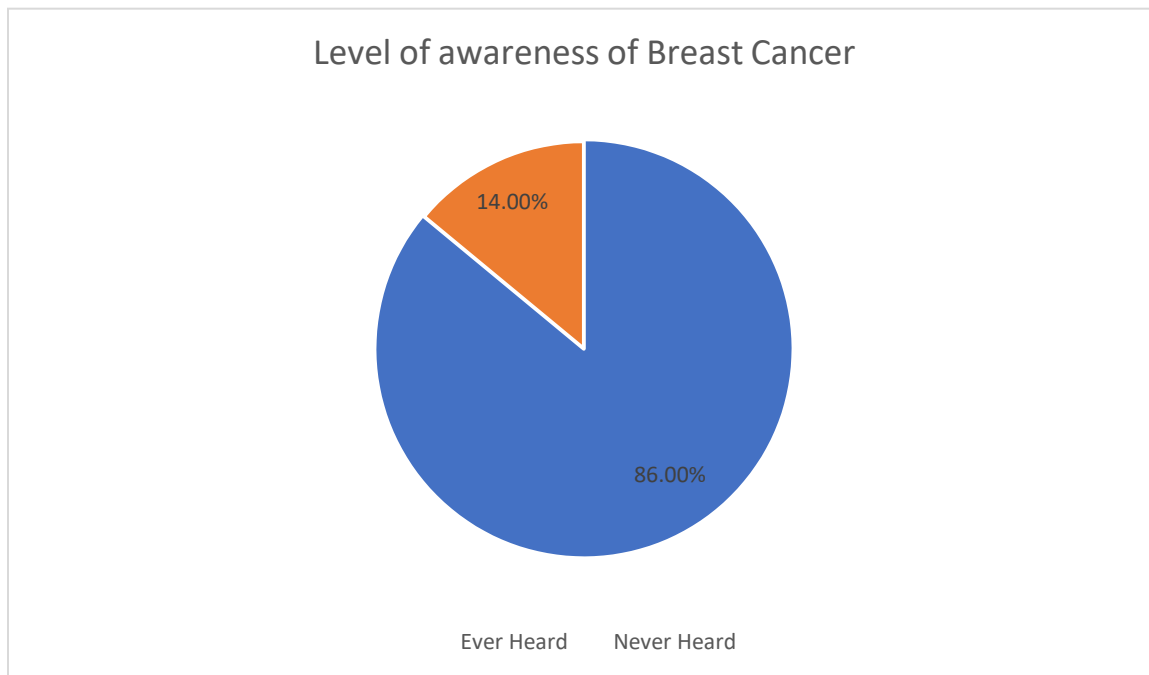


Figure 1: Level of awareness

In this study, majority of the study participants were aged 28-37(36.5%), Catholic (36.5%), Munyoro by Tribe

(85.5%), Farmer (36.5%) and attained secondary/Tertiary education (53.0%) as shown in the table below.

Table 1: Socio-demographic Factors

Variable	Category	Frequency(N)	Percentage (%)
Age(Years)	18-27	46	23.0
	28-37	73	36.5
	38-47	58	29.0
	≥48	23	11.5
Religion	Muslim	47	23.5
	Anglican	61	30.5
	Catholic	73	36.5
	Others	19	9.5
Ethnicity	Munyoro	171	85.5
	Others	29	14.5
Occupation	Farming	73	36.5
	Housewife	65	32.5
	Business	37	18.5
	Student	14	7.0
	Daily labourer	11	5.5
Education	No formal education	19	9.5
	Primary	75	37.5
	Secondary/Tertiary	106	53.0

Association between Socio-demographic factors and level of awareness of Breast Cancer

According to the study, the Level of awareness was highest among women

aged 28- 37(94.5%), Anglicans (93.4%), Banyoro (91.8) %, Students (100.0%) and those who attained Secondary/Tertiary education (98.1%) as shown in the table below.

