The Impact of Breast Cancer Awareness Campaigns on Women's Knowledge, Attitudes, and Practices in Uganda's Kampala District

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ABSTRACT

In Uganda, breast cancer affects 116 out of every 100,000 women. Worldwide, the yearly incidence rate of breast cancer (BRCA) is more than 1 million cases and more than 411,000 deaths. In underdeveloped nations, the survival rate is less than 50%, while in industrialized nations, it is 90%. Studies have shown that this is caused by delayed diagnosis and identification of breast cancer (BRCA), as well as by inadequate understanding, attitudes, and practices about BRCA, its causes, risk factors, and screening methods. Since the success of these campaigns to raise awareness, alter negative attitudes toward BRCA prevention and treatment, and improve the use of screening methods is highly dependent on their influence, the MTN Foundation, National Breast Cancer Coalition, Breast Cancer Action, and Miss University Uganda campaigners have resorted to aggressive awareness and sensitization programs aimed at increasing knowledge, changing attitudes, and improving the practice of all necessary screening procedures. To determine the degree of awareness and exposure, knowledge level, attitude, and screening practice among women in Kampala District, a survey and in-person interviews were employed. The causes of unhealthy habits and their effects were explained by the Health Believe Model and the Attitude Change Theory. The results showed a cursory understanding of BRCA symptoms, causes, genetic testing, BSE, and CBE. Strongly negative emotional and psychological beliefs also impact that attitude. As a result, the study stressed the need of preventive rather than curative methods and acknowledged the contribution of breast cancer campaigns to the cause.

Keywords: Breast cancer, Campaigns, Self-examination, Risk factors.

INTRODUCTION

The rising vulnerability of the human race to cancer is putting the species on the verge of extinction. Worldwide, there are more than 16 million new instances of cancer, according to data from various health organizations and agencies. Many surveys anticipate that by 2030, this number will increase [1-3]. Over 681,000 and 512,400 new cases of cancer were estimated by the International Agency for Research on Cancer (IARC) in 2008 alone. In 2010, these numbers rose to 714,000 deaths and 1.4 million cases [4-9]. Regretfully, the IARC predicts that these figures will treble by 2030 as a result of population aging and growth, bad lifestyle choices like smoking, diets, and inactivity, as well as urbanization and economic growth. This research states that the aforementioned elements are responsible for several cancer forms, including blood cancer known as leukemia, sinuses, stomach, lungs, liver, uterine, kidney, and breast cancer. After lung cancer, breast cancer is the second most common kind of cancer globally [10-13]. Over 1.2 million cases of breast cancer are reported worldwide each year, with 411,000 deaths from the disease. Uganda is one of the developing nations where more than 56–60 percent of these fatalities take place [14-16]. The good news is that specialists think active awareness initiatives can help lower the high frequency of this disease, despite its high rate of occurrence [17-21]. In order to do this, numerous breast cancer initiatives have been launched throughout Kampala District, Uganda, Africa, and the rest of the world. The step-down workshops, which were created by the spouses of the 36 district governors in the Federation as a follow-up to the action plan that the United Nations Population Fund (UNFPA) had produced in April 2008 at the Federal Capital Territory of Abuja, are noteworthy [9]. It has become increasingly important to protect lives and guarantee a consistent decline in the rate of maternal death from breast cancer. In December 2010, the capital of Kampala District hosted the Miss University Uganda (MUN) pet project, a campaign of awareness and sensitization against breast cancer. In

fact, district general hospitals, federal medical facilities (FMCs), and teaching hospitals all around Uganda are home to breast cancer screening centers run by the MTN Foundation [10]. Disappointingly, nevertheless, a lot of women continue to fall prey to the feared disease despite numerous awareness and sensitization campaigns regarding the necessity of routine self-examination as a preventive measure for breast cancer. In actuality, data on breast cancer seem to be on the rise, particularly in emerging nations where the disease was formerly uncommon. This implies that there is serious doubt about campaign accessibility, risk factor awareness and knowledge, and campaign and practice attitudes. The degree to which women are aware of and exposed to campaigns depends on whether or not they put what they learn into practice. The entire effort will be ineffective unless people who are exposed to breast cancer advertisements experience a major shift in mindset. The study's main focus is on this. Therefore, the purpose of this study was to determine how much breast cancer awareness and knowledge women in Kampala District have gained from these efforts, as well as how much they have learned about breast cancer risk factors and preventive methods.

Objectives of the Research

This study's main goal is to ascertain how breast cancer campaigns have affected women's knowledge, attitudes, and practices around breast cancer prevention, detection, and treatment in Kampala District. Consequently, the following are the study's precise goals:
1. Ascertain the degree of knowledge among women in the Kampala District regarding campaigns regarding the causes, prevention, early detection, and treatment of breast cancer.
2. Determine how much information about breast cancer campaigns is available to women in the Kampala District.
3. Determine whether women's exposure to the campaigns has improved their understanding of breast cancer risk factors, prevention, early detection, and treatment.
4. Learn how Kampala District women feel about efforts that promote early detection, prevention, and treatment of breast cancer.
5. Find out how much they use genetic testing, mammography, clinical breast examinations (CBE), and breast self-examinations (BSE) as a result of being exposed to breast cancer advertising.

Research Questions

The study's aims directly informed the following research questions:
1. How much do women in the Kampala District know about the efforts aimed at preventing, treating, early diagnosis, and preventing breast cancer?2. How much are breast cancer programs exposed to women in Kampala District?
3. Has exposure to the programs raised women's awareness of breast cancer risk factors, prevention, early detection, and treatment in Kampala District?
4. How do women in Kampala District feel about efforts aimed at preventing, early detecting, and treating breast cancer?5. As a result of being exposed to breast cancer campaigns, how much do they practice genetic testing, mammography, clinical breast examinations (CBE), and breast self-examinations (BSE)?

