THE PINK OCTOBER CAMPAIGN AS A TOOL FOR BREAST CANCER AWARENESS: A STUDY OF STUDENTS AT MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

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A Thesis submitted in partial fulfillment for the award of the degree of Master of Communication Studies Masinde Muliro University of Science and Technology

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DECLARATION

I declare that this thesis is my original work, and to my knowledge, it has not been submitted to any other College or University for the award of any certificate or degree.

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology a thesis entitled; "**Utilization Of The Pink October Campaign As A Tool In Breast Cancer Awareness Among Students Of Masinde Muliro University Of Science And Technology.**".

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DEDICATION

To my parents Joseph Alan Ngaira and Josephine Ngaira for their unwavering support in my academic journey.

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ABSTRACT

The Pink October Campaign is a global month-long event that is held annually to create awareness about Breast Cancer (B.C) signs and symptoms, treatability and preventive measures.B.C is the leading and most common type of Cancer affecting people of all ages and is most prevalent among women while affecting 1% of men globally.In addition, western countries such as the United States of America have a survival rate of 86% within the first 5 years due to early diagnosis stemming from awareness creation efforts while Sub-Saharan Africa has a survival rate of 40% due to late diagnosis. In Kenya, B.C is the most prevalent type of cancer accounting for 23% of all new cancer cases with 70% of these cases diagnosed in the later stages 3 and 4 when it is most difficult to treat leading to a high mortality rate of 45%.The World Health Organisation (WHO) recommends awareness creation through campaigns such as the Pink October and regular B.C screening as the primary preventive measures. This study investigated the extent to which the Pink October campaign influences breast health seeking behaviour among students of Masinde Muliro University of Science and Technology (MMUST) in Kakamega County, Kenya. This study sought to examine the knowledge levels among MMUST students regarding B.C symptoms, treatability and prevention, establish the communication channels used during the Pink October campaign that were encountered by MMUST Students and to determine the effectiveness of the Pink October campaign in influencing MMUST students to undergo voluntary screening for B.C. The study was underpinned by the Elaboration Likelihood Model theory (ELM) and the Health Belief Model (HBM). It employed the explanatory sequential research design that is both quantitative and qualitative. Data collection tools included Questionnaires that were administered to a representative sample of 400 students selected through Multi-stage cluster sampling and Proportionate stratified sampling from the target population of university students from Masinde Muliro University of Science and Technology (MMUST). Two Focus Group Discussions (FGDs) of 8 students per group selected through purposive sampling were also conducted. Secondary data was collected from relevant literature in journal publications, Pamphlets, Textbooks and the Internet. Quantitative data was analysed using descriptive statistics and was presented as frequencies, percentages and discussions while qualitative data was analysed through transcribing the responses from the FGDs, grouping them into themes and presenting them based on patterns and contrasts that emerged. Findings were presented in form of tables, charts and discussions.The study established that 89.5% of the 400 respondents and all sixteen FGD participants had heard about B.C while 3.5% had not been exposed to any B.C awareness messages. At least 7 % of the 400 respondents were convinced to undergo voluntary screening for B.C by the Pink October Campaign. These findings will be utilized by the Ministry of Health to improve the outcomes of the awareness strategies in use by focusing on the significance of B.C screening as a primary preventive measure.

ABBREVIATIONS AND ACRONYMS

B.C	Breast Cancer
BCAM	Breast Cancer Awareness Month
BCSM	Breast Cancer Social Media
BSE	Breast Self-Examination
CBCC	Capital Breast Care Centre
CBE	Clinical Breast Exam
ELM	Elaborate Likelihood Method
FGDs	Focus Group Discussions
FG-1	Focus Group One
FG -2	Focus Group two
G.B.C.I	Global Breast Cancer Initiative
P-1	Participant 1
P-2	Participant 2
P-3	Participant 3
P-4	Participant 4
P-5	Participant 5
P-6	Participant 6
P-7	Participant 7
P-8	Participant 8
LMIC	Low and Middle Income Countries
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

IARC	International Agency for Cancer Research
MMUST	Masinde Muliro University of Science and Technology
SASS	School of Arts and Social Sciences
SEDU	School of Education
SPHBST	School of Public Health, Biomedical Sciences and Technology
SPSS	Statistical Package for the Social Sciences
SSA	Sub-Saharan Africa
WHO	World Health Organisations
UICC	Union for International Cancer Control
U.S.A	United States of America
U.K	United Kingdom
VCT	Voluntary Counselling and Testing

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OPERATIONAL DEFINATION OF TERMS

Awareness: knowledge or perception of a situation, fact or breast cancer in this study.

Audience-Centered Content: Refers to information that is designed with the interests, values and understanding level of the target audience in mind to enhance comprehension and retention.

Breast Cancer: a disease that originates in the breast tissue when breast cells mutate and grow Out of control creating a mass called malignant tumor.

Breast self-examination (BSE): Examination performed by an individual to look out for Lumps, swellings and skin thickening in the breast or underarm, changes in size or shape of the breast and redness or discharge from the breast.

Breast Cancer Screening: Breast cancer screening refers to testing otherwise-healthy individuals for breast cancer in an attempt to achieve an early diagnosis.

Breast Health Seeking Behavior: Refers to the actions and decisions an individual takes to maintain breast health, detect abnormalities early and seek medical attention when necessary.

Breast-Health Status: Refers to the current condition of a woman's breast health, basing on her knowledge, screening behavior and the presence or absence of breast related diseases.

Cancer: Refers to any one of a large number of diseases characterized by the development of abnormal Cells that divide uncontrollably and have the ability to infiltrate and destroy normal body tissues.

Detection: Refers to a process of identifying, sensing or diagnosing the presence of something.

Disease Prevention: Refers to the measures or strategies aimed at avoiding, reducing the risk or minimizing the impact of a disease.

Incidence Rate: Refers to the number of new cases of a disease that occur in a specified population during a given period of time.

Mortality Rate: Refers to the number of fatalities due to a particular disease in a specified population during a given time period.

Pink washing: Refers to the commercialization of the pink ribbon campaign by corporates which are mainly driven by profits rather than a commitment to gathering evidence based information and analysis of systemic factors

Prevalence Rate: Refers to the total number of existing cases of a disease in a population at a particular point in time or over a specific period.

Preventive Health Education: Refers to the provision of information and development of skills aimed at influencing health behaviors in ways that prevent the onset of the disease.

Utilization: In this study refers to the degree to which the Pink October Campaign provides knowledge that can lead to voluntary early cancer screening and treatment.

Pink Ribbon: Refers to n International symbol of breast cancer awareness that identifies the wearer with breast cancer and expresses moral support for women with the condition. In this study, pink ribbon is used as a communication tool for encouraging University students to go for breast cancer screening during the month of October.

Pink October Campaign: Refers to the Breast cancer awareness and fundraising activities that are undertaken by governments and non-governmental entities to support breast cancer research, patients and survivors.

Primary Preventive Measure: Refers to actions taken to prevent a disease or health condition before it occurs.

Screening: Means checking for cancer cells when there are no symptoms. It may detect the cancer cells at early stages leading to a better chance of curing the cancer.

Secondary Prevention: Refers to the early detection and treatment of a disease

Slacktivism: Refers to the Practice of supporting a cause or a campaign passively through simple activities done online such as liking or sharing posts without engaging in actions or physical activities for example undergoing a medical checkup.

Symbol: Refers to a mark, character or image that represents a process, object or stands for something significant. The Symbol in this study represents breast cancer awareness communication tool.

Voluntary Screening Practices: Refers to the actions or behaviors that individuals adopt on their own initiative to get screened for a disease.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background of this study, statement of the problem, overall objective, specific objectives of the study, research questions, justification of the study, significance of study, limitation and delimitation of the study.

1.1 Background to the study

Breast and lung cancer are the most common types of cancer globally in terms of the number of new cases diagnosed annually. It is estimated that each of these 2 registers 2.1 million new cases every year as of 2018. International Agency for Research on Cancer (IARC, 2018) concluded that the rising cancer statistics point to the urgent need of focusing on efficient prevention and the implementation of early detection policies as a key factor in combating the disease (WHO, 2025: Zhou et al,2022). In addition, the WHO recommendation through the Global Breast Cancer Initiative (G.B.C.I) emphasizes on awareness creation as the primary means of managing the disease (Kanyeria 2019;Nyambane et al 2015).

Although national mammography screening programs are among the most effective ways of detecting breast cancer, the majority of breast cancer symptoms are detected by women through breast self-examination (BSE). In an effort to raise awareness about the global cancer epidemic, the Ribbon Approach in awareness creation led to the creation of 26 ribbons each representing a specific type of cancer in a bid to raise not only awareness but funds to support treatment and prevention of each cancer type. B.C is represented by the

Pink Ribbon during the annual Pink October Campaign to raise awareness, promote and encourage regular screening, offer support to victims and to raise funds for research towards a cure. The table below depicts selected ribbons from 26 ribbons each with its own specific colors each representing a particular type of Cancer, with B.C as one them (Conti et al ,2024; Bhattacharya & Bhirud, 2025).

Table 1.1:Selected Types of Cancers and Their Colors

Type of Cancer and the Color of the Ribbon			
Breast Cancer	**Pink**	Lymphoma	**Lime**
Leukemia	**Orange**	Leiomyosarcoma	**Purple**
Bladder	**Yellow**	Prostate	**Light Blue**
Colon	**Blue**	Uterine	**Peach**
Cervical cancer	**Teal & white**	Liver	**Emerald**
Brain	**Grey**	Melanoma	**Black**
Ovarian	**Teal**	Kidney	**Orange**
Melanoma	**Black**	Thyroid	**Teal/ Pink/ Blue**

Source: Conti et al, 2024

Table 1.1.Indicates selected types of Cancer and the color/colors of the ribbons used to represent them

Majority of the fatal cases predominantly occur in third world countries with the fatalities projected to triple by 2030. The growing statistics of Cancer fatalities point to the urgent need for more attention than is currently afforded especially, in Low and Middle Income Countries (LMIC) such as Kenya (WHO, 2024).

Statistically, Lung and Breast Cancer (B.C) are the most prevalent types of the disease globally accounting for 24.2% of all new cancer cases worldwide. B.C is also the most common cancer in the United Kingdom, according to the Office of National Statistics, and the second most common cause of cancer death in women, after lung cancer (ONS, 2014). It is one of the three cancers including cervical and bowel cancers that have national screening programs. Attending regular mammography screenings can potentially increase early detection to improve treatment outcomes ((IARC, 2017). As reported by the advisory committee on National Health Service Breast Screening Program (NHSBSP, 2006, 2010), regular mammography attendance is suggested to reduce breast cancer mortality rate by up to 35 per cent.

B.C is the second leading cause of death among women, but many people remain ignorant of the most basic self-inspection techniques that can help women detect the breast cancer early on, when it's most responsive to treatment. Awareness creation about the significance of regular and voluntary screening even when there are no symptoms or health complications is thus a key strategy used to manage the disease (WHO, 2024).

Public health facilities in Africa are the most affected by the rising incidence rates of Cancer. It is especially a challenge in LMIC's in which the Health sector is insufficiently

funded hence having a shortage of Cancer treatment infrastructure, neither specialists nor the ability to launch effective Cancer awareness and public sensitization programs (WHO, 2024).

Due to a lack of reliable National Cancer Registries in most LMIC's, accurate statistics are yet to be fully taken into account by governments yet majority of the world's fatality cases occur within the continent. This has been largely due to policy fueled focus and resource allocation to other diseases such as Malaria and HIV/AIDS that were in recent decades the biggest causes of death (Cumber et al, 2017).

Africa has the highest B.C mortality rate yet the continent is not the leading in terms of incidence rate when compared with Western Countries. Sub-Saharan Africa for example has a survival rate of 40% as compared to the United States which has a survival rate of 86% within the first 5 years. According to the IARC, the prevalence rates being on the rise, the implementation of early detection policies and preventive measures are key factors in combating the disease. Breast cancer in African women tends to be the aggressive triple negative sub-type which is non-responsive to commonly used therapeutic drugs. Unless medical care and screening practices are dramatically improved in Africa, breast cancer mortality rates can be expected to remain disproportionately high (Koech *et al., 2024*).

In 2012, for example Nigeria recorded an incidence of 27, 304 B.C occurrences and a mortality rate of 13,960 resulting in mortality rate of 51 %, (Omolola et al, 2017). Prevention should therefore be the primary strategy in combating the BC before the incidence rates reach or surpass the current statistics from developed countries. This will

enable prioritization in the face of limited resources as is currently the case (Azubuike, 2016; WHO, 2024).

Despite being the leading cause of death among women in Africa, it is important to note that accurate BC statistics are as yet to be obtained as most African countries especially in SSA lack National Cancer Registers that may aid in this objective. Furthermore, ignorance about the risk factors and symptoms place the women in SSA at high risk of not only developing BC but also late diagnosis in the event that they do (Cumber et al, 2017).

Information from reliable sources is vital in the quest to educate people about the characteristics of the disease as this places them in a position to identify the symptoms, causes and how best to access the treatment. As a key component used in addressing such a challenging health issue, the importance of information should not be downplayed. When individuals are armed with the relevant knowledge they are able to make informed decisions about their health and choose the best option in terms of treatment. In developing countries, it has been established that ignorance about preventive healthcare is a major contributing factor that makes individuals shy away from vaccinations and screening procedures which are among the best modes of Cancer prevention (Koech et al, 2024; Igwilo, 2013).

Kenya is among 20 African countries with the highest incidence and mortality rate of BC, which is indicative of challenges facing timely diagnosis and treatment. Over 60% of the affected are below 70 years old with statistics indicating only 1 in 10 children diagnosed with the disease survives (WHO, 2022 ; Azubuike, 2018).

BC is not necessarily a fatal disease and the probabilities of successful treatment are highest when it is detected at the early stages. Effective awareness communication on signs and symptoms will lead to early diagnosis and increase the chances of prevention and successful treatment. This can only happen when people are aware of the significance of going for screening even when they are not displaying any symptoms. Furthermore, the causes of breast cancer are still under research therefore early detection is the best method of control as it increases the probability of successful treatment (W.H.O, 2024).

1.2 Statement of the problem

Breast Cancer accounts for 23% of all cancer cases in Kenya, making it the most prevalent form of cancer with over 6000 new cases and approximately 3000 fatalities annually.(Breast Cancer screening and early diagnosis action plan report,2021; ,Sayed et al,2019). Furthermore, 70% of patients in Kenya are diagnosed in stage three and four when it's most difficult to treat due to limited knowledge about early detection, treatability and preventive practices (Kenya National Cancer Registry, 2019). The Pink October Campaign is the communication strategy used by National Governments and Health service providers in raising B.C awareness is through various communication channels such as the mass media, events and institutional activities. In Kenya public universities are an important platform for health communication campaigns because of the large population of young adults who stand to benefit from preventive health information and early screening awareness. Despite the campaigns visibility, little empirical research has examined its actual impact on university students in Kenya with regards to their knowledge levels, the communication channels through which they receive the campaign messages and the campaigns influence on voluntary screening behavior. This gap makes it difficult

to determine whether the Pink October Campaign is achieving its intended outcomes among the youth demographic. This study therefore sought to assess the Pink October Campaign as a tool for B.C awareness among students of Masinde Muliro University of Science and Technology, in Kakamega County, Kenya. The study focused on students' knowledge of B.C, the communication channels used during the campaign period and the campaign's effectiveness in influencing the uptake of voluntary screening practices.

1.3 Justification of the Study

B.C has become a major health problem concern globally due to its increasing incidence rates. The high B.C mortality rate in sub-Saharan Africa has been attributed to lack of public awareness of the disease which often lead to late diagnosis. Studies by (Ojuka et al, 2023; Gopal et al, 2016; Martha and Benford, 2012) showed that breast cancer occurs much earlier in African women reaching a peak 10 years earlier (30-40 years) in addition to being more aggressive than variants of the disease reported in western countries. Despite the visibility of the Pink October Campaign, which is an annual global initiative aimed at promoting B.C awareness and encouraging early detection through mass communication and community engagements, women in LMICs such as Kenya are dying due to lack of knowledge about its symptoms and its different early detection programs**.**. Furthermore only 12% of women undergo voluntary breast cancer screening in Kenya which reduces the chances of early detection for the remaining 88% who do not do it (Maureen et al, 2024; Kumar et al, 2023).At MMUST, awareness activities related to B.C are held annually during the Pink October period by the National government in partnership with various advocacy groups. However, it had not been clearly established how effective these efforts were in increasing students' knowledge, shaping their attitudes or influencing their

voluntary screening practices .Most studies on the Pink October Campaign had focused on the general population in rural and urban settings, leaving a gap in understanding how the campaign impacted university students who represent a critical group for preventive health education. This study was thus justified as it assessed how MMUST students received and responded to the Pink October Campaign. The findings provided valuable insights to university health departments and health communication practitioners on effective strategies for promoting B.C awareness within institutions of higher education. On the academic front, the study contributed to the existing scholarly literature on health communication, social behavior change and public health campaigns by offering empirical evidence from a Kenyan University context. In addition, the results were anticipated to inform policy formulation and practice by helping stakeholders in designing more audience-centered awareness campaigns aimed at encouraging early detection and uptake of voluntary screening.

1.4 Overall Objective

To examine the Pink October Campaign as a tool for B.C awareness among students of Masinde Muliro University of Science and Technology (MMUST) in Kakamega County, Kenya.

1.4.1 Specific Research Objectives

This study was based on the following objectives:

1 To examine the knowledge levels among MMUST students regarding B.C symptoms, treatability and preventive measures.

2 To establish the communication channels used during the Pink October Campaign through which MMUST students encountered B.C awareness information.

3 To determine the effectiveness of the Pink October campaign in influencing MMUST students to undergo voluntary screening for B.C.

1.4.2 Research Question

1. What were the knowledge levels among MMUST students regarding B.C symptoms, treatability and preventive measures?

2. Through which communication channels did MMUST students encounter B.C awareness information during the Pink October campaign?

3. How effective was the Pink October campaign in influencing MMUST students to undergo voluntary screening for B.C?

1.5 Chapter Summary

This chapter delves into the background of the study, statement of the problem, overall research objectives and specific objectives, research questions and justification of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section examined relevant studies related to the topic of research. It aimed at highlighting the researches that had been carried out on related issues, and the lessons that could be learnt. This section also investigated the factors that influenced the levels of Breast Cancer awareness among the public and awareness tools that were in use. It also included identification of critical gaps of knowledge on the topic based on past researches. The section was divided into sub-sections which were in line with the stated research objectives and the theoretical frame work of the study. Different but related studies were analysed so as to interrogate the current context of awareness creation with regards to breast cancer, this was instrumental in highlighting the key areas that needed further investigations thereby forming the basis for this study.