Table 2: Association between Socio-demographic factors and level of awareness of Breast Cancer

Variable	Category	Frequency	Level of awareness of Breast Cancer	
			Frequency (n)	Percentage (%)
Age(Years)	18-27	46	40	87.0
	28-37	73	69	94.5
	38-47	58	47	81.0
	≥48	23	16	69.7
Religion	Muslim	47	40	85.1
	Anglican	61	57	93.4
	Catholic	73	65	89.0
	Others	19	10	52.6
Ethnicity	Munyoro	171	157	91.8
	Others	29	15	51.7
Occupation	Farming	73	59	80.8
	Housewife	65	61	93.8
	Business	37	31	83.8
	Student	14	14	100.0
	Daily labourer	11	07	63.6
Education	No formal education	19	09	47.4
	Primary	75	59	78.7
	Secondary/Tertiary	106	104	98.1

Awareness of Breast Cancer risk factors
Among participants who had ever heard about breast cancer, 155(90.12%) were not

aware of more than two risk factors while 17(9.88%) were able to recall at least two risk factors as shown in the figure below.

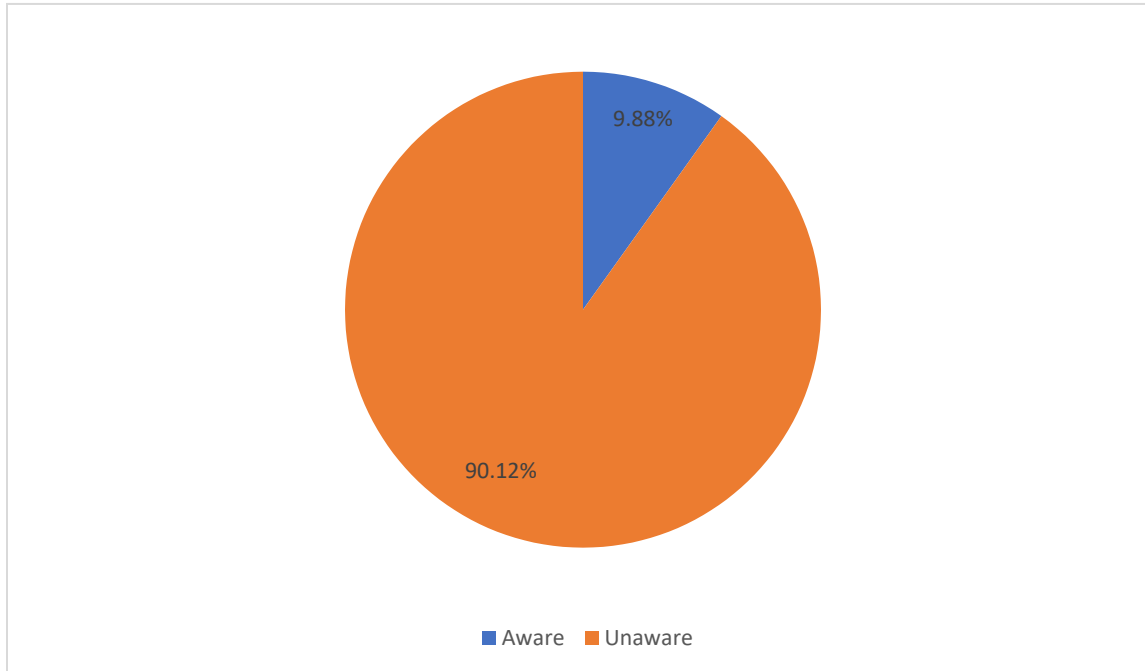


Figure2: Awareness of Breast Cancer
DISCUSSION

Level of Awareness about Breast Cancer

This study determined the level of awareness about breast cancer among women attending antenatal care services. The general lack of awareness among women has been one of the barriers to screening and early presentation. The level of awareness among the 200 participants was high; specifically, 172 (86.0%) had heard about breast cancer, and 28 (14.0%) had never heard about breast cancer. This is consistent with a study which reported the level of awareness to be 92.8%[24, 25]. This finding is concordant with the findings of a study in Malaysia which found the prevalence of poor awareness to be 63.4%[26, 27]. This may be because of various government programs put in place to increase awareness and improve breast cancer screening.