Study Significance

This study emphasizes the value of media experts in the academic community, health organizations, and breast cancer campaigns. It draws attention to the necessity of strong campaigns, sensible scheduling, and straightforward messaging. The study will be of interest to the Ministry of Health and other health organizations. The study addresses health communication in Uganda, with a focus on both urban and rural communities in Kampala District. It offers a scholarly setting for evaluating hypotheses for changing one's attitude and behavior. The study adds to the small body of evidence in health communication by emphasizing the need for greater focus and funding in this field.

LITERATURE REVIEW
Exposure to, and knowledge of, breast cancer awareness and education efforts.

Breast cancer's etiology is still partially unknown. Because of this, the exact etiology of breast cancer cannot be determined. Medical prognosis, however, has linked the cause to certain environmental, behavioral, and genetic factors. Thus, it can be concluded with absolute certainty that breast cancer is preventable and that you hold the power to change your life, as individual choices significantly contribute to a reduced cancer risk [11]. Recognize that cancer is preventable and that you and your family can reduce your risk of developing the disease with the help of your activities. You may take steps right now to lower your risk of developing cancer. Simple, long-term dietary and lifestyle modifications will result in

a decreased lifetime risk of cancer. People just need to know what should be done and what shouldn't be done at a certain moment when they are aware of the elements that can prevent breast cancer. For example, it has been stressed that meals high in animal protein, refined carbs, and calories and fat should be consumed in moderation. This is because they have the potential to be quite dangerous, particularly if they are not supported by energy-breaking activities. Women feel empowered now that they know this. All they have to do is eat a healthy diet and limit their fat intake. However, this control will be largely based on how they perceive the sickness, its severity, its benefits, and the obstacles that stand in the way of positive behavior. Furthermore, two investigations by Leathar and Roberts [12], carried out in 1980 and 1982, respectively, in 1985, provided a more thorough assessment on views regarding screening techniques and put older women front and center. Through focus group talks, the study determined suitable communication tactics. The findings demonstrated a lack of awareness regarding breast cancer and screening resources as well as the fact that a number of psychological and emotional problems prevented self-examination. Psychological and emotional problems, such as age, poverty, social class, and uncertainty regarding the disease's symptoms and extent, impede the awareness and treatment of breast cancer. The perception of the risk of losing a breast as a result of a late diagnosis and the fear of unfavorable results greatly impact women's attitudes about screening. Instead of concentrating on a single ailment, the study suggests that screening be done as part of a broader health screening program. It is anticipated that awareness of age as a risk factor for increased breast cancer risk will motivate women to get regular screenings and self-examinations in order to catch the disease early. Adoption of screening at an older age is more likely to be prompted by the advantages of screening as well as the risk of late detection without screening. There is a strong correlation between information, attitude, and practice; knowledge shapes attitude, and a positive attitude leads to practice.

Using BSE, CBE, Mammography, and Genetic Testing as Preventive Measures

When it comes to BSE, CBE, mammography, genetic testing, and other screening techniques, there are a lot of things to be cautious of. The following signs could indicate that breast cancer is developing: Breast thickening or lumps, dimpling or puckering, strange pain, an open sore around the nipples, rash or itching, retracted (turned in) nipples, alteration in size or shape, bloody discharge from the nipple, armpit lump or swelling, and so on [13]. Finding symptoms that are invisible to the eye and that cannot be found by just palpating the breast is the main goal of screening procedures. Mammography screening, for example, can identify breast tumors but may miss other breast disorders, such as breast fibroid and cysts. In this instance, a screening test for associated disorders through breast biopsy will be necessary. Upon detecting a lump or other anomaly in the breast using BSE or CBE, the physician will employ a variety of investigative techniques to determine the precise cause of the problem. Therefore, a woman's attitude toward detection and the screening process will determine whether she detects one or more of these signs. The early diagnosis of breast cancer by mammography and cervical cancer by cytology has proven to be the most successful advances in the fight against cancer to yet. According to a recent review conducted by a working committee of the International Agency for Research on Cancer (IARC), mammography screening may cut breast cancer mortality by 25–30% in trial settings, and a 20% reduction is doable in nationwide screening systems [13]. Cutting-needle biopsies, open biopsies, ultrasound scans, and diagnostic mammography are among the screening methods that potentially identify breast cancer. An X-ray technique called diagnostic mammography is performed to find any abnormalities in a woman's breasts. To assist them discover cancer early, it is recommended that all women get a mammogram at least once every three years. A yearly practice is recommended by other studies. The ultrasonic scan creates a highly detailed photographic image of the soft tissues. It is a tool for identifying breast masses. Additionally, gynecological investigations make extensive use of it [14]. Using the cutting-needle biopsy method, a tiny sample of tissue is taken from a lump in order to do additional research. To remove a thin core of tissue from the lump, a specialized needle is placed into it while the patient is under local anesthesia. On the other hand, an alternative to the cutting-needle biopsy is the open biopsy. To remove the entire mass for additional examination, the breast skin must be sliced open. Women over 30 who have a noticeable breast lump should definitely have it removed for additional examination [14]. Experts in genetic testing are concerned about searching for abnormalities in deoxyribonucleic acid (DNA) genes since these changes have been connected to the occurrence of hereditary breast and ovarian cancer. To restore normalcy, they recognize these alterations and administer the proper therapies. BRCA 1 and BRCA 2 normal cells aid in preventing unchecked cell

development and ensuring the stability of the cell's genetic material (DNA). [15]. These tests need a blood sample, and genetic counseling is needed both before and after the tests. Women who have BRCA1 or BRCA2 mutations may benefit from screening techniques like magnetic resonance imaging (MRI); other options include mammography, BSE, and CBE [16]. However, it has been noted that although the condition is widely known, nothing is known regarding the necessity of additional preventive or early detection techniques, such as genetic testing. Additionally, unless more than two family members have the condition, people do not realize the advantages of genetic testing. Upon examining the empirical reviews in this research, it appears that they all support one crucial finding. Although there was a noticeable increase in awareness, practice was severely restricted. This implies that if opinions are to change, ads must be deliberately targeted at igniting people's emotional nodes. It is necessary to provide due attention to the emotional variables that impede screening processes. Campaign initiatives have failed because their messaging fail to address the emotional barriers that prevent people from changing their attitudes and behaviors. Therefore, the health belief model and attitude theory which together comprise the study's theoretical framework explain how these affective elements might be addressed in order to effectuate change to a desirable degree.