2.1 Breast Cancer: Signs, Symptoms and Risk Factors

B.C is a form of cancer that begin inside the milk ducts or milk producing globules causing abnormal growth of cells which then mutate into tumours that can affect the whole body ,becoming fatal if unchecked (WHO,2024). In its early stages (one and two), B.C usually has no symptoms however as the tumor develops there are a few early warning signs that are noticeable and should therefore be noted as this can save lives, most common of these signs and symptoms include an increase in size or change in shape of the breast(s), changes in the appearance of one or both nipples, nipple discharge other than breast milk, general pain in/on any part of the breast and Lumps or nodes felt on or inside of the breast.

It is therefore a disease whose symptoms can be left unattended for long periods if the affected individual is not aware of the implications. (Koech *et al., 2024*; WHO, 2024).

Risk factors that have been registered to increase or decrease the probability of developing the B.C include age, dietary habits, alcohol consumption, active and passive smoking, obesity, physical activity, hormone therapy and the levels of toxins in the environment (Loyland *et al*., 2024)

However these risk factors are associated with approximately 50% of those diagnosed. The other 50 % of those diagnosed have no identifiable B.C risk factors apart from being female. Uncertainty and lack of consensus regarding the risk factors or potential causes for B.C continues to be an issue that should be considered when communicating to the public. This essentially means that the best approach in dealing with rising B.C incidence rates is sensitizing the public about the role voluntary B.C screening plays in managing outcomes by making early detection a possibility (Loyland *et al*., 2024; WHO, 2024).

2.1.1 Breast Cancer Prevalence Rates

B.C remains the most prevalent form of cancer in women accounting for 24.2% of all new cancer cases worldwide whereas it only affects 1% of the male population leading to the misconception that it is gender specific. Furthermore 1 in every 6 Cancer deaths among women globally is attributed to B.C. In 2022, BC resulted in over 670,000 fatalities globally. However it is ranked as the 5th among the fatality causing cancer types due to the fact that in developed countries, early detection and access to treatment reduces the mortality rates (Mattos *et al*.; W.H.O, 2024).

Africa has the highest BC Mortality rate globally despite not leading in terms of the incidence rate. In addition few studies have been done in the region to establish the factors that lead to these statistics (Azubuike *et al*., 2016). These projected rates will continue rising if drastic measures are not implemented such as awareness campaigns like the Pink October which educates the public about the strategic significance of regular voluntary screening in managing the disease. B.C accounts for 23% of all diagnosed cancer cases with the majority presenting with late stages (three and four) of the disease which not only reduces chances for successful treatment but also means the mortality rate of BC patients in the country is very high (Sayed *et al*., 2019).

In Sub –Saharan Africa, it is estimated that 94,378 new B.C cases are diagnosed annually (Kantelhardt & Frie, 2016). In addition, the 5 year survival rate of B.C is less than 40% in Sub-Saharan Africa compared to Western Countries such as the U.S whose rate is at 86%. Such disparities are attributed to late diagnosis and low level of awareness in the SSA region. Majority of the population in SSA is situated in rural areas which further limit their access to the few well equipped health centres, health workers coupled with lack of finances and opposing traditional beliefs. This means the ability of governments in these regions to establish reliable national cancer registries remains a challenge (Koech *et al*., 2024; Cumber *et al*., 2017).

In contrast, approximately 80% of B.C patients in developed countries like the U.S.A survive within the first five years of diagnosis due to the awareness campaigns and availability of early detection strategies. The situation is different in LMICs such Kenya where the percentage of Kenyan women who survive the first five years after diagnosis is

at 40%.In addition the women who voluntarily undergo B.C screening is at 12% pointing to the urgent need of establishing why this is the case despite the strategies currently in place. This means 88% of women in Kenya are unaware of their breast health status with regards to B.C. This indicates the existence of a communication breakdown between the health sector and the Kenyan public despite B.C being the most prevalent form of Cancer in the country. It is a clarion call to interrogate the infrastructure surrounding how the disease is presented to the public. The Pink October Campaign as the main awareness tool in this fight is thus catapulted to the centre stage for extreme scrutiny as it is an annual month-long event with a nationwide audience. Understanding its strengths, weaknesses and limitations is therefore important in arriving at long-term solutions that can improve its reach to the remaining 88% of women who do not go for voluntary screening (Koech *et al*., 2024; Kumar *et al*., 2023).

Furthermore, data from the Kenya National Cancer Registry (2014-2019) show that 70% of B.C patients were diagnosed at stages three and four which are the most difficult to treat when compared to stages one and two. Furthermore, in 2020 B.C was the most prevalent form of cancer in Kenya with a mortality rate of 45% .These reports and statistics highlight the seriousness of B.C as both a national and global health issue. (Breast Cancer screening and early diagnosis action plan, 2021, ; Kenya National Cancer Registry, 2019).

2.1.2 Factors Influencing Breast Cancer Screening Uptake in Women

According to the WHO, cancer mortality can be reduced if cases are detected and treated early, because there is a higher chance of a cure. Knowledge about cancer, public awareness programs, and national screening initiatives will increase earlier stages of

presentation for patients. Also, cancer morbidity and mortality can be reduced and controlled by implementation of evidence-based strategies for cancer prevention, early detection of cancer, and appropriate management (Omolola *et al*., 2019).

Majority of B.C patients in Kenya present with stage three and stage four of the disease, which is associated with lower survival rates. Some of the factors that account for late presentations include lack of awareness and information about basic symptoms of B.C as well as limited access to screening services.

Research by Budakoglu *et al.* (2007) on the effectiveness of educating women about BSE in women over 40 years established that theoretical educational programs including literature can be effective in increasing its uptake. Educational programs that create breast cancer awareness have been effective in increasing health-promoting behaviors such as BSE and that following being exposed to an educational video, women's susceptibility, perceived self-efficacy of BSE and perceived benefits of mammography increased. In the absence of a cure for breast cancer, early detection is fundamental in helping to reduce breast cancer mortality (Budakoglu *et al.,* 2007).

The use of culturally familiar and relevant languages to communicate to audiences that understand and use them has proven effective in improving attitudes towards uptake of screening. In a 2013 study in Lagos by Papoola *et al.* to evaluate the effect of literacy on breast cancer diagnosis and treatment concluded that communication targeting specific audiences, languages and cultures were more effective in B.C awareness creation resulting in improved attitudes towards regular screening. This conclusion not only highlights the

importance of using relevant language but also ensuring that the content is comprehensible to the target audience (Igwilo, 2013).

Another study on the influence of Mass Media Campaigns on B.C Knowledge among Women in Enugu State established that 80.1% of respondents who were patients were aware of B.C prior to a diagnosis. The study participants however remained unaware of the significance of regular screenings or treatment. This could either mean the messages in the media campaigns were vague, incomplete or presented in a format not familiar to the audience (Eucharia, 2018).This is a common issue facing the Pink October Campaign where the contents in the awareness campaigns are simply lifted from their western sources and used in African countries without any adjustments basing on the target audience. This further alienates the recipient from the message being communicated.

A study in Western Kenya about the impact of educational intervention on B.C by Kisuya *et al.* (2018) established that the major challenges facing the fight against Cancer include limited access to information, inadequate Health Facilities from where said information about the disease can be accessed and the illiteracy levels in the rural sections of the country. The study also established that among the key factors that increase the uptake of B.C screening were mass media campaigns and community outreach programs which improved the level of knowledge in targeted populations and these approaches had the effect of increasing the uptake of B.C screening.

In addition breast health education and subsequent follow up and guidance by health workers promoting BSE has also proved to be a major contributing factor towards the

uptake of breast cancer screening among women in rural areas of Kenya (Kisuya *et al*., 2018).

In a related study by Ondimu *et al.* (2016) in Kisii South, the findings indicated that 85.4 % of respondents who had never undertaken any form of screening gave ignorance of the existence of B.C as the main reason. This means basic knowledge from trusted sources such as mass media and health workers have influence on how the uptake of B.C screening and B.C screening in general is viewed and understood by audiences. The study also established that the major contributing factors to B.C screening uptake were level of education, socio-economic status religious practices and cultural beliefs which in combination contributed positively as long as they were in support of BSE and clinical screening procedures.

A study by Sayed *et al*. (2019) on B.C knowledge, perceptions and practices in a rural Community in Coastal Kenya concluded that determining the level of B.C awareness, breast health seeking behavior and identifying possible barriers were the first steps in establishing locally relevant intervention programs.

2.1.3 Myths and Misconceptions about Breast Cancer

B.C is a disease that is usually asymptomatic until it reaches advanced levels. This characteristic has led to myths and misconceptions which have been registered as barriers to the recommended health seeking behaviour among women. B.C's global prevalence rate and high mortality rate in LMIC's such as Kenya coupled with ignorance and conflicting reports about the disease or the associated risk factors results in confusion among the general public. (Loyland, 2024)

The high prevalence rates of B.C in women compared to 1% of men who are affected, has led to the misconception that it only affects women when this not the case. Male immunity to B.C is factually incorrect and not backed by any scientific research (Newman, 2021). Another common misconception or myth about B.C is that it is hereditary and only affects menopausal women implying women with a family history of B.C and those undergoing menopause are the ones at high risk. This is not based on factual information as most new B.C patients have no common characteristics apart from gender. In addition, those affected is not limited by age as B.C especially among young women in Africa is on the rise with members of the female gender who are in their teenage years being among those diagnosed. The reason for this increase or early onset is yet to be identified (Solomon *et al*., 2023).

Another misconception is that in the absence of a lump, there is no risk of B.C yet there are forms of the disease which are non-invasive hence are undetectable by BSE. These forms of B.C can only be detected through a mammogram screening hence the need to ensure the significance of regular screening (Newman, 2021). Injuries to the breast or physical trauma by blunt objects or tight bras have also been associated with B.C as they can lead to development of irregular mass that can only be distinguished by a needle biopsy. However, there is no evidence that suggest such injuries can lead to or increase the chances of developing BC (Elshami *et al*., 2023; Newman, 2021)

Loyland *et al.* (2024) conclude that the causes of B.C are still unknown and as such, the best approach in combating the disease is regular screening and awareness about the risk factors associated with the disease.

2.2 Print Media's Coverage of Breast Cancer in Kenya.

A study investigating magazines as a source of B.C information among women in Kakamega municipality established that the reach of B.C information was limited to elite working class women who could afford or access said magazines. Furthermore the study concluded that the use of other traditional media such as local Radio stations would have a wider reach. Currently, radio not only transcends the barrier of illiteracy but also has the advantage of transmitting information in local languages understood by a majority of both Rural and urban dwellers (Mwavita,2014).

Research on BC coverage in Kenyan print media from 2013 to 2016 that focused on the Daily Nation and the Standard Newspapers established that prevention was not given sufficient coverage with focus being on already diagnosed B.C patients, secondary prevention and lastly primary prevention. This is the opposite of W.H.O recommendations which submit that primary prevention measures which includes avoiding risk factors associated with the disease and secondary prevention which involves early detection are so far the most effective measures that can improve patient outcomes (Kanyeria,2019).

2.2.1 The Role of Broadcast Media in Breast Cancer Awareness

Broadcast Media are defined as those media that communicates identical messages in a one-way route to very large mass audiences, which are assumed to be homogeneous. These include components of the mass media communications industry, such as Radio, Television and social media platforms (Hirst, 2018).

Broadcast Media campaigns usually form part of a wider health promotion program that includes a variety of other components all geared towards a common goal. These campaigns are best suited for circumstances where awareness is a core objective and wide

exposure is desired. Their primary functions are usually focused on changing attitudes, awareness creation, and increasing knowledge about a health issue in the general population (Hirst, 2018).

In Kenya, Radio still leads in terms of reach and penetration accounting for 47% of the news media audience while Television follows a close second at 41% with Newspapers accounting for only 1% of the news media audience .This, means that radio still has a wide coverage and reach in Kenya and should therefore be integral in any health promotion campaign that targets the Kenyan population (State of the media report, 2022).

In a related study by Nyambane et al (2015), investigating the influence of radio and television on creating awareness about cervical cancer, it was established that the media in question have failed to communicate any information related to disease presentation and prevention. In the few instances that they do make an attempt, the information has either been wrong or inadequately covered despite being factual. They concluded their study by highlighting the significance of accurate and comprehensible messages when the aim is to exploit the power of television and radio in influencing its audiences. This is indicative of the positive impact of broadcast media campaigns provided they are presented in the most comprehensible format (Nyambane et al, 2015).

Anastasi and Lusher (2017) submit that there is need to evaluate the contents of messages to use in mass media health intervention campaigns before they are disseminated to the public in order to assess their effectiveness. This is however not the case in practice and thus limits the extent to which health communication content can be improved, reviewed

or changed within the relevant time period should they prove to be ineffective (Anastasi and Lusher,2019).

Furthermore, the contents of B.C awareness messages in mass media have historically taken the format of commercial advertisements focussing or laying emphasis on fundraising efforts which have minimal impact in influencing behaviour change in the target audience. In addition these messages contain little to no statistical information which again reduces their impact. It is therefore important for the contents of advertising campaigns to not only bear similar themes but the message inherent shouldn't be subject to a variety interpretation as this will lead to ambiguity (Hirst,2018).

Siddhapura (2016) opines that information is readily available and accessible to the content generators in the media industry but the manner in which it is shared to the public is too biased. In most cases, the positive aspects of medical examinations are highlighted while the negative aspects are downplayed or left out. In addition, the content in mass media about B.C Contains information gaps that would not enable the target audience make informed decisions.

The best approach in addressing this challenge is through health practitioners and advocacy groups recommending alterations of the contents by the sponsors in order to have better results. This includes the use of statistics to make logical arguments and the use of loss-framed messages which have higher behavioural impact on the target audience (Kumar et al, 2023; Henize, 2013).

Ndone (2017) submits that few Kenyans are influenced by the Radio and television programs to go for screening due to the choice of content that the programs choose to

focus on. He notes that emphasis is placed on human interest stories about cancer patients and cancer survivors with little attention paid to the significance of early screening, treatment options and cost of said treatment. In addition, his study concludes television and radio stations need to increase the coverage and accuracy of the health information they disseminate to the masses as majority of Kenyans still rely on them for information (Ndone, 2017; Mwavita, 2017).

A study on the influence of Broadcast Media Campaigns on Breast Cancer Knowledge among Women in Enugu State established that 80.1% of respondents who were patients were aware of B.C prior to a diagnosis; however they remained unaware of the significance of regular screenings or treatment. This could either mean the messages in the media campaigns were vague, incomplete or presented in a format not familiar to the audience. However the effectiveness of the Mass media campaigns in terms of reach in this instance is encouraging at 80.1% of total respondents. This is indicative of the positive impact of mass media campaigns provided they are presented in the most comprehensible format (Eucharia, 2018).

In Kenya, the use of Radio to spread awareness is not fully realised despite the fact that radio is still the most widespread medium of mass communication to date. Despite the various screening events that are usually preceded by mass media campaigns, less than half of the targeted population became aware of them and this is indicative of shortcomings in how the media campaigns are conducted. The causes of these unfavourable outcomes are attributed to limited funding on BC awareness campaigns as focus by government and Non-governmental organisations in Kenya is still directed towards communicable diseases such a malaria and HIV/AIDS (Washirah,2014).

2.2.2 Social Media as an Interactive Awareness Tool

Social media is defined as the use of any web-based platform to turn communication into an interactive dialogue or social interaction (Gandamihardja et al 2023).

In Africa the younger generation; Generation x and generation z is undeniably adapting to the internet in droves, however whereas the rest of the world has an average internet penetration level of 60%,Africa registers 39.8% which results in 11.9% of the global internet users (Internet world stats,2022).

In Kenya, internet penetration is at 48% meaning the number of internet users is at 27.4 million which is almost half the population hence the need to harness the platform as a dissemination channel for nationwide awareness campaigns. In addition, as of January 2025,the number of active social media users in the country was 15.1 million representing 26.5% of the country's population. However the gender distribution remains unequal with males accounting for 59.9% while women account for 40.1% of the social media users. This figures represent an increase in internet usage by 527,000 compared to 2024,an indicator that this trend is on upward trajectory. It is therefore strategic to harness this growing platform in combination with other channels of communication as internet penetration continues to grow rapidly. The growing trends do not necessarily reflect its impact on the target audiences of nationwide campaigns as the digital landscape is diverse (TechJournal, 2025).

In addition these figures are further distributed on a variety of social media platforms i.e Facebook 57.93%,Pinterest 22.78%,Twitter 12.67%,YouTube 7.14%,Instagram 2.71%,LinkedIn 0.26%.This further limits the reach of each platform as social media users

are spread all over these sites with multiple accounts being operated by the same individual (social media stats in Kenya,2024).

The interactive nature of social media platforms allows its audience to choose content according to their needs without the pre-selection of an external authority. Not only does it encourage audience participation, it also enables the audience to become content creators. Therefore social media has the ability to cater to niche markets with the added advantage of being easily monitored by the content creators. Due to its interactive capabilities various organisations involved in B.C awareness campaigns have embraced social media platforms as conduits through which they can pass information and engage with their audiences. The common theme however remains B.C awareness albeit different aspects of the issue (Hirst, 2018).

The main challenge in using social media as an awareness tool is that it encourages slacktivism whereby the target audience is reached via posts passively. This is because exposure to B.C awareness information is not guaranteed to lead to action or behaviour change with regards to breast health seeking behaviour. It thus works best with medical professionals, patients and survivors who are already familiar with B.C (Gandamihardja et al 2023; Hill and Hayes 2015).

The following B.C awareness campaigns are conducted online for a variety of objectives as they are sponsored by different organisations. Since 2011 for example, BCSM (which stands for “Breast Cancer Social Media”) has been the go-to spot for women struggling with breast cancer to learn more about treatments for the disease and share their experiences with others in similar positions. Every Monday night at 9 p.m. the

organization hosts a Twitter chat focused on a specific topic related to breast cancer (most recently the team discussed male breast cancer), often bringing in physicians, researchers, and other experts. Anyone who wants to learn more about the disease or talk about their story can join (Katz et al, 2020).

myBCteam.com is another B.C awareness social networking site with over 50,000 members based in San Francisco, U.S.A. Launched in 2012.The site format resembles Facebook offering free membership allowing members to have accounts, post pictures, status updates strictly relating with battle against .The idea behind this organization's online campaign is to help those struggling with breast cancer or are in remission feel less alone. The site functions as an online information resource, with answers to common questions about the disease, as well as a database of medical professionals who specialize in treating B.C. Furthermore, myBCteam has created a social network where women with breast cancer can share their experiences and learn from each other (What is Mybcteam,2024; Bernier,2020).

Beyond the shock is yet another online site that provides a forum for newly diagnosed B.C patients to source for information about B.C and interact with other B.C patients and survivors.- For many people especially women, the fear of developing breast cancer is overwhelming and confusing. Beyond the Shock, created by the National Breast Cancer Foundation, is dedicated to alleviating some of that burden by providing practical information resources and the opportunity to connect to B.C survivors. Visitors to the site can post questions and get answers from other community members and share their personal stories in brief videos. Beyond the Shock, also posts educational videos about B.C on their YouTube channel bearing the same name ('Beyond the shock', 2024).