Association between Socio-demographic Factors and Level of Awareness

Because delayed presentation of symptomatic breast cancer is associated with lower survival rates, higher rates may be achieved by encouraging women to seek help early. It has been observed that the rate of detection of large tumors

fell after the introduction of screening mammography. Accurate knowledge about early warning signs and screening methods plays an effective role in developing and employing early detection programs in the community. Thus, understanding the factors that influence patient delay is a prerequisite for the development of strategies to shorten delays.

According to the study, the level of awareness was highest among women aged 28-37 (94.5%). This is inconsistent with the findings of a study in West Amazon, which found the level of awareness to be highest among women aged 40-69 years, with a drastic decrease among those aged ≥ 70 years [28]. Among female medical students, awareness of breast cancer was high among older students compared to younger ones [29-31]. This may be because young females perceive themselves not to be at risk and, therefore, do not take the time to explore more about the disease. In the current study, the level of awareness was highest among Anglicans (93.4%) compared to other religious denominations. Religious groups often enrich women with

knowledge regarding various issues, including health-related matters.

The current study also found that the level of awareness was high among Banyoro. To the best of my knowledge, no published study has measured the influence of ethnicity on awareness about breast cancer. However, this may be attributed to the fact that the majority of the study participants were actually Banyoro. According to our study, the level of awareness was also found to be high among women who were students compared to other occupations. This is in line with the findings of a study in Saudi Arabia which revealed a high level of awareness among university and medical students [32]. This is because students are exposed to diverse knowledge on a regular basis. Those who attained secondary/tertiary education were found to be more informed about breast cancer than those who had no formal education or attained the utmost primary education. This is consistent with a study by Olayide et al., [20], which reported the level of awareness to vary proportionally with the

The study revealed that awareness of breast cancer is relatively high among pregnant women attending antenatal care services in Hoima, Western Uganda. However, there is a significant knowledge gap regarding breast cancer risk factors. Socio-demographic factors, such as age, education, religion, and occupation, were

The recommendations for enhancing breast cancer awareness in Western Uganda include intensifying health education programs, decentralizing screening services, engaging local communities, incorporating breast cancer education into school curriculums, and continuously monitoring the impact of awareness programs. These strategies aim to target women of all ages, particularly underserved populations, and make early detection services more accessible. Decentralization can help women in remote areas access screening services

CONCLUSION

Magumba level of education. This is because the higher the education, the more exposure to knowledge one gets access to.

Awareness of Breast Cancer Risk Factors
Among participants who had ever heard about breast cancer, 155 (90.12%) were not aware of more than two risk factors, while 17 (9.88%) were able to recall at least two risk factors. Awareness of breast cancer risk factors was low compared to the study which found that 28.6% of the women were aware that advanced age increases the risk of breast cancer [28]. This finding is low compared to that in Pakistan which showed that the proportion of women aware of age-related and lifetime risk of getting breast cancer was 15.0%[33]. However, this is inconsistent with a study in Saudi Arabia which reported that 75.8% of the participants had good knowledge while 24.4% demonstrated poor knowledge [34]. Most education programs give women inadequate information about breast cancer; moreover, women themselves take less/no initiative to appreciate the disease.

found to influence awareness levels. To address this, it is essential to intensify health education programs and decentralize breast cancer screening services to reach a broader population. These efforts will contribute to improving early detection and, ultimately, reducing the impact of breast cancer in the region.

RECOMMENDATION

more conveniently. Community engagement, including health workers and volunteers, can also play a crucial role in educating women about the disease and encouraging regular screenings. Continuous research and evaluation can guide the development of targeted interventions. By implementing these recommendations, healthcare providers, policymakers, and organizations can work together to reduce late-stage diagnoses and improve the overall well-being of women in Western Uganda.

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