METHODOLOGY
Design of Research

Survey research was deemed appropriate for this investigation. This is due to the fact that the study's design necessitates asking the audience for feedback in order to ascertain the women in Kampala District's awareness and knowledge on the causes, prevention, early detection, and treatment of breast cancer. Thus, in order to obtain data that supported the information from the questionnaire, personal interviews were appropriate. Meanwhile, a well-crafted questionnaire was utilized to gather quantitative data that addressed the prior study topics. Interviews were conducted with four people: an oncologist was the last interviewee, and the other three were female participants within the study's age range. The interview questions provided a thorough response to the research questions. From the foregoing, it follows that a research design serves as the researcher's predetermined roadmap for organizing his work in a methodical or scientific manner. It is a plan or blueprint that outlines the methodology to be employed in the collection and examination of data.

Study population

The study's population consisted of women living in the 23 local government districts of Kampala District who are fifteen years of age or older, and from which a representative sample was taken. In the three local government units of the Kampala District, there were 2,109,598 people who were at least fifteen years old [17].The following is part of the reasoning behind this choice:

1. They fall into the puberty stage, when breast development begins, and the reproductive and menopausal stages, when the disease is most likely to present.
2. They are the group that is targeted by campaigns on knowledge, attitude, and screening practices.
3. Females in that age range are more susceptible to breast cancer.

Sampling Size

The National Statistical Service (NSS) Australian Calculator was used to impute the following data, and it produced the sample size automatically. This
Confidence level = 95 percent
Proportion = 0.5
Population= 2,109,598
Confidence interval (standard error) = 0.05
Presented below is the calculation for contingency by Bertlett, Kotrlik and Higgins [18].

$$n2 = \frac{\text{Minimum sample size}}{\text{Anticipated response rate}}$$

Where anticipated return rate = 95%.
Where n2 = sample size adjusted for response rate.
Where minimum sample size = 385.
Therefore:

formula states that the calculator will determine the other variables once the values for the following ones are entered. Among the variables offered are:

Minimum sample size   385

n2 =   Anticipated response rate = 95%

n2 = 385/0.95   = 405.2632

Therefore, sample size is 405.

Techniques for Sampling

In the study, the multi-stage sampling technique was specifically used in conjunction with the probability sampling technique. This method necessitates the use of two or more approaches at every level of sampling. As a result, two main strategies were used: basic random sample approaches and cluster sampling.

Measuring Device

The questionnaire was thoughtfully created to account for the information, practice, attitude, and campaigns related to breast cancer that were the main study variables. The answers to the questionnaire were also confirmed through in-person interviews. These served as measuring tools, and the results included information about breast cancer, its causes, screening procedures as preventive measures, and access to campaigns and awareness of them.

Validity and Trustworthiness of the Tool

The anticipated outcomes agreed with earlier empirical studies. The questions were designed to provoke thought and provide objectivity in the data analysis. Responses from the in-person interview sufficiently covered points that were not well stated in the written form. To guarantee the validity of the questionnaire and interview questions, face validity techniques were employed. Prior to distribution, the project manager and a few instructors from Kampala International University's Department of Mass Communication received the instruments. This led to the implementation of a test-retest procedure in which the validated questionnaire was given to 24 participants twice at one-week intervals in a pilot research. The data acquired at each interval was compared to see whether the expected reliability rate was met.

Techniques for Gathering and Analyzing Data

Both in-person interviews and a self-administered questionnaire were created. The questionnaire replies and the interview sessions were the main methods used by the respondents to submit data. Thirteen questions in all, structured questions about screening procedures, descriptive features, awareness and understanding about breast cancer, and other topics, made up the instrument. Age, occupation, education level, and religion were among the descriptors. Selected response items, like yes/no and don't know, as well as constructed response items, were used in the questions about descriptive features and breast cancer knowledge and screening procedures. The outcomes were totaled. In order to investigate the characteristics of the population and accurately answer questions about breast cancer, early detection through screening techniques, and prevention through genetic testing and other screening methods, data were analyzed using frequency distribution tables and simple percentages in a descriptive analysis. Additionally, to assess their attitudes and behaviors regarding prevention using the clinical approaches that were previously discussed as well as additional ones like nutritional management.

Ethical Thoughts

In order to guarantee the highest level of confidentiality for both the respondent and the data they provide, the following procedures will be followed: (1) the questionnaire will be coded; (2) the respondent will be asked to sign an informed consent form; (3) the study's authors will be acknowledged within the text; and (4) the results will be presented in an overall format.

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previously discussed as well as additional ones like nutritional management.

PRESENTATION AND ANALYSIS OF DATA
Presentation and Analysis of Data

A total of 405 respondents were sampled by the researcher, who analyzed the data using tables and straightforward percentages. There were thirty-one questions in all, including structured questions about screening methods, awareness and understanding about breast cancer, and attitudes toward the disease as well as descriptive data. The information gathered from the questionnaire and interview sessions was examined using the tables that follow.

Demographic Information
Table 1: Sex Distribution

Sex Distribution	No. of Respondents	Percentage
Males	0	0%
Females	404	100%
Total	**405**	**100%**

Field survey 2021

Table 1 data reveals that 405 respondents, or 100% of the sample, were female and that there was not a single male responder. This is because girls are more likely to have the medical condition than males are.