In essence, whereas social media campaigns are a viable means of communicating health messages while simultaneously tracking the resultant effects, there is the challenge of its limited reach especially in SSA and Kenya in particular. It is therefore important to understand its limitations and advantages in order to effectively apply it to the relevant audiences. In addition, basing on the objectives of the social media campaigns analysed in this study, the focus of the content is patient and survivor driven. Moral support for BC patients and survivor's prioritised alongside fundraising for research. Regular screening and BSE that should be conducted monthly to improve patient outcomes are rarely mentioned yet early detection is not only cost effective but also increases the chances for successful treatment (Katz et al, 2020).

2.2.3 The Role of Health Awareness Campaigns in Disease Prevention

Health is defined as a state of complete well-being and not merely the absence of disease or infirmity. (WHO,2024).Awareness campaigns are defined as marketing activities whose main objective is to disseminate a common message to mass audiences about a health issue or a disease with the aim of prevention and promotion of lifestyle choices that minimize the risk factors associated with the disease. The objectives of health awareness campaigns are therefore to promote or protect health and to prevent diseases in communities or among individual recipients of said information (Gomez-Mari *et al*., 2021).

Disease prevention is defined as actions or activities undertaken to keep people healthy, avoid risk of poor health, development of disease or early death. It is can be classified into 4 stages namely; primordial, primary, secondary and tertiary prevention. However the stages that are aided greatly by awareness campaigns are those targeting healthy individuals and healthy appearing individuals respectively and these are primary and

secondary prevention measures. This is because healthy or healthy appearing individuals who are unaware of their susceptibility to a disease are usually less motivated to participate in activities aimed at prevention (WHO, 2024; Kisling and Das,2023).

Primary prevention measures are described as activities targeting susceptible populations who are yet to develop a disease with the aim of decreasing risk factors, increasing immunity and when effective succeed in complete eradication of the disease. Secondary prevention refers to measures that can ensure early detection of a disease and usually takes the form of medical screenings. It targets healthy appearing individuals who may be developing a disease but it is still asymptomatic, a characteristic of B.C in its initial stages (Kisling and Das, 2023).

Health awareness campaigns which strategically run during the celebration of world days, weeks or months set aside for particular health issues are instrumental in fighting against ignorance, misconceptions and stigmatizations. This is because when executed correctly, these campaigns have been registered to improve knowledge levels of individuals and communities about various health issues leading to informed and healthier choices. When awareness levels are improved or raised via health awareness campaigns they result in better implementation of the proposed preventive strategies as recommended by public health professionals (Bugshan, et al, 2022).

Awareness of the diseases and the risk factors associated with it plays a significant role in primary prevention. This is because, adoption of preventive strategies leads to behaviour modification which then reduces mortality rates and morbidity of the targeted audience. Furthermore, awareness campaigns are designed to assist medical practitioners and

healthcare workers in making informed decisions as they discharge their duties (Bugshan, et al, 2022; Seymour, 2018).

The most effective awareness campaigns are those that resonate with the cultures of the target audience. Familiarity with the content of awareness campaigns makes it easier for the target audience to relate and embrace the information. Awareness campaigns usually target a susceptible population but have also been registered to improve the general quality of life and reduced the risk of illness or need for medical intervention in future when exposed to younger audiences. This is because when knowledge levels about an issue are increased from a young age, risk factors can then be reduced as the audience is thus empowered with information that enables them to make informed decisions regarding their health or treatment in the event of an illness (Bugshan, 2022; Seymour, 2018).

In the Kenyan context as is with most LMIC'S, the most common awareness campaigns have been those that deal with communicable diseases such as HIV/AIDS & Tuberculosis. The same levels of awareness can be anticipated if a similar effort, in terms of strategic planning and funding from both government and non-governmental organisations is geared towards B.C awareness creation as a primary preventive measure (Washirah, 2014).

2.2.4 Community Health Outreach Programs as Tools in Breast Cancer Awareness.

Community outreach programs are defined as a standard way for groups such as social service agencies, nonprofit groups, and church or other religious groups to identify a certain specific need in its community and provide services to the people who need it. Community Health Outreach Programs are thus reliant on a team of health professionals including registered nurses and community health advocates who focus on the health needs and services of a community. Their main objective is on health promotion, prevention, and

developing links to at risk sections of communities through free health screenings, education and referrals (Seymour, 2018).

In the U.S.A Washington DC ,which has the highest incidence and mortality rate of B.C has effectively established a community based outreach navigation program through the CBCC in an effort to reduce disparities in BC outcomes to populations out of reach of healthcare facilities or with few such facilities (Wallington et al,2018).

However it is also important to note that there are no particular set of principles for community outreach programs that is applicable to all situations hence the need for evidence based research in these communities to establish the most appropriate methods with which to engage at risk sections of the populations (Adams, 2007).

Sayed et al submit that the most effective way of combating the B.C is through improving knowledge levels in communities while simultaneously investigating the barriers preventing early detection and appropriate treatment at the local level. The challenges posed by lack of awareness and illiteracy can thus be countered with adult education programs in combination with the use of different innovative media communication channels to sensitize the public according to the medium they prefer or that is which most readily accessible (Sayed et al, 2019).

It is important to note that the beliefs and values of the targeted community be understood as they may greatly differ from those held by the outreach workers. It is only through such a process that these programs can formulate culturally relevant messages that reflect cultural awareness resulting in productive partnerships and interactions with community members (Sayed et al, 2019; Adams, 2007).

In addition ,the use of opinion leaders from a diverse sub-group i.e. religion, politics and culture together with community members in voluntary capacities has also been observed to create a sense of ownership of outreach programs by the targeted communities. However, such strategies in connection with raising B.C awareness or screening uptake in Kenya are yet to be realized (Nyambane et al, 2015; Adams, 2007).

2.3 Breast Cancer and Public Policy

Globally, the W.H.O spearheads the fight against B.C by the establishment of the Global Breast Cancer imitative whose main objective is to prevent 2.5 million fatalities by 2040.The realization of this objective is aided by focusing on health promotion, timely diagnosis and comprehensive treatment (MoH, 2021).

The Kenya government has also taken initiative by developing policies such as The Kenya Cancer Care policy 2019-2030 that provides a framework which aims to comprehensively address the growing cancer burden in the country by the implementation of evidence based intervention for prevention ,screening ,timely diagnosis, treatment, palliative care, financing, monitoring and research. The cancer prevention and control Act 2012, focuses on the treatment and care of cancer patients in manner that upholds human dignity. In addition, the Kenya palliative care policy (2021-2030) focuses on improving palliative care services in the country by ensuring accessibility to medical services and adequate funding for palliative care. The emphasis is clearly on patients and treatment options as opposed to preventive measures such as nationwide awareness campaigns that highlight the significance of regular voluntary screening(MoH, 2023).

The Kenya health coverage policy (2020-2030) and the Kenya health sector strategic plan (2018-2023) both focus on investing in primary health care which in the Kenyan context

refers to the county and sub-county health facilities and on measures implemented to reduce late diagnosis by decentralizing cancer management in the country. These policies are thus informed by the core values of the National cancer control strategy (2023-2027) which prioritize accessibility to health services, survivor involvement, patient centred care, and inclusivity in terms of equality in accessing treatment (MoH, 2023).

A five year Kenya public expenditure review for the health sector by the World Bank for the financial year periods from 2014/2015 until 2019/2020 revealed that in line with national government health spending patterns, county governments directed an average of 86% of their Healthcare budget towards tertiary and secondary healthcare services which includes the medical personnel leaving less than a third for primary interventions programmes. The report further recommended more resource allocation to these primary intervention programmes as they are the most efficient way to achieve better health outcomes at lower costs (World Bank, 2022).

An analysis of Kakamega County's budget for the financial year 2023/2024 by Otenyo (2023) revealed that Health Services was allocated 4.64 billion Kenyan shillings with 3.9 billion committed to recurrent expenditure and 674 million was allocated to development projects in the health department. Specified budgetary allocation for awareness creation through health promotion is largely absent highlighting not only a policy oversight but a funding challenge for the same. This is in contrast with WHO (2024), which recommends that awareness and health promotion as the primary prevention means of combating B.C before timely diagnosis or treatment.

2.4 Genesis of the Pink October Campaign

The origin of Pink October can be traced back to 1985 when former United States first lady Betty Ford, a B.C survivor launched the National Breast Cancer Awareness Month((NBCAM) in partnership with the American Cancer Society and Imperial Chemical Industries. Their objectives were to promote B.C awareness and screening for risk reduction and early detection (Kumar et al, 2023).

In1990, United States citizen and activist Charlottes Haley had several members of her family diagnosed with BC. She then decided to make peach colored ribbons and attached them to cards that raised awareness about the undermining of BC research and prevention efforts with an allocation of just 5% of the National Institute of Health Budget. In 1991, Estee Lauder magazine in partnership with Self magazine changed the color to pink for legal reasons and began a campaign of distributing pink ribbons in America and later on globally. As of 2009, they had distributed 70 million ribbons and informational brochures around the world making it one of the most recognized symbols (Kumar et al, 2023; Harvey &Strahilevitz, 2009).

According www.komen.org which is the official website for the pink October movement, the campaign is only set to grow with each year being pinker than the rest. Not only do they spread BC awareness during BCAM by use of ribbons but also by the use of pink color on various products, buildings and even lights of the said buildings. Their major objective remains raising awareness about the importance of mammography for early detection as well as fundraising for research for treatment and the cure (Pink Ribbon Story, 2024).

B.C is no longer considered a terminal illness in developed countries as the campaign has de-stigmatized it through consistent awareness creation, fundraising for research whilst offering support to patients and survivors. The impact of Pink October Campaign in reducing B.C mortality rates with early diagnosis in western countries is an indicator of significance of these campaigns at a global level (Mattos et al 2024; Kumar et al, 2023).

Pink October Campaign has evolved into a special event marked in countries across the world every month of October. It has become a global call to action that seeks to raise awareness, promote early detection and offer support to those affected by B.C while advocating increased access to screening, treatment and research funding. The event helps to increase attention and support for the awareness, early detection and treatment as well as palliative care of this disease. A variety of activities are also undertaken by national governments and advocacy groups during this period to encourage public participation in awareness creation including but not limited to; Public educational lectures ,walks, sporting events, wear pink days, and free screening campaigns in selected public health facilities and event venues such as institutions of higher learning like MMUST.(Mattos et al, 2024; 'Breast Cancer Awareness Month-Pink October',2023).

2.4.1 Global Trends in Breast Cancer Awareness Campaigns

The Pink October Campaign has had relative documented success in other parts of the world such as Brazil, whereby a 5 year study of its impact on the audience every October from 2017 to 2022 established that it resulted in an increase in the number of mammograms performed .There was also an increase in demand for mammograms by up to 39% during October, November and December after which demand decreased by up to 20% in the subsequent 9 months until the next campaign period (Antonini et al,2022).

In a related study by Luna-Abanto et al (2022) on the impact of Cancer awareness campaigns in Peru, it was established that Pink October was the most widely recognised Cancer awareness campaign. The qualitative study which was conducted over a 5 year period using Google trends also registered increased demand for screening and online interest in B.C during the months of October, November and December. Declining interest was observed from mid-January and this consistent decline continued until October when the cyclical pattern repeated itself.

In 2020 however there was a marked decline in B.C interest in online searches and also in terms of demand for screening during the month of October. This was attributed to Covid 19 pandemic and the global awareness campaigns that followed the outbreak. Luna-Abanto et al(2022) thus submit that temporary events or campaigns run over similar time periods have an effect on the overall impact on B.C awareness campaigns.

Similar results have been documented in other countries such Malaysia, United States and Finland during the Pink October campaign month. The results of these studies therefore highlight the positive influence of B.C awareness campaigns on the targeted audience. This is supported by the increase in online searches for information about B.C and the increase in demand of mammograms during the campaign period. The data from these studies document the impact of pink October on the populations of these countries during the campaign period. The data also illustrates that unrelated factors or events such the Covid 19 outbreak occurring during the campaign period can divert the audience's attention as was observed in 2020 in Peru (Antonini et al; Luna-Abanro,2022).

In the Kenyan context a pilot project carried out in Nyeri County between October and November 2019 to test the effectiveness of a screening and awareness campaign as a first step towards a national B.C screening program achieved positive results. Among the highlights was that mammography equipment utilization increased from a baseline of 11% up to 83%, a 73 % increment in uptake of voluntary screening. Prior to the study 70 % of the participants were unaware of mammography while 86% had never undergone voluntary screening for B.C. These outcomes were realized because they used multiple communication channels that included social media platforms, opinion leaders, mass media(Radio & Television),Print media(Posters-shirts ,leaflets),community health volunteers and medical personal at the event venues for face to face interactions. However the turnout was overwhelming leading to waiting periods of up to 120 minutes to access screening services. This means before a national rollout of the same program there needs to be a capacity building in terms of personnel, adequate screening equipment and a system to provide follow up services to the affected.(Mwenda et al.,2022)

Currently, the nature of the Pink October Campaign in Kenya primarily focusses on awareness creation about B.C as a disease and not the active push for screening accompanied by accessible equipment to facilitate the same at event venues. These issues if and when addressed should be able to achieve similar outcomes as those in realized globally and locally replicated during the pilot study. It is also important to note the baseline screening percentage was 11% for the study almost mirrors the current national B.C screening percentage is at 12%.The Pink October Campaign thus has the potential to achieve a much bigger impact in terms of B.C screening uptake given the right conditions.

Furthermore, it is also important to note that October is not exclusively set aside for breast cancer awareness; other diseases have similar month long campaigns during the same period such as Downs Syndrome Awareness Month, Healthy Lung Month, Liver Awareness Month, Lupus Awareness Month, National Orthodontic Health Month, National Spina Bifida Awareness Month and Rett Syndrome Awareness Month. It can therefore be argued that the significance of BC awareness campaigns can get overshadowed or its impact reduced by many other competing awareness campaigns that are run on the same time period (Luna-Abanto , 2022).

2.4.2 Criticisms of the Pink October campaign

Over the past 20 years, it has emerged that the focus has shifted from B.C awareness to Pink October visibility despite the fact that the global public remains largely unaware of the details about BC. 'Pink washing' which refers to the commercialization of the pink ribbon campaign by corporates which are mainly driven by profits rather than a commitment to gathering evidence based information and analysis of systemic factors about BC has become a common and acceptable practice (Kumar et al,2023; Sulik & Zierkiewicz,2014).

Harvey and Strahilevitz further submit that due to its popularity over the years, many business entities interested in Cause related marketing which is the linking of sales of products and services to donations for purposes of mutual benefit have preferred to use the pink ribbon and color. This is because these businesses not only register improved sales but also a more satisfied customer base that feels it is contributing to a worthy cause by the act of purchase (Greene et al, 2023; Harvey &Strahilevitz,2009)

Complaints have been raised by concerned activists about the level of inappropriateness companies lower themselves to when they use the pink ribbon or the color pink during the Pink October Campaign to boost the sales of their products. Some of these products which are packaged in pink ribbons or pink color are some of those whose consumption has been reported to increase the risk of B.C such as wheat based pastries and cakes.(Sulik and Zierkiewicz, 2014; Harvey &Strahilevitz, 2009).

The use of the Pink October Campaign as an awareness tool has further been diluted by companies out for profits that have resorted to using the color pink on their products. The use of color alone does not communicate any meaningful information about what the funds raised are used for nor is there any accompanying information about where to access evidence based information about B.C. Instead the message that is most pronounced is that the disease affects women in most cases, this in itself is an accurate awareness message though it does not elaborate any further (Kumar et al 2023; Sulik and Zierkiewicz, 2014).

The notion that B.C awareness is literally incorporated into the act of shopping is in itself very questionable if not blatantly sexist and offensive to some degree. There exists the implied meaning that B.C is a woman's issue and that women are primarily driven by materialistic desires hence the relevance of roping in a health communication message with the action of shopping to reach them. Furthermore, male patients of B.C appear abandoned to their own devices as no such strategies are employed in their favor. In this respect these campaigns run the risk of turning a global issue into a gender specific issue (Kumar et al 2023; Lerner, 2012).

In addition, using the color pink on products instead of the ribbon symbol is indicative of their aim to establish indirect association between them and B.C research and awareness. Given that the use of color is on the rise, the objectives of these companies become questionable (Sulik, 2014; Wagner, 2005).

In Kenya, the Pink October has also become the major awareness campaign for B.C. According to the late Mary Anyango (B.C Survivor) a founding member and executive director of Kenya breast health program ,the pink ribbon was worn every October in memory of those who succumbed to B.C and in solidarity with those patients who survived it.('Origin of the Pink Ribbon ',2010.)In contrast, David Mukami, the then vice chair of Kenya Cancer Association and manager for Cancer programs at the Aga Khan Hospital, insisted that the purpose of wearing the ribbon during pink October was for awareness creation with the aim of triggering women especially those above 40 years to get a screen test and a mammogram for early detection ('Origin of the Pink Ribbon ', 2010).

From the various definitions by different sources, it becomes clear that there lacks a unified narrative on the meaning of the pink ribbon, with multiple interpretations over the decades of what the core message should be. This is due to the fact that no particular charity or corporate entity owns the trademark of the Pink October leaving its implied meaning at the behest of whichever organization chooses to include it in their BC related activities and themes (Kumar et al 2023).

2.5 Theoretical Framework

Awareness campaign strategies focus on theories and models that propose different approaches in profiling the target audiences(Arkin et al, 2015). This study focused on outcome evaluation, which was achieved through examining the Utilization of the Pink

October Campaign as a tool for breast cancer awareness among University students in Kenya .Pink October was categorized as an awareness campaign addressing health issues hence the need to employ the Health Belief Model and the Elaborate Likelihood Model to aid in this research design This is because they aided in profiling and interrogating how the targeted audience interpreted and integrated the information disseminated into their daily routines for better breast- health outcomes

2.5.1 Health Belief Model (HBM)

The Health Belief Model (HBM) is a health communication theory proposed by Janz and Becker (1984), which explains how individuals rationalize the adoption of healthy behaviors or discontinue partaking in unhealthy or high risk behaviors that may lead to health issues. It posits that an individual's personal belief about the threat of developing or contracting a disease in combination with the effectiveness of the recommended or proposed preventive behaviors can be used to gauge whether the individual will adopt the recommended behavior. It further, submits that an individuals' choices about a healthy behavior is dependent upon their understanding of the personal advantages to be gained from said behavior versus the challenges preventing the adoption of said behavior(Lamorte,2022).The theory operates on six assumptions that are used to describe the factors that lead one to making beneficial and healthier choices. These assumptions are as follows; The perceived susceptibility which is the individuals own estimates of the level of risk of developing or contracting a disease ,perceived severity which focuses on the medical outcomes, and social consequences of those outcomes ,perceived benefits which would be reduction in risk of contracting a disease or the total prevention, perceived barriers which are the factors that may hinder the adoption of beneficial behaviors, Cues to action which

could take the form of symptoms of the disease or external cues which can be recommendations from medical practitioners ,media or family members and finally self-efficacy which is the individuals confidence in their ability and commitment to the adoption of the recommended healthy behavior (Nortje,2024).In this study these six assumptions were taken into consideration in the formulation of the data collection tools as they assisted in evaluating an individual's decision regarding their breast-health seeking behavior. The HBM is however criticized for being descriptive about an individual's health choices without taking into account structural barriers such as Cultural beliefs, financial implications of the recommended health choices or the level of an individual's exposure to information about a disease or unhealthy behavior (Subedi et al, 2023).In the Kenyan context such key factors such as level of exposure and financial considerations play an important role in determining which individuals get to access information about BC and also how they respond upon receiving it .It was thus important to use the HBM with other theories that can better articulate the external factors influencing the health choices arrived at by individuals.