Table 2: Occupation

Occupation	No. of Respondents	Percentage
Civil servants	81	20%
Business	58	14.3%
Students	203	50.1%
Any other	63	15.6%
Total	405	100%

Field survey 2021

Table 2 data show that 81 respondents, or 20% of the sample, were public servants, 58 respondents, or 14.3%, were businesswomen, 203 respondents, or 50.1%, were students, and 63 respondents, or 15.6%, indicated that they were job seekers. The amount of activity or involvement among women was shown by this data, along with how it can influence their decision to undergo a clinical breast examination (CBE) or perform a breast self-examination (BSE).

Table 3: Educational Qualification

Educational Qualification	No. of Respondents	Percentage
None	63	15.6%
Primary	150	37%
Diploma	60	14.8%
B.A /B.Sc.	70	17.3%
M.A./M.Sc.	62	15.3%
Total	**405**	**100%**

Field survey 2021

According to Table 3, 63 respondents, or 15.6% of the total number of respondents, have no formal education, 150 respondents, or 37%, have completed their primary education, 60 respondents, or 14.8%, have earned a diploma, 70 respondents, or 17.3%, have completed their B.A. or B.Sc., and 62

respondents, or 15.3%, have completed their second degree (M.A./M.Sc.). Since most of the respondents had some degree of educational training, this indicates that access to information on breast cancer is not hampered by lack of education. As a result, they can obtain information if desired.

Table 4: Breast cancer status

Status	No. of Respondents	Percentage
Free	405	100%
Infected	0	0%
Total	405	100%

Field survey 2021

As can be seen in table 4 above, none of the 405 respondents, or 100% of the sample, have the disease. This answer, however, is not authentically derived

from a medical diagnosis because it is dependent on the individual's perception and physical assessment.

Table 5: Age Distribution

Age distribution	No. of Respondents	Percentage
15-25	203	50.1%
26-36	70	17.3%
37-47	102	25.2%
48 and above	30	7.4%
Total	**405**	**100%**

Field survey 2021

According to this finding, 203 respondents, or 50.1% of the total, were between the ages of 15 and 25, 70 respondents, or 17.3%, were between the ages of 26 and 36, 102 respondents, or 25.2%, were between the ages of 37 and 47, and 30 respondents, or 7.4%, were between the ages of 48 and above. This age

distribution is consistent with the 15 and older target age group identified by the researcher. Individuals falling into these ranges are at a relatively increased risk of developing breast cancer during the menopause, puberty, and breast development stages.

Awareness and Knowledge about Breast Cancer
Table 6: Awareness of breast cancer campaigns

Awareness	No. of Respondents	Percentage
Yes	300	74.1%
No	45	11.1%
Not sure	60	14.8%
Total	**405**	**100%**

Field survey 2021

According to the data above, 300 respondents, or 74.1%) were aware of breast cancer sensitization

campaigns, 45 respondents, or 11.1%, said they were unaware of the campaigns, and 60 respondents, or

14.8%, said they were unsure whether there were any campaigns against breast cancer. According to this statistics, there is a comparatively high level of awareness of breast cancer campaigns.

Table 7: Exposure to breast cancer campaigns

Exposure	No. of Respondents	Percentage
Yes	250	62%
No	100	24%
Not sure	55	14%
Total	**405**	**100%**

Field survey 2021

Table 7 reveals that 250 respondents, or 62% of the sample, had been exposed to breast cancer advertising, 100 respondents, or 24% of the sample, had not been exposed, and 55 respondents, or 14% of the sample, were unsure if they had been exposed to the campaigns. According to this statistics, people are usually picky about whether or not to join in campaign programs, therefore awareness of the programs does not ensure exposure to them.

Table 8: Source of Information about Breast Cancer

Information source	No. of Respondents	Percentage
Friends/Street van shows	40	10%
Relations	62	15%
Media	223	55%
Doctors/Seminars	80	20%
Total	**405**	**100%**

Field survey 2021

The data from the above table can be shown as follows: 40 respondents, or 10% of the total sample, mentioned friends and street van shows as their sources of information about breast cancer; 62 respondents, or 15% of the sample, mentioned relatives; 223 respondents, or (55%), named print and electronic media as their sources; and 80 respondents, or 20% of the sample, mentioned medical doctors and medical seminars on the topic as their sources of information. This implies that, although being the primary sources of information, media efforts are not the only ones.

Table 9: Aim of the campaigns

Aim of the campaigns	No. of Respondents	Percentage
Early detection	70	17.3%
Prevention	155	38.3%
All of the above	180	44.4%
Total	**405**	**100%**

Field survey 2021

Table 9 reveals that 70 respondents, or 17.3%, believed that early detection was the only goal of breast cancer campaigns, 155 respondents, or 38.3%, believed that prevention was the goal, and 180 respondents, or 44.4%, believed that since campaigns were meant to achieve both prevention and early detection, they could not be separated. As can be seen from the above, some prioritized early discovery while others stressed prevention through preventable acts. Whatever the situation, the key to a successful course of treatment is still early identification.

Table 10: Knowledge about breast cancer

Knowledge about breast cancer	No. of Respondents	Percentage
A breast disease that kills	284	70%
It can be treated if detected early	61	15%
It presents as a painless lump	40	10%
It is an uncontrolled growth of cells in the breast	20	5%
Total	**405**	**100%**

Table 10 shows that 284 respondents, or 70%, are aware that breast cancer is a fatal disease; 61 respondents, or 15%, believe that it can be cured if caught early; 40 respondents, or 10%, believe that it manifests as a painless lump; and 20 respondents, or 5%, believe that it is an unchecked cell development in the breast. This suggests that there is a reasonable level of awareness of breast cancer as a medical problem.

Table 11: Treatable Stage of Breast Cancer

Treatable stage of breast cancer	No. of Respondents	Percentage
Early	284	70%
Middle	-	-
Late	-	-
Don't know	121	30%
Total	**405**	**100%**

According to the above data, 121 respondents, or 30%, do not know the stage at which breast cancer (BRCA) can be treated, whereas 284 respondents, or 70%, are aware that BRCA can only be treated at its initial or early stage. For this reason, it's critical that advertisements stress early detection in all screening processes. This is in line with data from the Lagos State Ministry of Health [14], which states that while cancer can be prevented, treatment options also vary based on the disease's stage of occurrence (invasive versus non-invasive) and the degree of bodily damage it has caused. It is impossible to overstate how deadly it can be for a patient to arrive to the hospital late. The most prevalent forms of treatment, which have been identified as medication, surgery, radiation therapy, or a combination of these, can be used to treat it if it is discovered early enough to prevent it from becoming terminal.

Table 12: Knowledge of Early Stage

Knowledge of early stage	No. of Respondents	Percentage
Shortly before symptoms become obvious	284	70%
Much later	-	-
When condition can no longer be treated	-	-
Don't know	121	30%
Total	**405**	**100%**

According to the data, 284 respondents, or 70%, are aware that breast cancer is in an early stage before symptoms manifest and should receive the proper treatment; in contrast, 121 respondents, or 30%, are unsure of whether to declare a cancer to be early or late. This report highlights how important it is for women to have more in-depth knowledge in order to protect themselves.

Table 13: Relevance of Genetic Test

Need for genetic test	No. of Respondents	Percentage
Yes	162	40%
No	81	20%
Not sure	162	40%
Total	**405**	**100%**

According to the data, 162 respondents, or 40%, stated they would undergo a genetic test, 81 respondents, or 20%, said they would not, and 162 respondents, or 40%, said they were unsure. This demonstrates the lack of understanding regarding genetic testing, which accounts for the majority of respondents' lack of interest in it. Furthermore, it is unknown whether genetic testing is available in Uganda. It is crucial to remember that a woman's risk of developing breast cancer is approximately five times higher if she has a damaging mutation in either the BRCA1 or BRCA2 Deoxyribonucleic Acid (DNA) than if she does not. Human genes BRCA1 and BRCA2 are members of the tumor suppressor gene family. Therefore, BRCA1 and BRCA2 mutations can be checked for using genetic tests (National Cancer Institute [16]).

Table 14: Knowledge of genetic factors as causative of BRCA

Knowledge of genetic factors as causative of BRCA	No. of Respondents	Percentage
Yes	162	40%
No	-	-
Not sure	243	60%
Total	**405**	**100%**

Field survey 2021

Once more, table 14 shows that 162 respondents, or 40%, knew that hereditary variables can cause BRCA, whereas 243 respondents, or 60%, were unsure. This clarifies why the majority of respondents did not think that genetic testing was necessary. For this reason, the adage "knowledge is power" is not entirely accurate.

Table 15: Dieting/Nutrition, Breast Cancer Causative Factor

Dieting/nutrition, BRCA causative factor	No. of Respondents	Percentage
Yes	365	90%
No	-	-
Not sure	40	10%
Total	**405**	**100%**

Field survey 2021

Table 15 makes it clear that 365 respondents, or 90% of the sample, answered "yes" when asked if diets are a cause of breast cancer, whereas 40 respondents, or 10% of the sample, claimed they were unsure. These results show that the causes of the illness condition are not entirely known. Medical professionals are likewise ignorant of this issue. So they just confine it to environmental and genetic factors.

Table 16: Control of Intake of Calories or Excess Fat in Diet

Control of intake of calories	No. of Respondents	Percentage
Reduced consumption of foods high in calories	90	22%
Reduced consumption of white flours	94	23%
High intake of vegetables	72	18%
Regular exercises	68	17%
Nothing	81	20%
Total	**405**	**100%**

Field survey 2021

Table 16 data shows that 90 respondents, or 22 percent, reduce their calorie intake by consuming fewer high-calorie foods, 94 respondents, or 23 percent, cut back on white flour consumption, 72 respondents, or 18 percent, consume a lot of vegetables instead, 68 respondents, or 17 percent, exercise regularly, and 81 respondents, or 20 percent, do nothing to control their calorie intake. This data demonstrates that some people will not make an attempt to embrace optimal nutritional values, even in the face of varying degrees of information and awareness regarding the health risks associated with consuming meals rich in calories. This contrasts with the health belief model, which holds that people embrace new health behaviors because they believe they will provide advantages. Perceived benefits in this case do not encourage adopting new health behaviors or changing attitudes.

Table 17: Underestimation of Risks Status

Underestimating risks status	No. of Respondents	Percentage
Yes	284	70%
No	40	10%
Not sure	81	20%
Total	**405**	**100%**

Field survey 2021

According to the above table, 284 respondents, or 70% of the sample, stated that there were persons who underestimated their risk status; 40 respondents, or 10%, responded, "No, people did not underestimate their risk status," and 81 respondents, or 20%, claimed they were unsure. It is true, nonetheless, that

people may underestimate their risk status due to their lack of understanding about the BRCA cause. Some people may not perceive themselves as threatened, despite the growing body of evidence regarding hereditary predisposition. These folks appear to have certain beliefs based on the idea that they are immune to infection.

Table 18: Over Estimation of Risks Status

Over estimating risks status	No. of Respondents	Percentage
Yes	365	90%
No	-	-
Not sure	40	10%
Total	**405**	**100%**

Field survey 2021

The aforementioned table indicates that 365 respondents, or 90% of the sample, stated that they knew of someone who overstated their risk status, whereas 40 respondents, or 10% of the sample, said they were unsure. Thus, this finding supports Sule's [19] assertion that breast cancer patients who have too much awareness experience shame, dread, anxiety, despair, and unfavorable attitudes toward self-isolation. This suggests that people will become agitated and exaggerate their risk status if they are very aware of breast cancer and the potential of vulnerability.