2.5.2 Elaborate Likelihood Model (ELM)

The Elaboration Likelihood Model (ELM), a dual purpose theory proposed by Petty and Cacioppo (1986) which posits that individuals are most likely to interrogate and actively engage with information presented if it appeals not only to the direct route which is the high elaboration/ logical aspect but also to the indirect or peripheral route which could be triggered by cues to action/low elaboration. The ELM could therefore be used to tailor health messages according to the needs and concerns of the target audience and to craft content that was not only relatable but easier to comprehend. Content that was presented in

familiar packaging for example local languages and those that are culturally relevant in terms of social norms were easily embraced by the targeted audience compared to those that appear and sound foreign (Hedhli & Zourrig, 2022).

Furthermore under low Elaboration conditions, crafting messages that contain some shared identity with the targeted audience increases the retention of the content by the recipient as the subconscious mind resonates with familiar content even when the conscious mind is not actively engaged (Petty et al, 2009). This means that there was constant cyclic interaction between variables though not explicitly. The advantage the ELM has over other Health communication theories is that any of the variables could influence or persuade an individual through credibility of argument, act as a simple cue, lead to bias in message interpretation by recipients, influence confidence levels of recipients about their opinions or beliefs and impact the levels of elaboration a recipient gives said message (Petty et al, 2009).

Therefore, to examine the Pink October Campaign as a tool for B.C awareness, the content and channels used to disseminate the messages were assessed in relation to how comprehensible, relatable and accessible they appeared to the target audience of MMUST students. ELM was thus relevant to this study because it states that there are 2 routes (Central and peripheral), in any persuasive communication process and it is a combination of these that ultimately lead to a successful persuasion that can result in behaviour change. The central route focuses on cognitive processes that appeal to logic and the peripheral route which is dependent on simple cues and aesthetics, influences individuals based on subliminal factors that contain little or no substantial merit (Hedhli and Zourig, 2022).

In conclusion the ELM provided a guideline proposed by Rucker and Petty on how to assess the characteristics of the content in Health communication messages to ensure they serve the objectives intended. (Rucker, Petty, 2000). In this study, the same guidelines provided for the formulation of effective health messages were modified and used to evaluate the target audiences' reception and perception of the messages that were communicated during the annual Pink October Campaign. In this study, the ELM principles of appealing to the conscious and sub-conscious mind for maximum retention, was used to develop data collection tools that investigated awareness levels, channels through which information reached students and the resultant actions of MMUST students with regards to the B.C awareness information that MMUST students encountered during the Pink October Campaign.

Figure 2.1 below Illustrates the flow of health communication information at all stages, from the sender who is the health communicator disseminating the information to the targeted audience who are the recipients via multiple communication channels. Upon receiving the information, Petty *et al* (2009) insist that there must be a feedback mechanism for the recipients that will indicate to what extent the message was understood. Without a feedback mechanism, the sender cannot evaluate the outcomes hence creating an information gap as the process is incomplete. This study therefore provided a feedback mechanism for the recipients who were MMUST students in order to evaluate the outcomes of the Pink October Campaign.

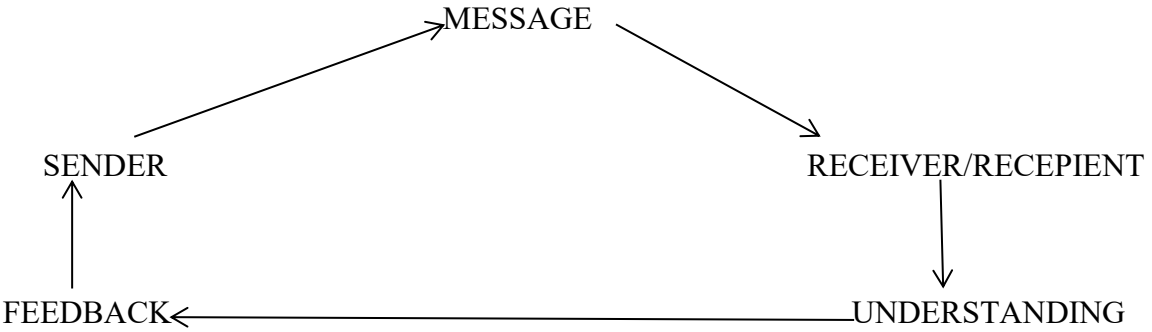

Figure 2.1 .Health Communication Process

Source: Petty et al, 2009

2.6 The Conceptual Framework

A conceptual framework illustrates how different variables and concepts within a study are interrelated and how well they merge with the research design. A conceptual framework also enables the researcher to have clarity in terms of the research objectives as it details the entire research .This is not only useful to the researcher but to those who will use it after the research is complete. It clearly defines the parameters within which to operate and highlights the significance of pursuing them (Salawu et al, 2023).In this study, the independent variable was the pink October campaign which encompasses the awareness messages and health promotion activities that are undertaken during the month of October. They include; Free B.C screening at public health facilities, Self Breast Examination, Public service announcements, Fundraising for Breast cancer research and the wearing of pink ribbons for awareness creation. The objectives of the campaign are to create awareness and stimulate uptake of screening as a primary prevention strategy.

The intervening variables were the factors that may aid or hinder the dissemination of the B.C awareness content and they included Age, gender, Language, opinion leaders,

communication channel used, cultural beliefs & traditions, religious beliefs, myths and misconceptions about B.C.

The dependent variables were the outcomes of the pink October campaign which were the levels of awareness about B.C and B.C screening uptake among university students as illutrated in figure 2.2 below.

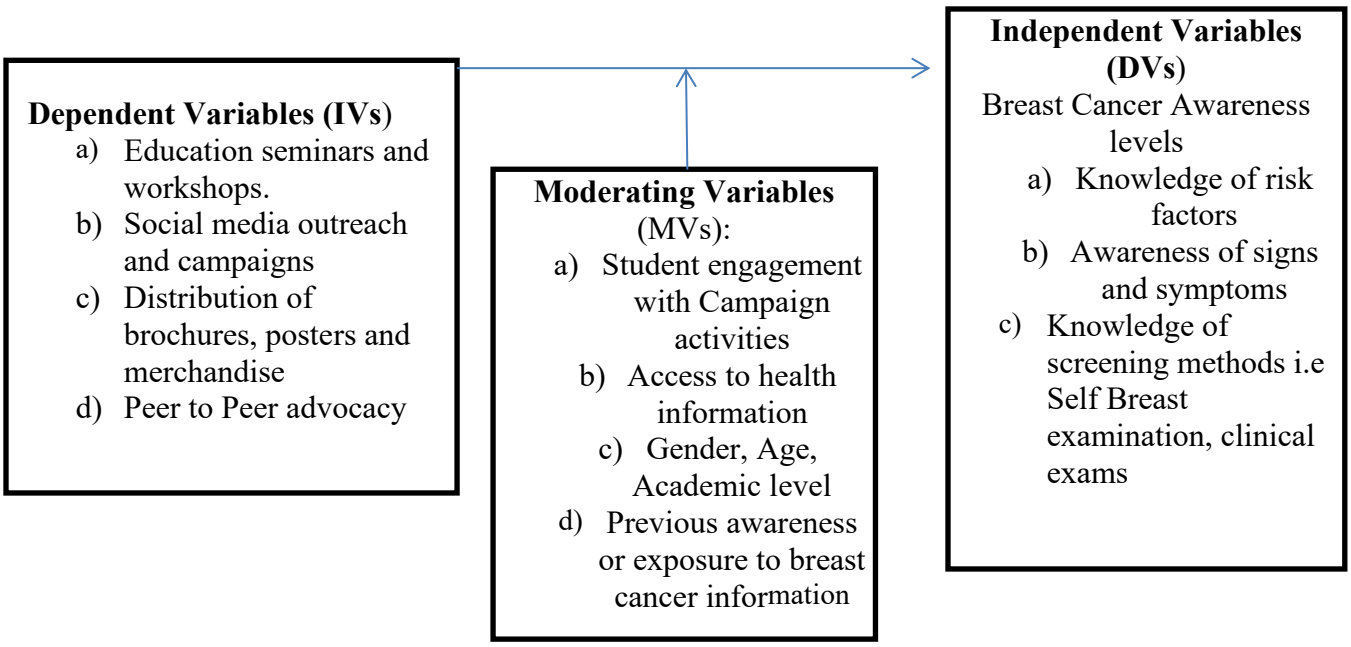

Figure 2.2:Conceptual Framework

Source: Field Survey

2.7 Research Gap

Awareness campaigns are the most significant contributors to any population's level of knowledge about issues affecting them or those that may place them at high risk. When it comes to global health issues such as B.C, awareness campaigns play a pivotal role in demystifying the illness while disseminating facts that assist at risk populations. Awareness campaigns also educate the public about primary intervention measures that aim to reduce the incidence rate of a particular illness while highlighting the risk factors associated with it.

The W.H.O recommends awareness creation as a primary prevention strategy for global health issues as it is cost effective in the long-run for governments as compared to treatment. Emphasis on risk factors, regular screening and early detection has been documented to lead to reduced incidence and mortality rates of an illness.

Related studies and researches on B.C have largely focused on statistical trends, incidence rates, mortality rates and patient/survivor experiences. Attention is thus placed on those who have already developed, survived or succumbed to the disease at the expense of those who are at risk but are still B.C free. This means the assessment of the behavior of individuals with regards to B.C and in response to B.C awareness campaigns before a B.C diagnosis was yet to be done in Kenya. This is why this study focused on examining the outcomes of the utilization of the pink October campaign as a tool in B.C awareness among MMUST students in Kakamega County, Kenya. This provided an in depth understanding of students' perceptions and practices in response to the Pink October Campaign and this will guide future researches and inform public policy where applicable.

2.8 Chapter Summary

This chapter contained the literature review basing on the set objectives. It delved into awareness levels, myths and misconceptions about B.C, Public policy as pertains to B.C in Kenya and the significance of awareness campaigns in disease prevention. The communication channels used in B.C awareness creation was also discussed. The details about the Pink October campaign in addition to the factors that influenced or hindered screening uptake were also examined. This chapter also included the HBM and the ELM theories that informed the conceptual framework of the study from an academic perspective. These theories also informed the development of the data collection tools.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter deals with the strategies that were used in this study in order to realize the set objectives. They include the research design, study population, sampling procedures, sample size, data collection tools, data analysis and ethical considerations

3.1 Research Design

Bouchrika (2024) defines research design as a description of how the researcher intends to investigate the research problem. It is a blueprint that details the methods which were employed during collection, analysis and interpretation of data. MCcombe's (2019) also defines research design as a plan or strategy that will answer a set or sets of questions (Bouchrika 2024; MCcombe's, 2019).

This study employed the Explanatory Sequential mixed method research design which relies on quantitative data taking precedence followed by qualitative sets of data. The integration of these two types of data endeavors to aid attempts to understand the meaning behind the actions and behaviors of participants in a study (Eldridge, 2024).In addition, this approach provided a holistic understanding of the topic of research by documenting trends statistically and participant perceptions descriptively. This provided a well-rounded view of the current status of the issue being investigated (Bora, 2018).

This study employed the Statistical Package for the Social Sciences version 19(SPSS version 19)for data analysis as it is a widely recognized tool for analyzing quantitative data. It was also used in analyzing qualitative data responses as the structure of the open ended sections of the questionnaire allowed for coding.

Descriptive statistics was used to analyze the quantitative data as follows: measures of frequency showing how often a response was given; Measures of central tendency showing the most commonly indicated response and using the median and mean .Results were presented in forms of discussions, tables, percentages and pie charts.

Qualitative data from the open ended responses were coded into categorical variables which were then analyzed using the same SPSS version 19 software. Manifest and latent content analysis which included; data preparation, reading and reflecting, coding and categorizing and the development of conceptual models was used in processing qualitative data into themes and patterns. These themes and patterns were furthermore used to explain correlations between variables in the quantitative data analysis (Tenny et al, 2022; Ravindran, 2019). This approach allowed for the integration of the quantitative and qualitative aspects of the study under a single analytical framework thereby enhancing consistency in the interpretation of the findings.

3.2 Study Area

In this research, the study area was Masinde Muliro University of Science and Technology located in Lurambi Constituency, Kakamega County, Kenya. Masinde Muliro University of Science and Technology is among the 30 public universities in Kenya that was established in 1972 as the Western College of Arts and Applied sciences and was upgraded to a fully accredited university in 2007.The University has approximately 16580 students and has an approximate area of 133acres/0.538 square kilometers. The students come from all parts of Kenya as it is a public institution thereby representing the face of Kenya. They also belong to the targeted audience of BC awareness campaigns which aim to sensitize

susceptible populations about preventive measures that can be employed to manage the disease.

3.3 Study Population

The study focused on undergraduate students because they represented the largest and most diverse population segment at MMUST. This provided broad and balanced insights into B.C awareness. This is because they are the main audience for campus awareness campaigns such as the Pink October. Majority being campus residents, their interaction with campaigns and related activities on campus grounds is more pronounced as compared to other segments of the student population. Their inclusion thus ensured adequate representation and consistent exposure to the campaign. In contrast, post graduate, diploma and certificate students form relatively smaller and more specialized groups which results in limited participation in campus wide activities. Focusing on undergraduates therefore ensured uniformity, comparability of responses hence higher reliability in assessing awareness levels, communication channels and screening behaviour in relation to the Pink October Campaign. The study population therefore consisted of undergraduate students of MMUST, Lurambi constituency, Kakamega County, Kenya. This population was estimated at 16,580 students, according to the records based on the data from the University's registrar's office records for the academic year 2024/2025.

3.3.1 Sample Size

Sample size refers to the number of individuals selected by the researcher to participate in a study (Creswell & Creswell, 2018). Every individual in the population under study should have equal chances of participating as a deterrent to bias or skewered results. The sample size is derived from a study area if the total population in the study area is too

large. It is therefore a subset of the entire population that is scientifically determined to be a realistic representation of the population in the study area (Gumpili and Das, 2022).

When it is not possible to study an entire population but the population is known, a smaller representative sample is taken and categorized using the proportionate stratified sampling technique. The Slovin's formula was used to establish the number of students in the sample population and calculated as follows:

Equation: N/ (1+Ne2) Stephanie (2013)

n= Sample size

N= Total population

e= Margin of Error (0.05)

Where N is 16578

$n = 16578/(1+16578\times0.05^2)$

n = 16578/41.44=399.9. Therefore, the sample size will be 400 respondents.

3.3.2 Sampling Procedure and Technique

According to Mweshi & Sakyi (2020), sampling is the process by which a researcher carefully selects through probabilistic and non-probabilistic methods a number of individual items from a larger population of interest for closer study.

For the quantitative purposes of the study, purposive sampling was used to select three out of the eleven Schools at MMUST— SEDU and SASS were chosen due to their shared characteristics as well as the large number of students pursuing undergraduate programs there. SPHBST was picked for the perceived or expected exposure of their students to health awareness campaigns.

Within these selected Schools, proportionate stratified sampling was employed to determine the specific departments to be included in the study , categorize the participants

according to their degree programs and their academic years of study. SASS had five departments (Language and Literature Education, Criminology and Social Work, Journalism and Mass Communication, Social Science Education, Geography) SEDU comprised of five departments(Curriculum Institutional Technology, Educational Foundation, Educational Planning and Management, Educational Psychology, Science and Mathematics) while SPHBST contained six departments (Medical Laboratory Sciences, Optometry and Vision Sciences, Health Promotion and Sports Science, Health Professions, Nutrition and Dietetics, Public Health), that provided a structured basis for sampling across diverse demographic contexts within MMUST.Each selected school formed a stratum and further into sub-strata according to departments and particular course being pursued by the student, proportionate sampling was then applied within each sub-strata to determine the number of respondents per course and per academic year. Questionnaires were issued according to the preselected courses to ensure representation across different academic disciplines and years of study.

Class representatives were instrumental in helping the researcher and research assistants identify and locate students after lectures. From each course, students were randomly sampled per academic year to ensure equal representation. Random selection was achieved by approaching available students in class and selecting those who consented until the desired number per course was obtained. Students who did not belong to the preselected courses and those who did not consent were thus not included in the study as they did not meet the set criteria.

This approach ensured that the sampling process was fair and representative of the wider student population at MMUST.

Table 3.1: Population in the selected Schools

School	Department	Population
SEDU	Language and Literature Education	1393
SASS	Criminology and Social Work	1600
	Journalism and Mass Communication	797
	Social Science Education	657
	Geography	560
SPHBST	Medical Laboratory Sciences	392
	Optometry and Vision Sciences	250
	Health Promotion and Sports Science	261
	Health Professions	150
	Nutrition and Dietetics	230
Grand Total		**6290**

Source: Masinde Muliro University of Science and Technology Records.

Table 3.1 displays the population of students in the selected schools.

According to the population data presented in the above table, the two most populous departments in the selected schools were as follows: in SASS, Criminology and Journalism; in SEDU, Language and Literature Education,and in SPHBST,Medical Laboratory Sciences and Health Promotion. These departments were identified based on their large population sizes within their respective Schools.

Table 3.2:Proportionate Stratified Sampling According to Departments Selected

Department	Population	%	Number of questionnaires that were distributed to each department
Criminology and Social work	1708	37.52	150
Journalism and Mass Communication	797	17.51	71
Medical Laboratory	392	8.62	35
Health Promotion and Sports Science	261	5.73	24
Language and literary Education	1393	30.62	125
Totals		**100%**	**400**

Source: Field Survey

Table 3.2 Indicates the number of questionnares that were distriuted to each department.

Table 3.3: Proportionate Stratified Sampling according to the Degree Program

Program	**Population**	**%**	**Number of questionnaires that were distributed per program**
Criminology	820	18.01	72
Social work	888	19.51	78
Journalism and Mass Communication	797	17.51	70
Medical Laboratory	392	8.62	35
Health Promotion and Sports Science	261	5.73	23
Language and literary Education	1393	30.62	122
Totals	**4551**	**100%**	**400**

Source: Field Survey

Table 3.3 indicates the number of questionnaires that were administered to the sample population according to the particular degree program being pursued by the students.

Table 3.4:Number of Questionnaires that Were Distributed to MMUST Students from S.A.S.S

Program	Year	Population	%	Number of questionnaires that were distributed according to Year of Study
Criminology	1	252	30.73	22
	2	255	31.09	23
	3	160	19.51	14
	4	153	18.65	13
Number of students in session		820	100%	72
Social work	1	176	19.81	15
	2	334	37.61	29
	3	168	18.91	15
	4	210	23.64	19
Number of students in session		888	100%	78
Journalism and Mass Communication	1	208	26.09	18
	2	267	33.51	24
	3	185	23.21	16
	4	137	17.19	12
Number of students in session		261	100%	23
Language and literary Education	1	356	25.55	3
	2	422	30.29	37
	3	351	25.19	31
	4	264	18.95	23
Total Number of students in session		1393	100%	123
		2889	**100%**	**237**

Source: Field Survey

Table 4 indicates the number of questionnaires that were distributed among 237 students from S.A.S.S.

Table 3.5:The Number of Questionnaires that Were Distributed to MMUST Students from SPHBST.

Number of students in session		797	100%	70
Medical Laboratory	1	80	24.49	9
	2	91	30.13	11
	3	65	21.52	7
	4	66	21.85	8
Number of students in session		302	100%	35
Health Promotion and Sports Science	1	66	25.28	6
	2	89	34.09	8
	3	51	19.54	4
	4	55	21.07	5
Total number of students in session		**1662**	**100%**	**163**

Source: Field survey

Table 3.5 indicating the number of questionnaires that were distributed amongst 163 MMUST students from SPHBST.

Creswell (2018) posits that purposive sampling enables the researcher to intentionally select participants who can best contribute to the understanding of the major issue under study. For the qualitative purposes of this study, FGD participants were selected using purposive sampling to include students who had been potentially exposed to the Pink October Campaign at least once and those that had potentially been exposed to the campaign at least three times or more .This approach allowed the researcher to obtain in-depth insights from individuals who had the relevant required exposure, experience and perspectives with regards to the annual Pink October Campaign. In addition, it allowed for comparisons and contrasts on knowledge levels and practices between the two groups in relation to the number of times an individual had potentially been exposed.16 individuals (eight from second year and eight individuals from fourth year) were thus selected to ensure equal representation from the two academic years that best aligned with the objectives of the study. This therefore excluded first years as they had been potentially exposed once or not at all while third years had been exposed thrice at best thereby not meeting the threshold allowing them to participate in either group. The participants were grouped into FGD-1 comprising of 8 participants (4 male 2^{nd} years and 4 female 2^{nd} years) and FGD-2 Comprising of 8 participants (4 male 4^{th} years and 4 female 4^{th} years) Totaling 16 FGD participants.

Table 3.6:Focus Group Discussion Participants Selected through Purposive Sampling

Focus Group Discussion 1(FGD-1)	**2snd year**	**Focus Group Discussion 2(FGD-2)**	**4th year**
Male	4	Male	4
Female	4	Female	4
Totals per academic year	4	Totals per academic year	4
Totals in FGD-1	8 Participants	Totals in FGD-2	8 Participants
Total FGD participants	**16 participants**		

Source: Field survey

Table 3.6 depicts the 16 FGD participants and their respective years of study.

3.4 Data Collection Tools

Data collection is the process of gathering, measuring analyzing and interpretation of different types of information from primary and secondary sources with the objective of gaining a more detailed understanding of the research topic (Taherdoost, 2021). It is one of the main stages in in a research study as it enables the researcher to investigate and find answers to his/her research questions using a set of standardized methods (Duggal, 2023). This study used the mixed method approach meaning the data collected was both qualitative and quantitative. There was thus the requirement to use tools that could adequately collect descriptive non-numerical data to answer the 'how and why' questions for qualitative purposes and those that could mathematically generate and compute numerical data using structured data collection tools for quantitative purposes in the study

(Taherdoost, 2021). Data was collected through a questionnaire survey and focus group discussions.

3.4.1 Questionnaire Survey

A questionnaire survey is a quantitative data collection method that involves the administration of a document containing closed or open ended questions relevant to a particular study to the study sample with the aim of obtaining data in the form of written responses. (Creswell & Creswell, 2022,p.155). A questionnaire survey was used in this study to gather responses from MMUST students about their knowledge levels regarding B.C symptoms, treatability and preventive measures, the communication channels through which they encountered the information and the effectiveness of the Pink October Campaign in influencing them to undergo voluntary B.C screening. The questionnaire was divided into 3 sections; A, B and C in accordance with the set objectives and research questions. Section A sought the respondents' demographic information and knowledge levels about B.C. Section B was used to establish the communication channels used during the Pink October Campaign through which respondents encountered B.C awareness messages and Section C sought to determine the effectiveness of Pink October Campaign in influencing the respondents to undergo voluntary B.C screening. The questionnaire was administered to 400 students and it included structured and semi-structured questions allowing respondents to freely express their views and honest opinions regarding the Pink October Campaign.

3.4.2 Focus Group Discussions(FGDs)

Focus group discussions are quite similar with face to face interviews with regards to the content of data collected and the context in which the data collection is done. The major difference is that the interviewer engages with multiple respondents with similar traits at

the same time. The data collected provides an in-depth understanding of why groups or groupings of individuals or respondents have shared perceptions about certain issues (Duggal, 2023; Creswell and Creswell, 2018). In this study, 2 focus group discussions for Masinde Muliro University of Science and Technology undergraduate students were conducted. The students were grouped into 2 clusters, 8 second year students in group 1 and 8 fourth year students in group 2 from the remaining Schools that were not included in the questionnaire survey. The participants were selected through Purposive sampling to ensure they had been exposed to the campaign at least once for FGD-1 group members and at least thrice for FGD-2 group members. A significant reason for selecting the participants from second and fourth years was to investigate if the number of times one was exposed to the Pink October Campaign and the time spent in the university had any bearing on an individual's knowledge levels and practices regarding B.C. The FGDs were conducted by the lead researcher.

3.5 Reliability and Validity of Research Instruments

Reliability refers to the dependability of a research instrument to give the same results if used in similar contexts indicating consistency and impartiality whereas Validity refers to levels of accuracy with which a study answers the study questions (Sullivan, 2011). To estimate the reliability of the questionnaire survey instrument and the FGD, a pilot survey involving the pre-selected research tools (questionnaire, focus group) was done using a representative sample of respondents which is a 10% representation of the sample size of 400 as per the figures arrived at for this study using the researchers guide.

The Pilot study was conducted in Maseno University on the 20th of September 2024 by the lead researcher as the institution has an almost similar population of undergraduate students as and it's also a public university like MMUST therefore representing the face of

Kenya which is the target audience of awareness campaigns like the Pink October campaign that was under study.

3.6 Data Collection Procedure

Research assistants were trained on the proper method of administering the data collection tools as per the sample size arrived at via proportionate stratified sampling methods before commencement of fieldwork. Quantitative data was collected from the 400 university students using self-administered questionnaires while the qualitative data from 16 FGD participants was collected during 2 separate discussions for FG-1 and FG-2 respectively .This resonates with suggestions by Duggal (2023) regarding data collection for a mixed study.

3.7 Data Analysis and Presentation

Data analysis is the process of collecting, cleaning and interpreting data by the use of statistical techniques. It focuses on the conversion of cluttered data into a comprehensible format thereby, transforming complex and unstructured raw data into meaningful insights that positively inform the mechanism of decision making or provide a guide to future research (Eldridge, 2024; Bhatia, 2017). This study employed the mixed method research design which relies on quantitative and qualitative sets of data. The integration of these two types of data endeavors to aid attempts to understand the meaning behind the actions and behaviors of participants in a study (Eldridge, 2024).

Quantitative Data analysis

In this study, descriptive statistics was used to analyze the quantitative data as follows: measures of frequency showing how often a response was given; Measures of central tendency showing the most commonly indicated response and using the median and mean .Results were presented in forms of discussions, tables, percentages and pie charts.

Manifest and latent content analysis which include; data preparation, reading and reflecting, coding and categorizing and the development of conceptual models were used in processing qualitative data into themes and patterns. These themes and patterns were furthermore used to explain why correlations between variables in the quantitative data analysis (Tenny et al, 2022; Ravindran, 2019).

Qualitative data analysis

In this study, the qualitative data derived from the FGDs, was analyzed by transcribing the discussions, Labelling speakers, Identifying common themes and contradictions among participants, describing findings and interpreting the meaning of the results as proposed by Creswell and Creswell (2022)using the six-phase framework.

3.8 Ethical Considerations

Ethical considerations in research refers to the parameters or principles that ensures the credibility of the research process, protects the rights and dignity of the participants but also regulates the conduct of the researcher so as not to comprise the authenticity, originality and legality of the findings (Nii Laryeafio and Ogbewe ,2023).

In accordance with the constitutional requirements for research in the republic of Kenya, a research permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI) after the approval by the institutional Scientific and Ethics review committee (MMUST-ISERC), which was then presented to the relevant MMUST and government administration offices before proceeding to the field to collect data.

This study ensured that the research participants voluntarily consented to participation and would be allowed to discontinue the process at their discretion. Research assistants also underwent training to ensure that the rights of participants were not violated as pertains to

privacy and anonymity. An individual's health information is confidential and can only be employed in research to the extent within which their identities were not exposed.I also ensured that respondents were informed that the research was intended for academic purposes (Drolet et al, 2023)

3.9 Chapter Summary

In this chapter, the strategies and tools that were used to achieve the set objectives were discussed in detail. They included the; research design, population of the study, sampling procedures, sample size, data collection tools, data analysis and ethical considerations.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.0. Introduction

This section presents the findings and discussions of the study according to the three objectives discussed, namely; To examine the knowledge levels among MMUST students regarding B.C symptoms, treatability and preventive measures, to establish the communication channels used during the Pink October Campaign through which MMUST students encountered B.C awareness messages and to determine the effectiveness of the Pink October Campaign in Influencing MMUST students to undergo voluntary screening for B.C..

The section presents findings from questionnaires issued to the sample population of 400 undergraduate students and 2 focus group discussions of 8 participants each(focus group 1(FG-1) and focus group 2(FG-2)} that were conducted to obtain insights into the knowledge levels among MMUST students regarding B.C symptoms, treatability and preventive measures, to establish the communication channels used during the Pink October Campaign through which MMUST students encountered B.C awareness messages and to determine the effectiveness of the Pink October Campaign in Influencing MMUST students to undergo voluntary screening for B.C. The discussions were based on this study's 3 objectives as stated above.

Table 4.1:Gender Variation of the Sample Population

Male	193
Female	207
Total	400

Source: Field Survey

Table 4.1 details the gender variation of the Population Sample in the study.

Table 4.2:Focus Group Discussion Demographic Information

Focus Group Discussion 1	**2nd year**	**Focus Group Discussion 2**	**4th year**
Male	4	Male	4
Female	4	Female	4
Total for FGD-1	8	Total for FGD-2	8
Overall Total	16		16

Source: Field survey

Table 4.2 depicts the demographics of the FGD participants and their number.

4.1 Respondents' Awareness Levels about B.C Symptoms, Treatability and Preventive Measures in the Sample Population

Objective 1 sought to determine the level of awareness about types of Cancer and breast cancer in particular, its signs, symptoms, stages, treatment options and preventive measures that are known to the sample population of 400 undergraduate students on whom the questionnaire was administered and the sixteen participants, (8 per group) who took part in the FGDs, selected from undergraduate students with each academic year having 4 representatives, 2 from each gender. This ensured the discussions were gender neutral. The

data was analysed and the emergent themes are presented in the form of discussions, tables, bar graphs and pie charts.

Table 4.3:Respondents' Awareness Levels about B.C Symptoms.

Respondents aware of B.C		**Is B.C Gender specific?**		**Signs and Symptoms known to respondents**		**Potential Causes of Breast Cancer**	
Yes	92.5 %	Yes	47%	I don't know	57%	I don't know	68.5%
No	7.5%	No	22.5 %	Lumps in the breast	16.75 %	Genetic History	9.5%
		I don't know	30.5 %	Change in appearance of breast	11%	Unhealthy diet and Lifestyle	5.25%
				Pain in the breast/nipple area	7.75 %	Genetic mutations	3.75%
				Discharge from the breast	3	Exposure to carcinogenic agents	3.25%
				Itchiness on the breast	2.1%	Tight Brassiere or clothing	2.5%
				Fatigue	0.75	Radiation exposure	1.5%
				Hair loss	0.75	Cause is unknown	1.5%
				Lumps discharge, Pain	0.25	Not Breast feeding naturally	1.25%
						Injury on the breast	1%
						Breast Implants	1%
						Age	1%
	100 %		**100 %**		**100 %**		**100%**

Source: Field Survey

Table 4 indicating the levels of respondents' awareness about Cancer, Breast Cancer, Gender Specificity, Symptoms and Potential Causes.

When the respondents were asked if they had heard about Breast Cancer, it was established that 92.5%, (370 out of 400) of the respondents had heard and were aware of the existence of breast cancer disease, while 7.5% (30 men out of 400 respondents) heard about breast cancer for the first time during the questionnaire interview.

Figure 4.1:The Percentage of Respondents That Were Aware of B.C and Those That Were Not Aware.

Source: Field Survey

In the FGDS, all the 16 participants had heard about the disease. The study concluded that majority of the sampled population (92.5%) and 100% of the FGD members were aware of the existence of B.C, and it is therefore important that communication experts find convincing strategies that can encourage this population to go for early screening and detection because being aware a disease exists and knowing the details about signs, symptoms, treatability and preventive measures are not necessarily guaranteed ,hence the study had to investigate further to explore the extent to which the said awareness translated to useful information.7.5% males who were not aware of the existence of breast cancer attributed their lack of knowledge to inadequate information about breast cancer as they were yet to encounter any information regarding the disease.

When the 400 respondents were asked if B.C was gender specific 47% of the sample population was aware B.C affects all genders, while 21.5% believe it only affects women with 30.5% responding that they did not know which gender was most affected.

This means that despite high awareness levels about its existence, information about the actual characteristics of the disease has managed to reach 47% of the sampled population with 53%(22.5+30.5) still unaware about its actual characteristics.

During the FGDs, six FG-1 participants responded that it only affects women while the remaining two participants were not sure about the details regarding gender specificity of B.C. Five FG-2 participants knew it affected both genders while the remaining three members (all male) responded that it only affected women. One FG-2 male participant said '*I only know of female victims of B.C from the television shows I've encountered'*

Another FG-2 male participant argued that

'If it's not gender specific why do all the posters only portray females and use the color pink?"

It was evident that more than half of the 400 respondents (53%) and nine out of 16 FGD participants did not know or had not been exposed to information that communicates the disease affects all genders as 1% of men account for all global breast cancer cases and male immunity to B.C is not backed by any scientific research (Newman, 2021).

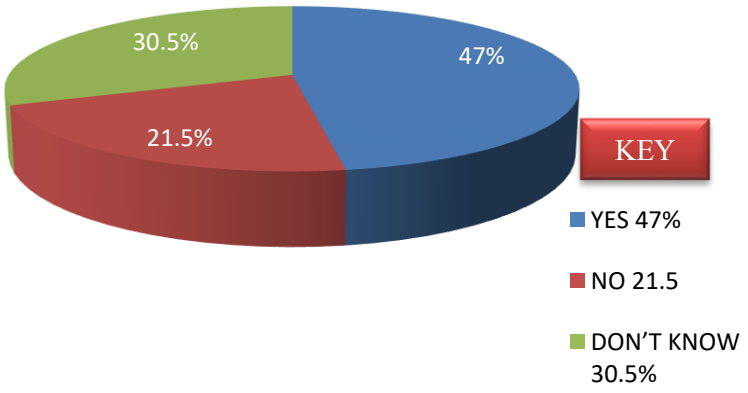

Figure 4.2:The Respondents' Knowledge about Breast Cancer and Gender Specificity.

Source: Field Survey

The findings in figure 4.4 indicates that 47% of the respondents thought breast cancer was gender specific,30.5% did not know if its gender specific and 21.5% was aware it was not gender specific

When respondents were asked to list B.C signs and symptoms they were aware about ,57% said they did not know any signs, while 16.7% listed Lumps in the breast,11.7% the change in the appearance of breasts,7.75% knew about pain in the nipple area ,3% knew of discharge from the breast ,2.1% knew of itchiness on the breast,0.75% listed fatigue ,0.75% listed hair loss while 0.25% listed Lumps in the breast, Discharge from the nipple and pain on the breast as symptoms.

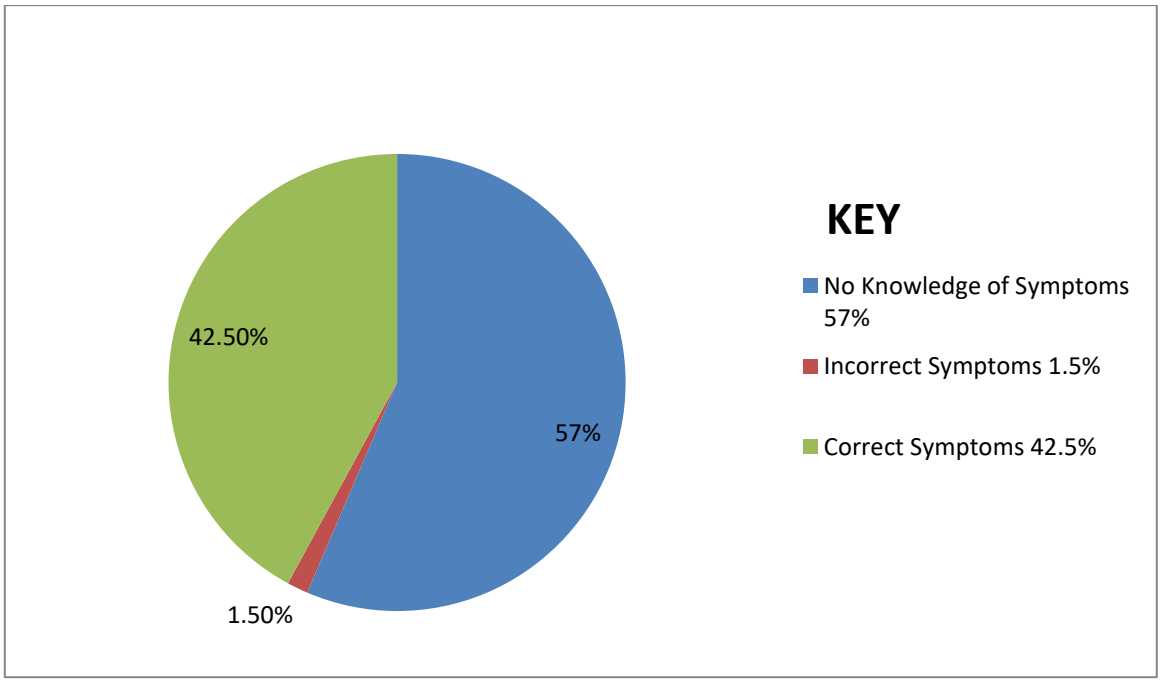

Figure 4.3:The Percentage of the Sample Population That Were Aware of B.C Symptoms, Those That Had Incorrect Information and The Majority Who Were Not Aware of Any Sign or Symptom.

Source: Field Survey

Whereas 57% said they did not know any symptoms, the 0.75% who listed hair loss and the 0.75% who listed fatigue as a symptom also do not know any symptoms as hair loss and fatigue are both side effects of treatment through radiotherapy and chemotherapy This .meant 58.5%(57+0.75+0.75) of the sampled population was unaware of B.C symptoms out which 1.5% listed the side effects of treatment procedures inaccurately as symptoms.