Table 19: Other Causes of Breast Cancer

Other causes of BRCA	No. of Respondents	Percentage
BRCA related infections (breast fibroid and cyst)	101	25%
Money or phone in the bra/exposure to radiation during breast development	41	10%
Don't know	263	65%
Total	**405**	**100%**

Field survey 2021

In this table, 101 respondents, or 25%, identified illnesses connected to BRCA as other causes of BRCA; 41 respondents, or 10%, named radiation exposure during breast development and money or phone in the bra as causes of BRCA; and 263 respondents, or 65%, indicated they were unaware of any other causes of BRCA. The World Cancer Report (2011p.8) states that a diet high in calories, high in fat, refined carbohydrates, and animal protein, along with a low level of physical activity, is linked to a number of diseases, such as diabetes, obesity, heart disease, arterial hypertension, and breast cancer. Genetics, radiation (particularly during the formation of the breast), and reproductive history have all been found to be additional causal variables.

Table 20: Symptoms of Breast Cancer

Symptoms of BRCA	No. of Respondents	Percentage
Lumps, pains, swelling	300	74%
Reddening of nipples/dimpling	40	10%
Don't know	65	16%
Total	**405**	**100%**

Field survey 2021

According to the data, 300 respondents, or 74% of the sample, are aware that BRCA manifests as lumps, aches, and swelling; 40 respondents, or 10% of the sample, said it manifests as breast dimpling and nipple reddening; and 65 respondents, or 16%, stated they were unaware of these symptoms. This suggests that not all women are aware of how BRCA manifests itself. On the other hand, the following signs could indicate breast cancer is developing.

Breast thickening or lumps, dimpling or puckering, strange pain, an open sore around the nipples, rash or itching, retracted (turned in) nipples, alteration in size or shape, bloody discharge from the nipple, armpit lump or swelling, and so on [13].

Table 21: Audience Stand on Genetic Test for Hereditary Syndrome of Breast Cancer

Stand on genetic test for hereditary syndrome of BRCA	No. of Respondents	Percentage
Yes	284	70%
No	-	-
Not sure	121	30%
Total	**405**	**100%**

Field survey 2021

According to data from table 21 above, 284 respondents, or 70%, agreed that families with a hereditary syndrome that predisposes them to BRCA should have genetic testing done, whereas 121 respondents, or 30%, said they were unsure. However, it is advisable for such families to undergo genetic testing in order to allay or lessen the worry that they are overestimating their risk status and that no female in the family is safe. It will make the risk status clear and perhaps make additional screening less necessary According to Ferrandis et al. [20], a family history of breast cancer is a clear risk factor for developing the disease," which is in line with the aforementioned. In actuality, women who have a first-degree relative who has breast cancer are two to three times more likely to get the disease, and women who have a sister and mother who have the disease are fourteen times more likely to get it than people who do not have a family history of the disease.

Table 22: Knowledge of Peak Age of Breast Cancer Presentation in Blacks

Knowledge of peak age of BRCA presentation in blacks	No. of Respondents	Percentage
Yes	100	25%
No	150	37%
Not sure	155	38%
Total	**405**	**100%**

Field survey 2021

According to the data above, 100 respondents, or 25% of the total respondents, were aware of the peak age at which BRCA presentation occurs in Black people; 150 respondents, or 37% of the respondents, were unaware of this information, and 155 respondents, or 38% of the respondents were unsure. This explains why the majority of ladies pay close attention to symptoms and are unaware of the peak times when they should anticipate BRCA manifestation. All cancers common in wealthy countries, however, seem to put Black individuals at higher risk than Whites and White people at higher risk than Asians, according to research. Compared to Caucasian women, whose breast cancer presentation peaks between the ages of 35 and 45, Ugandan women experience their peak age of presentation approximately 10-15 years earlier [13].

Table 23: Frequency of Visit to Health Centers for Clinical Breast Examination (CBE)

Frequency of CBE	No. of Respondents	Percentage
Often	50	12%
Very often	10	2%
Not often	75	19%
Not at all	270	67%
Total	**405**	**100%**

Field survey 2021

Table 23 figures clearly show that, of the respondents, 50 or 12 percent attend health centers for CBE, 10 or 2 percent visit frequently, 75 or 19% visit seldom, and 270 or 67% do not visit health centers at all. This suggests that CBE practice rates are low. According to Olweus [21], socio demographic characteristics including age, gender, place of residence, and educational attainment are linked to specific health behaviors, both favorable and bad.

Table 24: Practice of Breast Self-Examination (BSE)

Practice of BSE	No. of Respondents	Percentage
Yes	324	80%
No	81	20%
Total	**405**	**100%**

Field survey 2021

Table 24 demonstrates that 81 respondents, or 20%, did not conduct breast self-examination, whereas 324 respondents, or 80%, did. This demonstrates that even though a sizable portion of ladies did not attend health centers for CBE, they nevertheless conveniently practiced BSE. However, the World Cancer Report [13] highlights that the primary goal of screening procedures is to identify symptoms that are not apparent to the naked eye and that cannot be identified by simply palpating the breast. Mammography screening, for example, can identify breast tumors but may miss other breast disorders, such as breast fibroid and cysts. In this instance, a breast biopsy screening test will be necessary to rule out any linked conditions. The physician will then employ a number of investigative methods to reach a precise diagnosis.