The same side effects were also mentioned by FG-1 members who listed Fatigue as one of the symptoms while FG-2 members included loss of weight and hair loss all 3 of which are side effects of Radio therapy and Chemotherapy alongside the actual signs such as pain in the breast, Lumps and discharge from the nipple.

Of the 42.5%(16.7%+11.7%+7.75%+3%+2.75%) who were aware of the signs and symptoms ,0.25% were the only ones who listed more than one symptom while 42.25% listed only one symptom. Similarly, FG-1 managed to list 2 correct symptoms out of 3 they mentioned while FG-2 managed to list only 1 correct symptom as a group.

'I have seen a neighbor lose weight very quickly due to breast cancer,' (FG-2 – P3)

This indicates that the level of knowledge about the signs and symptoms among the sample population of 400 respondents is below average at 42.5% .This means the content of breast cancer awareness communication should emphasize on the different signs and symptoms which include an increase in size or change in shape of the breast(s), changes in the appearance of one or both nipples, nipple discharge other than breast milk, general pain

in/on any part of the breast, itchiness/tingling sensations and Lumps or nodes felt on or inside of the breast (WHO, 2024). This is because majority of the respondents 58.5% are not aware about any of them. In addition breast cancer is asymptomatic in stage 1 and 2 when the chances of successful treatment are highest hence the significance of including regular screening as the best strategy for early detection and treatment in the awareness messages.

When the 400 respondents were asked if they were aware of the potential causes of breast cancer, it was established that 68.5% of the sample population were not aware of any potential .causes. 31.5% who had heard of potential causes listed the following : 9.5% said genetic history,5.25% said Unhealthy diet and lifestyle,3.75% Genetic mutation ,3.25% said exposure to carcinogenic agents,2.5% said Tight Brassieres and clothing,1.5% said cause remains unknown,1.5% said radiation exposure,1.5% said Not breast feeding naturally ,1% said Injury breast injury,1% said breast implants and 1% said Age (Above 40 years).

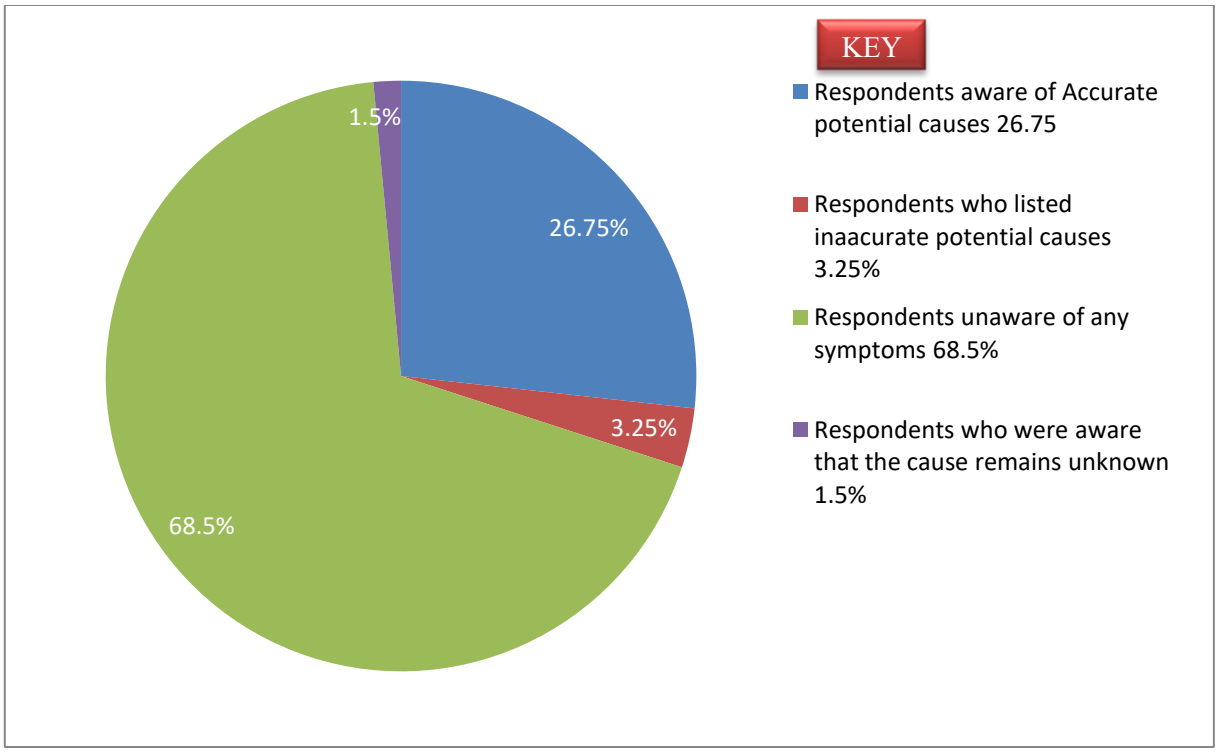

Figure 4.4: The Percentage of the 400 Respondents That Were Aware of Accurate Potential Causes of B.C, Those That Listed Inaccurate Potential Causes and Those That Did Not Know of Any Potential Causes.

Source Field

Among the potential causes listed,3.5%(tight clothing and brassieres 1.5%, Injury to the breast1% and breast implants 1%) are not backed by any medical research as potential causes.28% are among the factors listed are linked to increased chances of developing the disease and these risk factors only apply to 50% of all new cases.

B.C, among young women in Africa is on the rise with teenage members of the female gender being among those diagnosed. The reason for this increase or early onset is yet to be identified as most new B.C patients have no common characteristics apart from gender. (Solomon et al, 2023).

Furthermore, among the potential causes listed, the 1.5% who stated that the cause remains unknown are the only ones who knew the actual status of the disease as established in a

study by Loyland *et al*(2024)which concluded that potential causes of breast cancer are still under research therefore regular screening as recommended by WHO (2024), is the best method of control as it increases the probability of successful treatment due to early detection.

4.1.1 Respondents' Awareness Levels about the Treatability of Breast Cancer.

Table 4.4:Respondents' Awareness Levels about the Treatability of Breast Cancer.

Yes, it is treatable 48.3%		**No it is not treatable 22.5%**		**I don't know 29.1%**	
Reason		Reason		Reason	
Treatable if detected early	29.3%	All cases I have heard about are all fatal	18.5%	I don't know anyone who has suffered from it	12.8%
I know/ I've heard of several survivors	7.8%	I have not heard of a cure/treatment	2%	Confusing messages about the disease	10%
Surgery	4.8%	It recurs after treatment	2%	I don't have symptoms	4%
Chemotherapy and radio therapy	4.3%			It does not affect men	2.3%
Religious rituals/prayers/fasting	0.8%				
Treatable abroad in foreign countries e.g. India/U.S.A/U.K	1.3% 48.3%		22.5%		29.1%
Total	100%				

Source; Field Survey

Table 4.5 Indicates the percentage of respondents who had heard that B.C is treatable, those who said it is not treatable and those who said they did not know.

When the 400 respondents were asked if they had heard about the treatability of B.C ,the study established that 29.3% aware that it is treatable in stage one and 2 ,7.8% were aware it is treatable as they had heard of breast cancer survivors through health programs in broadcast media that highlighted survivor testimonies to encourage those battling the disease ,4.8% were aware that it is treatable through surgery,4.3% were aware of treatment via Chemotherapy and Radiotherapy,1.3% were aware of treatment abroad in countries like the United Kingdom, and the United States of America while 0.8% of the population stated it is treatable through religious rituals for example prayers and fasting.

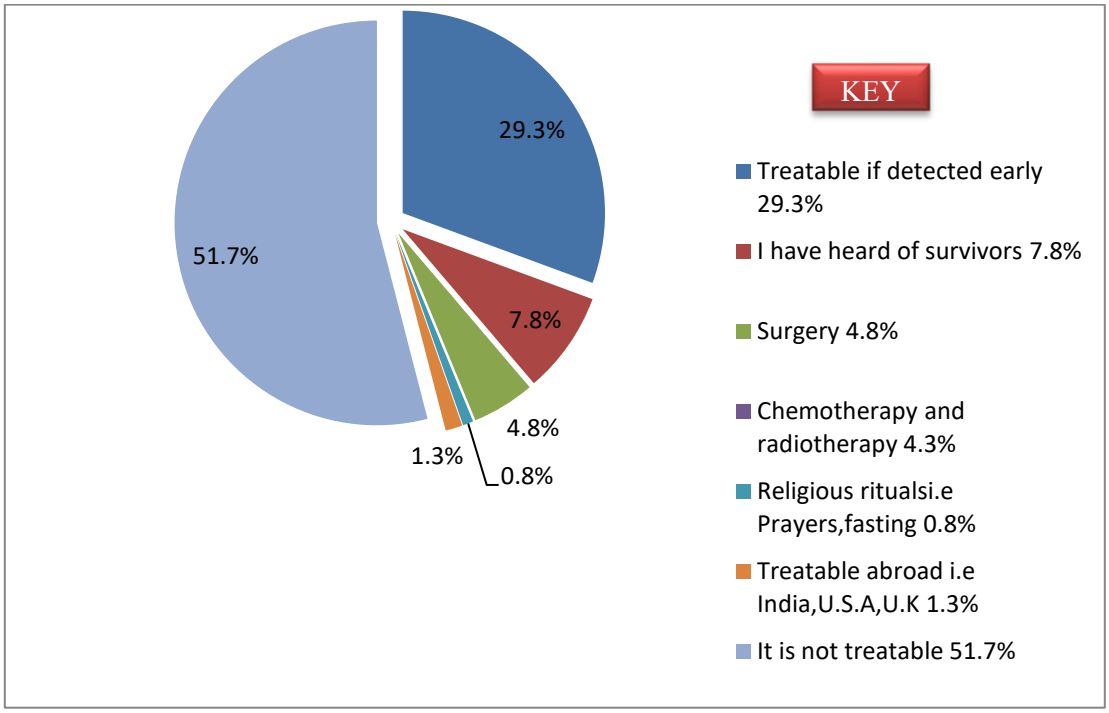

Figure 4.5 Indicating the Percentage of Respondents Who Were Aware B.C Was Treatable and the Reasons They Listed That Indicated Its Treatability.

Source: Field survey

This brings the total number of respondents who said it is treatable to 48.3% (29.3+7.8+4.8+4.3+1.3+0.8) which is below average. The accurate percentage of those who are aware of its treatability is the total 48.3% minus religious rituals (0.8%) which are not recognized as part of treatment resulting in 47.5%(190 individuals) of respondents which is below average.

In addition, B.C is no longer considered a terminal illness in developed countries as the awareness campaigns have de-stigmatized it through consistent awareness creation, fundraising for research whilst offering support to patients and survivors.(Mattos et al 2024; Kumar et al, 2023) This perception of treatability abroad ties in with the high survival rates of breast cancer patients in western countries despite them having some of the highest incidence rates like the U.S.A which has a survival rate of 86%(Koech et al, 2024)

However, it is important to note that the survival rate is not based on geographical location but rather early detection and accessibility to the relevant treatment facilities therefore communication experts should ensure that the stages when it is most treatable and the locations of these facilities are included in awareness creation messages.

The mortality rate in third world countries like Kenya is very high due to late diagnosis despite lower incidence rate with data from the Kenya National Cancer Registry (2014-2019) showing that 70% of B.C patients were diagnosed at stages three and four which are the most difficult to treat when compared to stages one and two.

Furthermore, in 2020 B.C was the most prevalent form of cancer in Kenya with a mortality rate of 45% .These reports and statistics have an impact on the recipients'

perception of treatability. (Breast Cancer screening and early diagnosis action plan, 2021, Kenya National Cancer Registry, 2019).

Among the respondents who did not believe it was treatable, 12.5% had only heard of fatal cases which resonates with the choice of content about breast cancer statistics and incidence rates that have historically gotten more media coverage, 2% had never heard of any treatment options or a cure and another 2% were aware that it recurs after treatment, however this tends to occur in later stages 3 and 4 when the disease is advanced most difficult to treat. This brings the total of respondents who responded that breast cancer was not treatable to 22.5 %(18.5+2+2). This represents 90 individuals who had various reasons that led them to those conclusions. However it is important to note that treatability is dependent upon the stage at which the diagnosis is made.

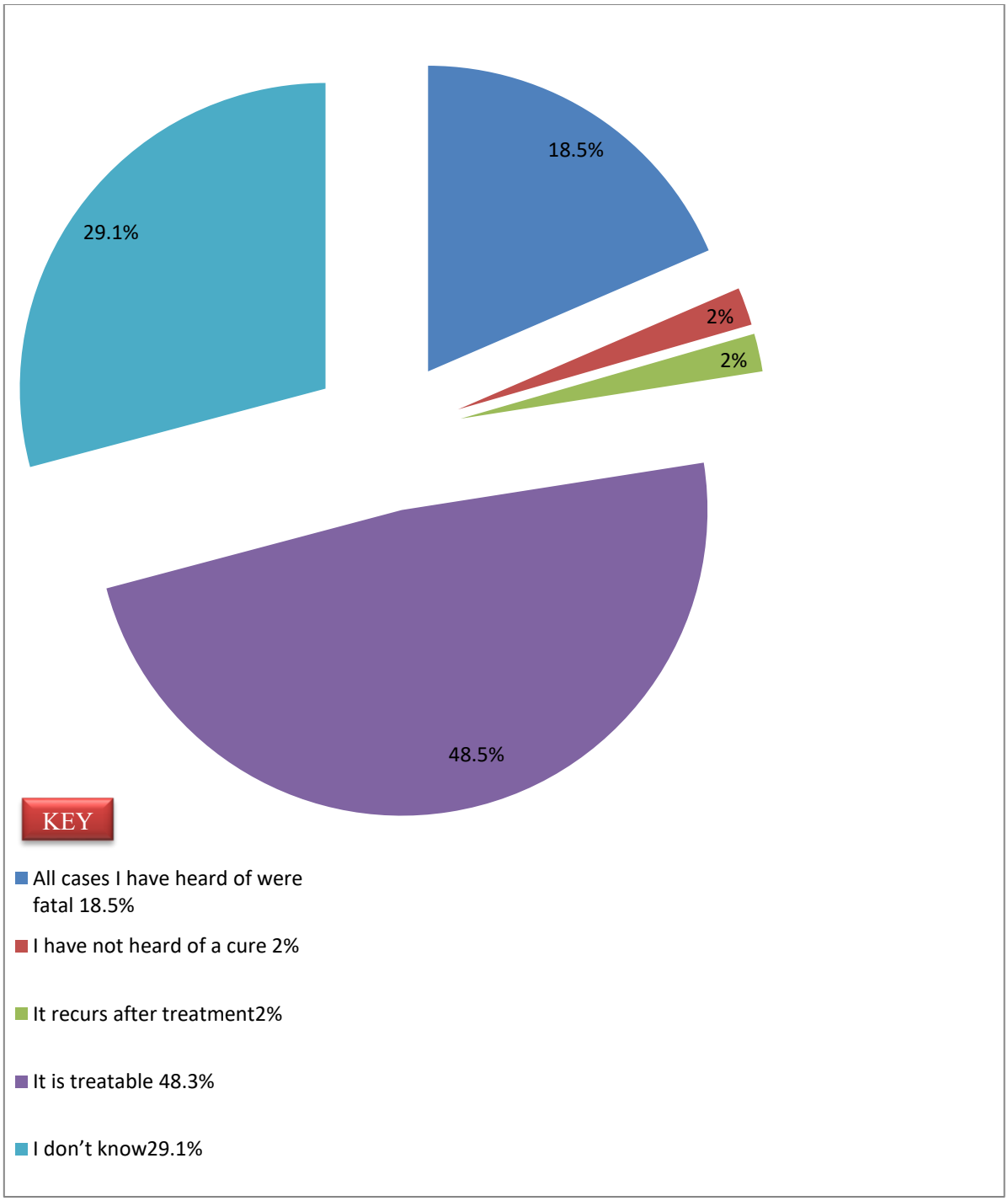

Figure 4.6: The Percentage of the 400 Respondents That Did Not Believe B.C Was Treatable and Their Reasons, Those Who Were Aware It Was Treatable and Those Who Did Not Know.

Source: Field Survey

Among the respondents who did not know if it was treatable or not treatable, 12.8% had not interacted or heard of anyone who had suffered from the disease, 10% had heard confusing messages about the disease hence the uncertainty, 4% did not know about its treatability as they did not have symptoms' while another 2.3% of males did not know about it as they believed it didn't affect them as males. This brings the total of those who do not know about its treatability to 29.1 %(12.8+10+4+2.3).

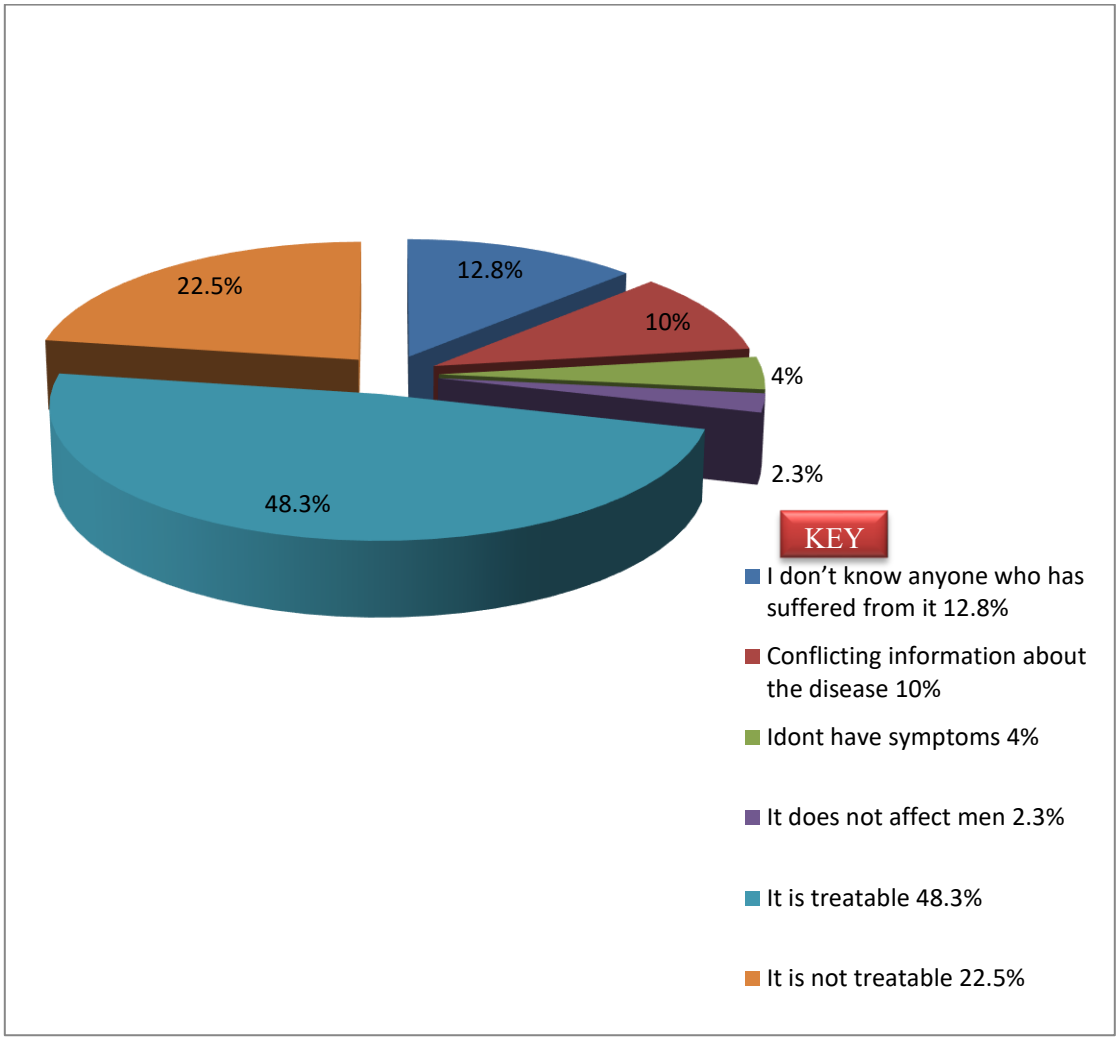

Figure 4.7: The Percentage of Respondents That Were Not Sure About the Treatability of B.C and the Reasons They Listed, Those That Were Sure It Was Not Treatable and Those That Were Aware It Was Treatable.

Source: Field Survey

In the FGDS, 5 FG-1 members stated it was not treatable while 2 members did not have an idea about treatability. The remaining member believed it could be suppressed but not treated.5 FG-2 members were aware it was treatable in the early stages while the remaining 3 members were not sure.

The study concludes that with 47.5%/ which is 190 respondents were aware that breast cancer is treatable while 22.5% believes its untreatable and a further 29.1 % still unsure about its treatability, the level of awareness about the treatability of breast cancer among the 400 respondents is below average as 51.6%(22.5+29.1) This means 51.6%(207 respondents) still lack accurate information about the disease hence leading to misconceptions.

These are genuine concerns as treatability while possible, is dependent on the stage of progression hence communication experts should focus creating awareness about the different stages ,the unisex nature of the disease and the fact that it is asymptomatic in early stages. This will highlight the significance of regular screening as a preventive measure.

4.1.2 Respondents' Awareness Levels about B.C Screening

Table 4.7:Respondents' Awareness Levels about B.C Screening

Respondents that were aware of Breast Cancer Screening		**Respondents that were aware of types of Breast Cancer screening Tests**		**Have you ever gone for Breast Cancer screening?**		**Do you know anyone who has gone for screening before?**		**Are these tests paid for offered for free?**		**Significance of Breast Cancer screening**	
No	79.9 %	None	82.25 %	No	89.5%	No	85.5 %	Yes	1.5%	Early Detection & treatment	7.8%
Yes	20.1 %	Mammograms &Biopsy	15%	Yes	7%	Yes	14.5 %	I don't know	88%	I don't know	7%
		Breast Self-Examination (BSE)	1%	I have never heard about it	1			Free	0.5%	For accurate diagnosis of breast health	4.7%
		Both Self Breast Examination, Mammograms & Biopsy	1%					Not sure	6.5%		
		Testing tissue and discharge samples	0.75 %					Both free & Paid for	3.5%		
Total	**100 %**		**100 %**		**100%**		**100 %**		**100 %**		**20.1 %%**

Source: Field Survey

Table 4.6 depicts the number of respondents from the sample population that had heard of breast cancer screening, types of screening tests, those who had done the screening, know a person who had done it and those who knew its significance.

When the 400 respondents were asked whether they had heard about breast cancer screening, it was established that 79.9% had not heard about the procedure while 20.1% had heard and were aware of the same.

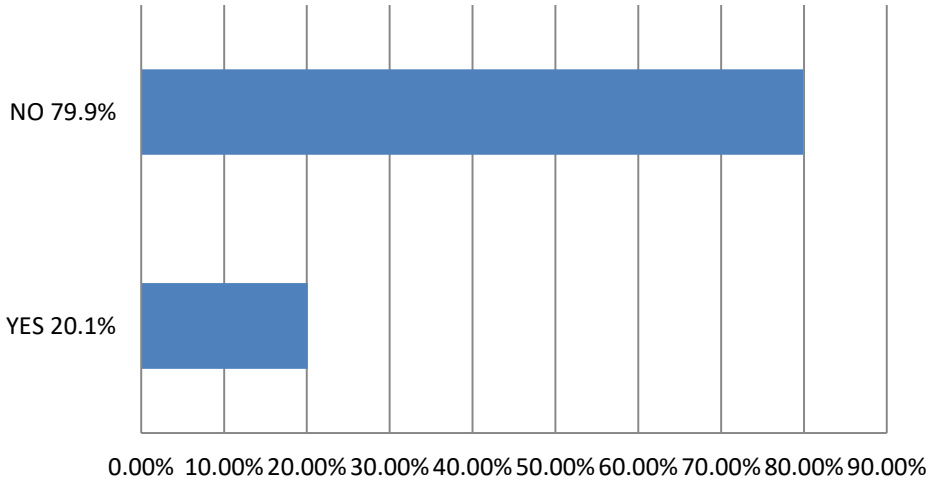

Figure 4.8:The Percentage of Respondents Who Were Aware about B.C Screening and Those Who Not Yet Aware.

Source: Field survey

Of those who are aware, 15% knew about Mammograms and Biopsies, 1% knew about self-breast examination, mammograms and biopsies,1% knew about self-breast examination and 0.75% were aware about testing tissue and discharge samples.

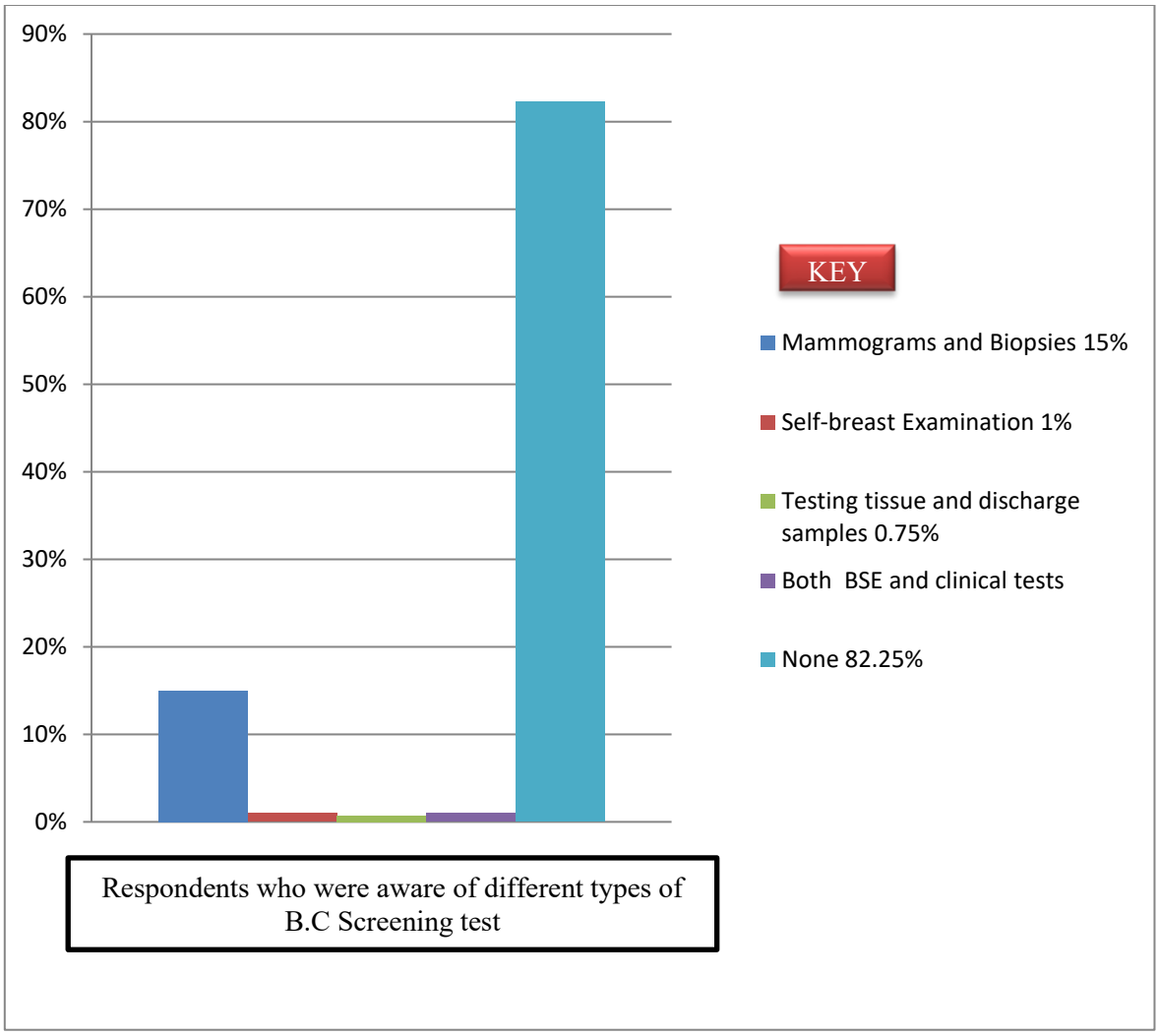

Figure 4.9:The Percentage of Respondents That Were Aware of Types Of B.C Screening Tests and Those That Were Not Yet Aware.

Source: Field Survey

When the 400 respondents were asked whether they had ever been motivated to go for screening by the information they encountered, 7 % said yes, 89.5% had not while the remaining 3.5% were not aware as they did not know about it. Furthermore, 14.5% knew a person who had gone for screening while 85.5% did not know of anyone who had done the procedure.

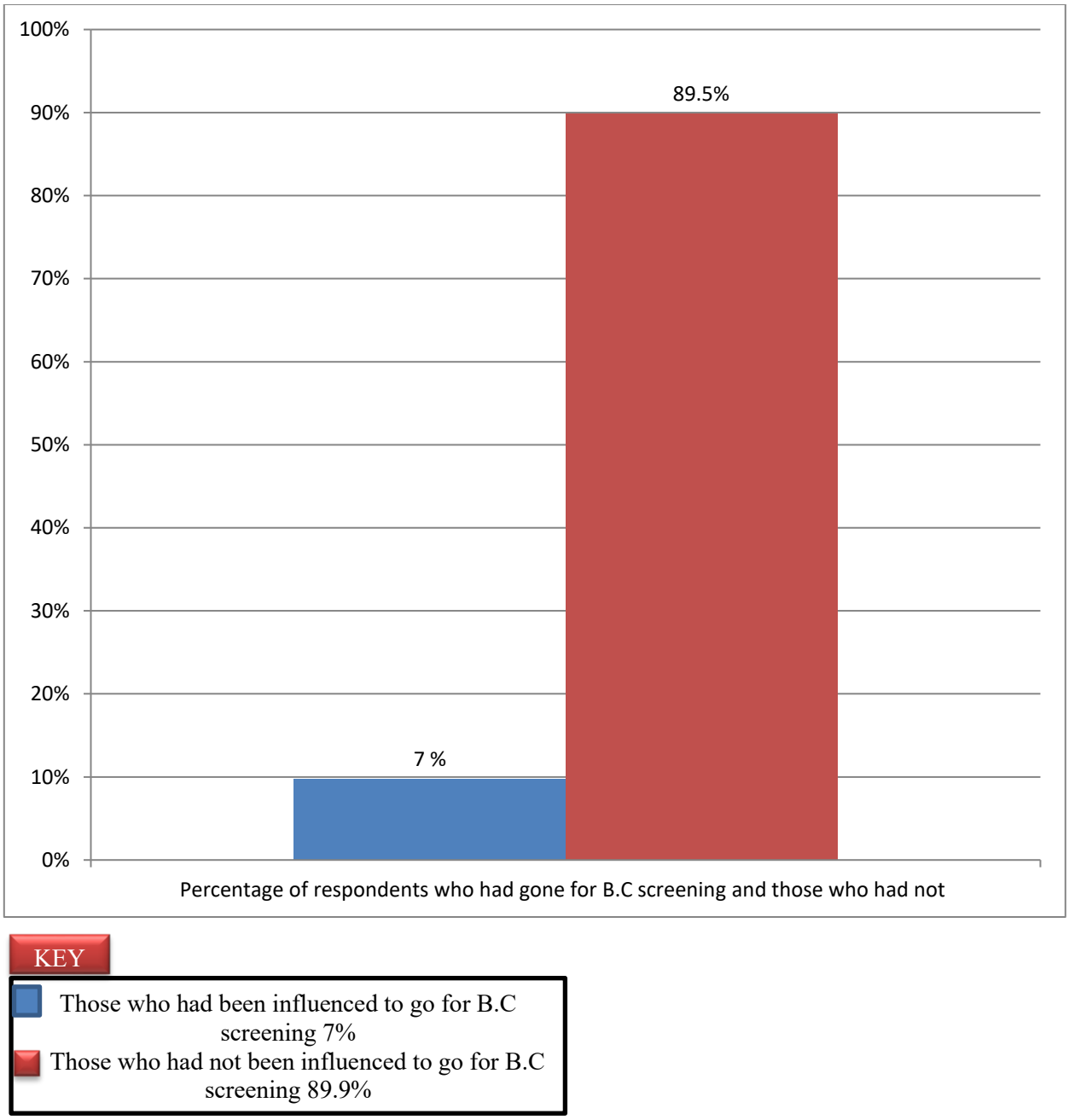

Figure 4.10: The Percentage of the Respondents Who Had Been Influenced To Go for B.C Screening and Those Who Had Not Been Influenced.

Source: Field Survey

When asked if they had heard about the costs of the procedure, 1.5% had heard that it is paid for hence their reluctance due to financial constraints, 0.5% had heard that the tests were offered for free, 6.5% were not sure about costs or lack thereof as they had never had

about it while 3.5% were aware that it was both free and paid for depending on the institution involved. The remaining 88% had not encountered any information about costs or lack thereof.

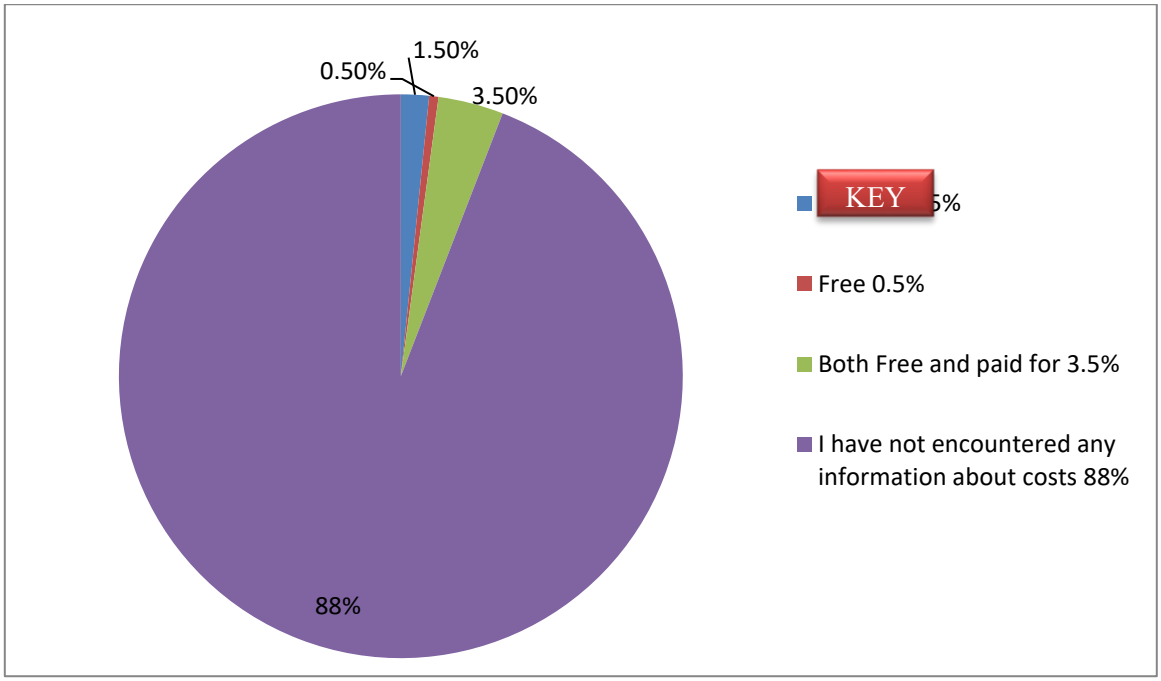

Figure 4.11: The Percentages of Respondents and Their Awareness or Lack Thereof of the Costs of the B.C Screening Test.

Source: Field Survey

When the 400 respondents were asked whether they had heard about the significance of the procedure, 23.8% had heard that its purpose is the accurate diagnosis of breast health, 39.3% had heard that its purpose was early detection and treatment while 37% had not encountered any information that touched on its significance.

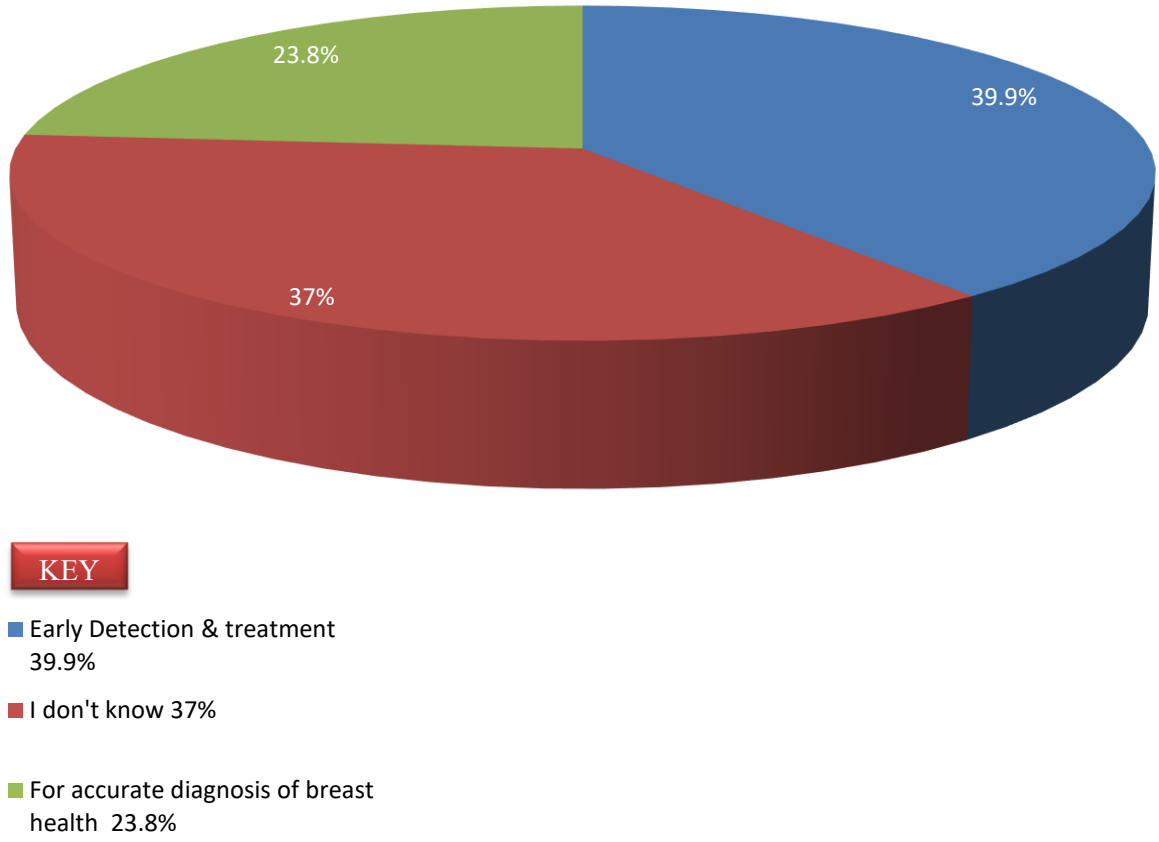

Figure 4.12:The Percentage of Respondents Who Were Aware of the Significance of B.C Screening and the Explanations They Gave.