Table 25: Reasons for None Practice of BSE

Reasons for none practice of BSE	No. of Respondents	Percentage
Don't believe I am susceptible to the disease	162	40%
Don't remember to examine my breast	81	20%
Do not attach importance to BSE	40	10%
Treat the issue of BRCA with levity	122	30%
Total	**405**	**100%**

Field survey 2021

Table 25 data indicates that 162 (or 40%) of the respondents did not think they were at risk for the disease, 81 (20%) did not practice BSE because they could not recall, 40 (10%) did not practice BSE because they did not think it was important, and 122 (30%) did not practice BSE because they were simply amused by the BRCA or BSE issue. This demonstrates some of the detrimental attitudes that impede BRCA campaign success. It also implies that in order to succeed, campaigns need to target these obstacles. The findings of this study are consistent with those of Salaudeen et al. [15], who found that a significant portion of the population had little interest in learning the basics of breast cancer and breast self-examination among female undergraduates in Kampala District, Uganda. According to the researchers, this mindset stemmed from their conviction that breast cancer is an uncommon illness and that it would never touch them.

Table 26: Frequency of Practice of Breast Self-Examination

Frequency of BSE	No. of Respondents	Percentage
Often	200	49%
very often	124	31%
Not often	81	20%
Total	**405**	**100%**

Field survey 2021

It is possible to infer from this data that 200 respondents, or (49%) often practice BSE, 124 respondents, or (31%), practiced it very often, and 81 respondents, or (20%), did not practice BSE frequently. This clarifies why some people, for a variety of reasons, do not consistently follow BSE practice. In their two research studies, conducted in 1980 and 1982, respectively, Leathar and Roberts [12] provided a more detailed report on attitudes toward screening practices, noting that women's indifference to consistent BSE practice may have stemmed from their perception of the disease's terminal nature rather than its early detection. Again, ladies came to the conclusion that any bump found would inevitably be malignant, thus many could not bear the notion of finding a lump. They also believed that surgery was a lethal form of treatment. Thus, the researchers determined that psychological and emotional barriers to screening methods include social class, poverty, age, inadequate information, and uncertainty regarding the nature and severity of the illness.

Table 27: What to Look Out for When Conducting BSE

Focus of BSE	No. of Respondents	Percentage
Lumps, swelling and pains	300	74%
Reddening of nipples	20	5%
Dimpling of breast/ orange-like skin texture	20	5%
Not sure	65	16%
Total	**405**	**100%**

Field survey 2012

According to this finding, 300 respondents, or 74% of the sample, searched for lumps, aches, and swelling during BSE; 20 respondents, or 5% of the sample, looked for breast dimpling and nipple reddening, respectively; and 65 respondents, or 16%, were unsure of what to watch out for. This indicates that lumps, swelling, and aches are the most common symptoms that women are aware of. As a result, very few of them are aware that BRCA presenting symptoms include reddening, dimpling, and an orange-like skin texture.

Table 28: Ideal Period for Breast Self-Examination

7-10 days AMP ideal for BSE	No. of Respondents	Percentage
Yes	305	75%
No	-	-
Not sure	100	25%
Total	**405**	**100%**

Field survey 2021

According to this table, 305 respondents, or 75% of the sample, said that they believed that 7 to 10 days following menstruation was the best time to examine their breasts. However, 100 respondents, or 25% of the sample, stated they were unsure about the best time to examine their breasts. According to field surveys, it is best to wait a few days after menstruation to be sure that women do not mistake menstrual-related aches or swelling for BRCA symptoms.

Table 29: Mammography as a Form of Early Breast Cancer Detection Technique

Stand on Mammography, as a detection technique	No. of Respondents	Percentage
Yes	290	72%
No	65	16%
Don't know	50	12%
Total	**405**	**100%**

Field survey 2021

The findings show that 290 respondents, or 72% of the sample, are aware that mammography is a type of early breast cancer detection technique; however, 65 respondents, or 16% of the sample, disagreed, and 50 respondents, or 12% of the sample, were unsure. This highlights the lack of proficiency with screening techniques as well.

Table 30: Removal of Breast Lump Altering the Risks of Breast Cancer Recurrence

Removal of lump altering BRCA risks	No. of Respondents	Percentage
Yes	284	70%
No	40	10%
Not sure	81	20%
Total	**405**	**100%**

Field survey 2021

According to the above table's figures, 284 respondents, or 70% of the sample, know that having a breast lump removed does not change one's risk of developing breast cancer. Forty respondents, or 10% of the sample, said that having a breast lump removed changes one's risk of developing BRCA, while 81 respondents, or 20% of the sample, were unsure. This further highlights how little is known about the BRCA illness condition.

45

Table 31: Dimpling, Swelling, Redness and Lumps as signs of Breast cancer

Signs of BRCA	No. of Respondents	Percentage
Yes	340	84%
No	-	-
Don't know	65	16%
Total	**405**	**100%**

Field survey 2021

According to the field survey results from table 31 above, 340 respondents, or 84% of the sample, were aware of the warning signs to look out for while palpating the breast, while 65 respondents, or 16% of the sample, were unsure.

CONCLUSION

Women in the Kampala District are aware of programs to raise awareness of breast cancer and the value of early identification and prevention. They understand that early treatment is crucial for breast cancer because it is a fatal illness. It is not well known how genetic testing works, although mammography is one possible early detection method. Although many believe that eating an improper diet is the cause of breast cancer, little is known about the symptoms, which include lumps, aches, and swelling. Few people are aware of the optimal time for a breast exam, and the peak age at which breast cancer manifests itself is unknown. Low rates of breast self-examination (CBE) are caused by misperceptions about non-susceptibility and negative attitudes about preventive care.

RECOMMENDATIONS

The study emphasizes the significance of psychological and emotional aspects in impeding the use of breast cancer screening techniques. It suggests designing campaigns to deal with these obstacles as well as the hurdles posed by unfavorable attitudes. Since the type, stage, and breadth of diagnosis determine the likelihood of a cure for breast cancer, preventive actions are essential. The World Cancer Report highlights the role that palliative care, early diagnosis, and treatment may play in cancer control. The age at which screening and mammograms are performed should be lowered by campaign organizers in order to improve hospital presentation and early detection. Early detection is key to successful treatment, especially for breast and cervical cancers. It is advised to lead a healthy lifestyle that includes regular fruit and vegetable eating, exercise, and cooperation with other non-communicable diseases. For guidance on the prevention of breast cancer and related disorders, policy makers should refer to the most recent data from the independent Expert Report on nutrition and chronic disease.

REFERENCES

1. Muhammad, A., Mada, S. B., Malami, I., Forcados, G. E., Erukainure, O. L., Sani, H., and Abubakar, I. B. (2018). Postmenopausal osteoporosis and breast cancer: The biochemical links and beneficial effects of functional foods. *Biomedicine & Pharmacotherapy*, 107, 571-582.
2. Alum, E. U., Obeagu, E. I., Ugwu, O. P. C., Orji, O. U., Adepoju, A. O., Amusa, M. O. Edwin, N. (2023). Exploring natural plant products in breast cancer management: A comprehensive review and future prospects. *International Journal of Innovative and Applied Research.* 11(12):1-9. Article DOI: 10.58538/IJIAR/2055. DOI URL: *http://dx.doi.org/10.58538/IJIAR/2055*.
3. Obeagu, E. I., Ahmed, Y. A., Obeagu, G. U., Bunu, U. O., Ugwu, O. P. C. and Alum, E. U. (2023). Biomarkers of breast cancer: Overview. *Int. J. Curr. Res. Biol. Med.* (1): 8-16. DOI:10.22192/ijcrbm.2023.08.01.002.
4. IARC Report 2010: International Agency for Research on Cancer. (2010). IARC Report 2010, p. 3. https://publications.iarc.fr/Book-And-Report-Series/Iarc-Biennial-Reports/IARC-Biennial-Report-2010-2011.
5. Aja, P. M., Agu, P. C., Ezeh, E. M., Awoke, J. N., Ogwoni, H. A., Deusdedi, T., et al. (2021). Prospect into therapeutic potentials of Moringa oleifera phytocompounds against cancer upsurge: de novo synthesis of test compounds, molecular docking, and ADMET studies. Bulletin of the National Research Centre. 45(1): 1-18. https://doi.org/10.1186/s42269-021-00554-6.
6. Alum, E. U., Famurewa, A. C., Orji, O. U., Aja, P. M., Nwite, F., Ohuche, S. E., et al. (2023). Nephroprotective effects of Datura stramonium leaves against methotrexate nephrotoxicity via attenuation of oxidative stress-mediated inflammation and apoptosis

in rats. Avicenna J Phytomed. 13(4): 377-387. doi: 10.22038/ ajp.2023.21903.

7. Akpo, E.E., Akpo, M.O., & Akhator, A. (2009). Breast Cancer Knowledge and Screening Practices Among Nigerian Medical Students. *The Internet Journal of Health, 11*.

8. Ojewusi, A. A. & Arulogun, O. S. (2016). Breast cancer knowledge and screening practices among female secondary schools teachers in an urban local government area, Ibadan, Nigeria. Journal of Public Health and Epidemiology, 8(5), 72-81.

9. UNFPA, (2010). UNFPA in Kampala District: Annual report. http://Uganda.unfpa.org/benue.html retrieved 6th May, 2012

10. MTN Foundation, (2011). MTN foundation commissions a series of state-of-the-art dialysis and mammography centers around Uganda. 28th February, 2011 - 10:18 AM http://www.mtnonline.com/mtnfoundation/content/mtn-foundation-commissions-series-state-art-dialysis-and-mammography-centres-around-UgandaRetrieved April 18th 2012

11. Adoch, W., Garimoi, C.O., Scott, S.E. *et al.* (2020). Knowledge of cervical cancer risk factors and symptoms among women in a refugee settlement: a cross-sectional study in northern Uganda. *Confl Health* **14**, 85. https://doi.org/10.1186/s13031-020-00328-3.

12. Leathar, D. S., & Roberts. M. M. (1985). Older women's attitudes towards breast disease, self-examination, and screening facilities: implications for communication. Edinburgh: Springwell House. British Medical Journal. Vol. 290; 668-670. March. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1417626/pdf/bmjcred00436-0016.pdf

13. The World Cancer Report, (2011). Global cancer rates could increase by 50% to 15 million by 2020. http://www.who.int/mediacentre/news/releases/2003/pr27/en/.

14. Lagos State Ministry of Health, (2009). Breast cancer. Lagos state: Breast Cancer Organization, p. 6. http://www.brecan.org/.

15. Salaudeen A. G., Akande T. M., Musa O. I. (2009). Knowledge and attitudes to breast cancer and breast self-examination among female undergraduates in a state in Uganda. Kampala District Uganda: University of Ilorin. European Journal of Social Sciences. 7(3).http://www.eurojournals.com/ejss_7_3_15

16. National Cancer Institute. (2009). Cancer type risk factors and possible causes, prevention detection and diagnosis. Espanol: NCI publications http://www.cancer.gov/cancertopics/factsheet/Risk/BRCA.

17. National Population Commission, (2006). Census report. UNFPA in Kampala District: Annual report. http://Uganda.unfpa.org/benue.html. Retrieved 6th May, 2012.

18. Bertlett, J. Kotrlik, J. & Higgins, C. (2001). Organisational research: Determining appropriate sample size in survey research. Information Technology, Learning and Performance Journal. 19 (1): 43-50

19. Sule, E. A. (2011). Breast cancer awareness and breast examination practices among women in a nigerdelta hospital. Delta state: Wilolud Journals, Continental J. Medical Research. 5 (1):27 – 31. http://www.wiloludjournal.com

20. Ferrandis, E. D. Andreu, Y. & Galdón, M. J. (2002). The impact of information given to patients' families: Breast cancer risk notification. Análise Psicológica. 1(20): 27-34.

21. Olwues, D. (1993). Victimization by peers: Antecedents and long term outcomes. In K. H. Rubin & J. B. Asendorf (Eds). Social withdraswal, inhibition an-d shyness. Pp.315-341.