Source: Field Survey

The FGDs on the other hand mirrored the response from the sample population of 400 as all FG-1 members were not aware that screening was a preventive measure and that B.C can be fully cured.3 members of FG-2 were on the other hand aware of the significance of screening while 5 members were still not aware and learnt about it during the FGD.

The study concluded that awareness levels about breast Cancer screening among the sample population was very low with 20.1% being aware of the procedure while 79.9% were not aware which mirrors results from a related study by Ondimu et al (2016) in Kisii South on the uptake of screening, whose findings indicated that 85.4 % of respondents who had never undertaken any form of screening gave ignorance of the existence of BC as the main reason.

This means basic information from trusted sources such as mass media and health workers have influence on the uptake of BC screening. 15% of the sample population was able to name the tests by name, 9.8% having been influenced to do the test, 24.5% knowing an individual who had done the test and only 1% aware that the tests are both free and paid for depending on the institution offering it.

Communication experts can therefore, use these statistics to identify the areas that need to be focused on which include the framing of information about the tests to encourage uptake of screening which was at 9.8% .In addition, the significance of the screening should be better explained as the procedure aims to get accurate diagnosis of breast health and not necessarily for early detection and treatment of B.C which arouses fear of outcomes.

4.1.3 Respondents' Awareness Levels about Self-Breast Examination, the most Susceptible Individuals and Preventive Measures against B.C.

Table 4.6:Respondents' Awareness Levels about Self-Breast examination, Susceptibility and Preventive Measures against B.C.

Can individuals self-examine themselves for B.C?		If yes how often should one do it?		Who is at most risk of developing Breast Cancer?		How can individuals reduce their chances of developing B.C?	
No	47.2%	I don't know	80.9%	Females above 18 years	47.5%	I don't know	78.25%
I don't know	35%	Daily	9%	I don't know	26.5%	Regular exercise and balanced diet	9.75%
Yes	17.8%	Monthly	8.3%	Breast feeding mothers	8.25%	Regular screening and Self breast examination	5.75%
		Weekly	1.8%	Girls below 18 years	6.5%	Avoid contact/consumption of known carcinogens(Cancer causing agents)	4.75%
				Women above the age of 45	4%	Avoid tight clothing	1%
				Well-endowed women	3.5%	Proper Hygiene	0.5%
				Anyone who has not done screening	2%		
				New Mothers who don't breast feed	1.5		
				Women with a Family history	0.5		
Total	**100%**		**100%**		**100%**		**100%**

Source: Field Survey

Table 4.7 indicates the percentage of respondents who know how to conduct a self-breast examination, those who are at most risk of developing breast and those who know of the ways to reduce their chances of developing breast cancer.

When the 400 respondents were asked if they had heard about self-breast examination as a strategy of detecting Breast Cancer, 17.8% had heard about it,35% did not know about it 47.2% had heard that it could not be used to detect breast cancer. In addition 80.9% did not know how often it was supposed to be done, 9% had heard it should be done daily, 8.3% had heard it should be conducted monthly while the remaining 1.8% had heard it should conducted weekly. The study concluded that awareness levels about self-breast examination was low as none of respondents had heard that it was a precautionary measure but was not considered a medical procedure that can produce conclusive results (Zhou et al,2022).

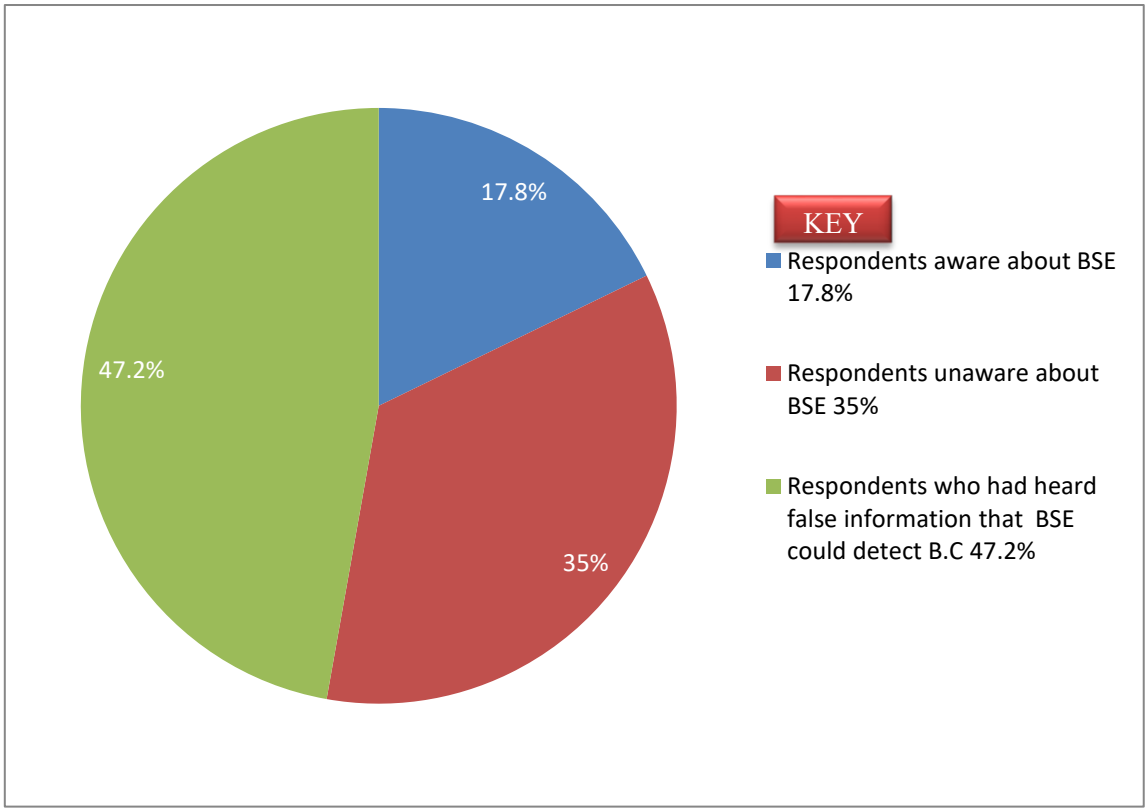

Figure 4.13: The Percentage of Respondents Who Were Aware of BSE and Their Perceptions about It and Those Still Unaware of Its Existence.

Source: Field Survey

When the respondents were asked whether they had heard about the people most at risk of developing breast cancer, 47.5% had heard it was females above 18 years, 26.5% had not heard about the most at risk individuals,8.2% had heard that it was breast feeding mothers but this applies to women with more than 5 children who might be susceptible due to age rather than child birth, however there are indications that rapid hormonal fluctuations due to pregnancy in women above 35 years could increase the risk factor hence the confusion by respondents. At 35 years and above, women already belong to the most at risk group hence any triggers i.e hormonal fluctuations could increase the risk as established in a study carried out by Zhou et al(2022).

6.5% had heard that it was girls below 18 years,4% had heard it was women above 45 years which has been the norm historically but the trends shifted over the past 3 decades as it affects people of all ages,3.5% heard that well-endowed were most at risk yet this does not have any scientific backing, 2% had heard it was anyone who has not done screening which is the most accurate response ,1.5% had heard it was new mothers who don't breast feed which is documented and backed by medical research and 0.5 % had heard that it was women with a family history of the disease which is also a factor as genetic predisposition increases the risk factor.

The study concluded that the 2% who had heard that the most at risk individual were those yet to undergo screening were the ones with the most accurate information regarding breast cancer susceptibility. This means 98% of respondents based their perceptions of the disease on either outdated or inaccurate information which leads to late diagnosis as is the case in the Kenyan context. This is significant as the disease is most treatable at its early stages when it is still asymptomatic. Health communicators can therefore develop

awareness strategies that contain updated information with a wider reach as anyone who has not done screening becomes aware that they are susceptible.

When the respondents were asked if they had heard of any preventive measures that could reduce their chances of developing breast cancer,78.25% had not encountered any information that addressed preventive measures,9.75% had heard about Regular exercise and the consumption of balanced diet which is recommended by medical professionals, Regular screening and self-breast examination,4.75% had heard that avoiding consumption of and contact with known carcinogens for example working in radioactive environments and consumption of processed foods that contain ingredients that have been identified as carcinogens,1 % had heard that tight clothing was a preventive measure but there is no scientific basis or correlation between tight clothes and susceptibility to breast cancer and 0.5% had heard about personal hygiene as preventive measure but it is also not based on any scientific fact as breast cancer is not caused by germs but rather by rapid, abnormal growth of mutated cells (Koech et al,2024;Davis, 2018).

The study concluded that out of 79.75% of the sample population 78.5% did not encounter any information, 1 % who had heard about avoiding tight clothing and the 0.5% who had heard about personal hygiene were not aware of preventive measures and the few that had encountered any information within this group had been exposed to inaccurate and misleading information.

20.25% accounting for 81 individuals were the ones that had encountered accurate information about breast cancer.

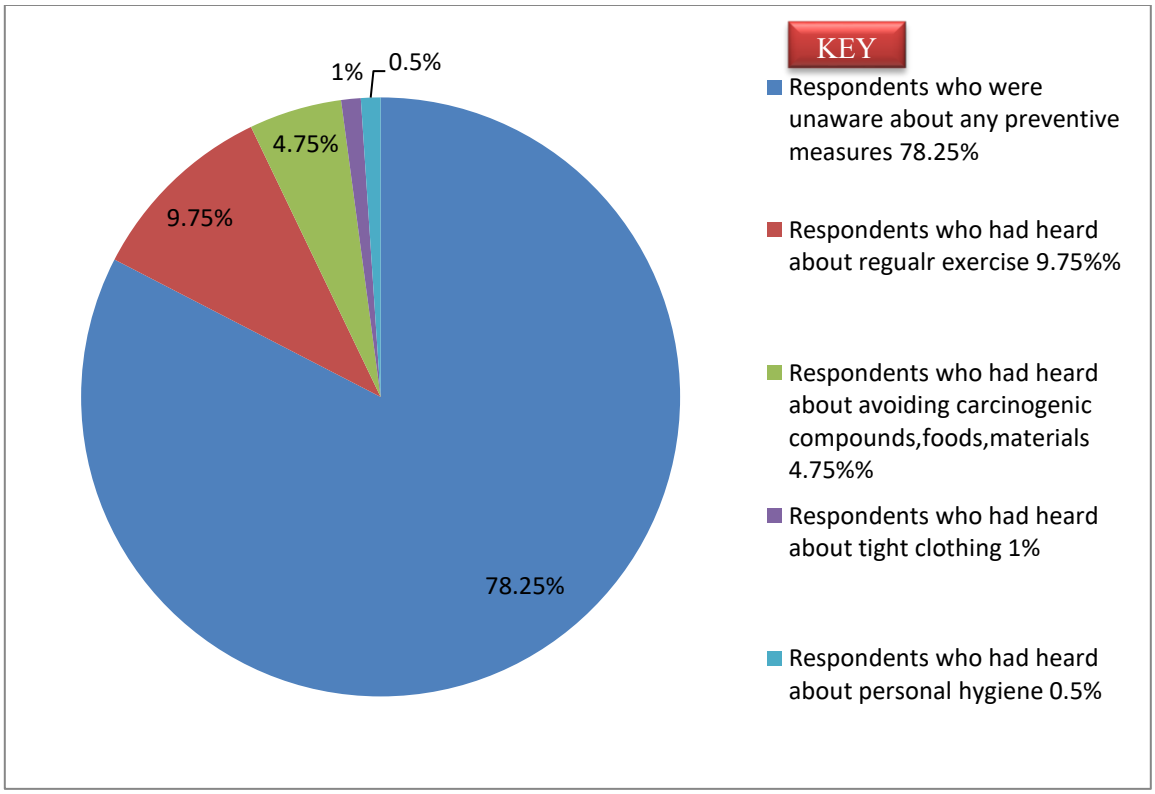

Figure 4.14: The Percentage of Respondents Who Had Heard about Preventive Measures That Could Be Taken against B.C And Those Who Were Unaware of Any Such Measures.

Source: Field Survey

Health communication professionals should therefore develop awareness strategies that address these gaps. Preventive measures remain the first line of defense against breast cancer globally hence the need to focus more attention on creating awareness as it also reduces the chances of developing the disease or allowing it to progress to more complicated stages. (W.H.O, 2025).Cumber et al(2017)posit that in third world countries like Kenya where the Ministry of health has limited resources allocated to breast cancer as other diseases like Malaria and HIV/AIDS are prioritized, preventive measures are thus significant as most victims lack the financial resources or government support to allow them access the relevant tests and treatment.

In addition, ensuring majority of the population is aware of the preventive measures is instrumental in reducing incidence rates which are on an upward trajectory, with fatalities projected to triple by 2030(WHO, 2024).These recommendations' align with the 5 year Kenya public expenditure review for the health sector by the World Bank for the financial year periods from 2014/2015 until 2019/2020 which recommends more resource allocation to these primary intervention programs as they are the most efficient way to achieve better health outcomes at lower costs.

The report further revealed that county governments directed an average of 86% of their Healthcare budget towards tertiary and secondary healthcare services which includes the medical personnel leaving less than a third for primary interventions programs. (World Bank, 2022).The study concluded that Public policy needs to be adjusted to accommodate awareness campaigns as awareness levels are very low while incidence and mortality rates are on the rise.

4.1.4 Factors Hindering Breast Cancer Screening Uptake/Breast Health Seeking Behavior

Table 4.7:Factors Hindering Uptake of B.C Screening

	YES	NO	NOT SURE	I DON'T KNOW
FACTORS	**Frequencies and percentages**			
Lack of awareness about Breast Cancer screening	90%	4.4%	2.3%	3.3%
Inadequate information	79.8 %	9%	6%	5.2%
Financial constraints	72.5 %	13.8%	9.3%	4.5%
Limited access to screening equipment and specialized medical personnel.	67.8 %	12.3%	14.3%	5.8%
Fear of outcome from screening	71.5 %	12.8%	10.2%	5.5%
Cultural Beliefs	50%	22.8%	18%	9.2%
Language barrier	47.5 %	33.5%	10.3%	8.3%
Religious Beliefs	44.5	25.3%	22.3%	8.%

Source: Field Survey

Table 4.8 indicates the various reasons that can potentially hinder breast Cancer screening uptake and the percentages of respondents who agree, disagree, are unsure or undecided and those who are not aware hence cannot form an opinion.

When the 400 respondents were asked whether they had seen, heard, read, or experienced any of the listed factors as a hindrance to breast cancer screening uptake and breast health seeking behavior,90% of the respondents listed lack of awareness as a major hindrance, followed by 79.8% listed Inadequate information about the procedure both of which align with a study in Western Kenya about the impact of educational intervention on B.C by Kisuya et al. (2018) which established that the major challenges facing the fight against Cancer included limited access to information, inadequate Health Facilities from where said information about the disease can be accessed and the illiteracy levels in the rural sections of the country.

67.8% listed limited access to screening equipment and specialized medical personnel which is valid claim supported by the National Cancer Institute Kenya (2023) report which lists the number of Oncologists in Kenya at 58 with 60 oncology nurses and 12 oncology pharmacists in a country of 54 million people.

71% listed fear of outcome from screening as a hindrance due to the perception that it is untreatable, a perception fueled by Broadcast Media reports that focus on incidence rates and fatalities. This supports the results of a related study by Nyambane et al (2015), investigating the influence of radio and television on creating awareness about cervical cancer which established that broadcast media(Radio and Television)have failed to

communicate any information related to disease presentation and prevention instead focusing on statistics and victim testimonials.

Furthermore Hirst,(2018) argues that it is important for the contents of awareness campaigns and advertisements to be bear similar themes which are straightforward and logical minimizing the possibility of misinterpretation. Similarly, Anastasi and Lusher,(2019) argue that there is need to evaluate the contents of health awareness campaigns before the information is disseminated to the public as this will allow for adjustments to make them more relatable and understandable to the targeted audience.

72.5% of the 400 respondents' listed financial constraints as the procedure was perceived as being costly, unaware that screening tests are offered for free during the Pink October Campaign at selected public health facilities with , Cultural and religious beliefs accounted for 50% and 44.5% of the sample population respectively as respondents felt they still had some level of influence on a person's choices, these results align with Sayed et al(2019) who noted that the beliefs and values of the targeted community of an awareness campaign should be understood and it is only through such a process that these programs can formulate culturally relevant messages that reflect cultural awareness resulting in productive partnerships and interactions with community members that can lead to behavior change. Similarly Bugshan (2022) noted that the most effective awareness campaigns are those that resonate with the cultures of the target audience as familiarity with the content of awareness campaigns makes it easier for the target audience to relate and embrace the information.

47% listed language barrier as a hindrance especially in rural areas as the awareness messages they had seen were either in English or Kiswahili limiting the reach. This is a challenge Mwavita (2014) opines can be solved through the use of vernacular radio stations as radio not only transcends the barrier of illiteracy but also has the advantage of transmitting information in local languages understood by a majority of both Rural and urban dwellers. In addition, radio according to the Status of media report (2022) has the highest penetration level of 47% making it the most viable platform for awareness creation followed closely by television at 41%.

These responses resonate with the ELM (Petty et al,2009)theory that posits logical arguments (Direct route) aimed at changing perceptions should be accompanied by peripheral/aesthetic packaging (Indirect route) that relate with the target audience to trigger the subconscious mind into retaining the information for longer periods of time. This combination of logic and aesthetic inclusions in the awareness messages should then result in a logical argument for the direct route and packaged in format familiar to the targeted audience be it through language, beliefs, social norms or a shared cultural identity to aid retention via the indirect route or subconscious which stores information long-term.

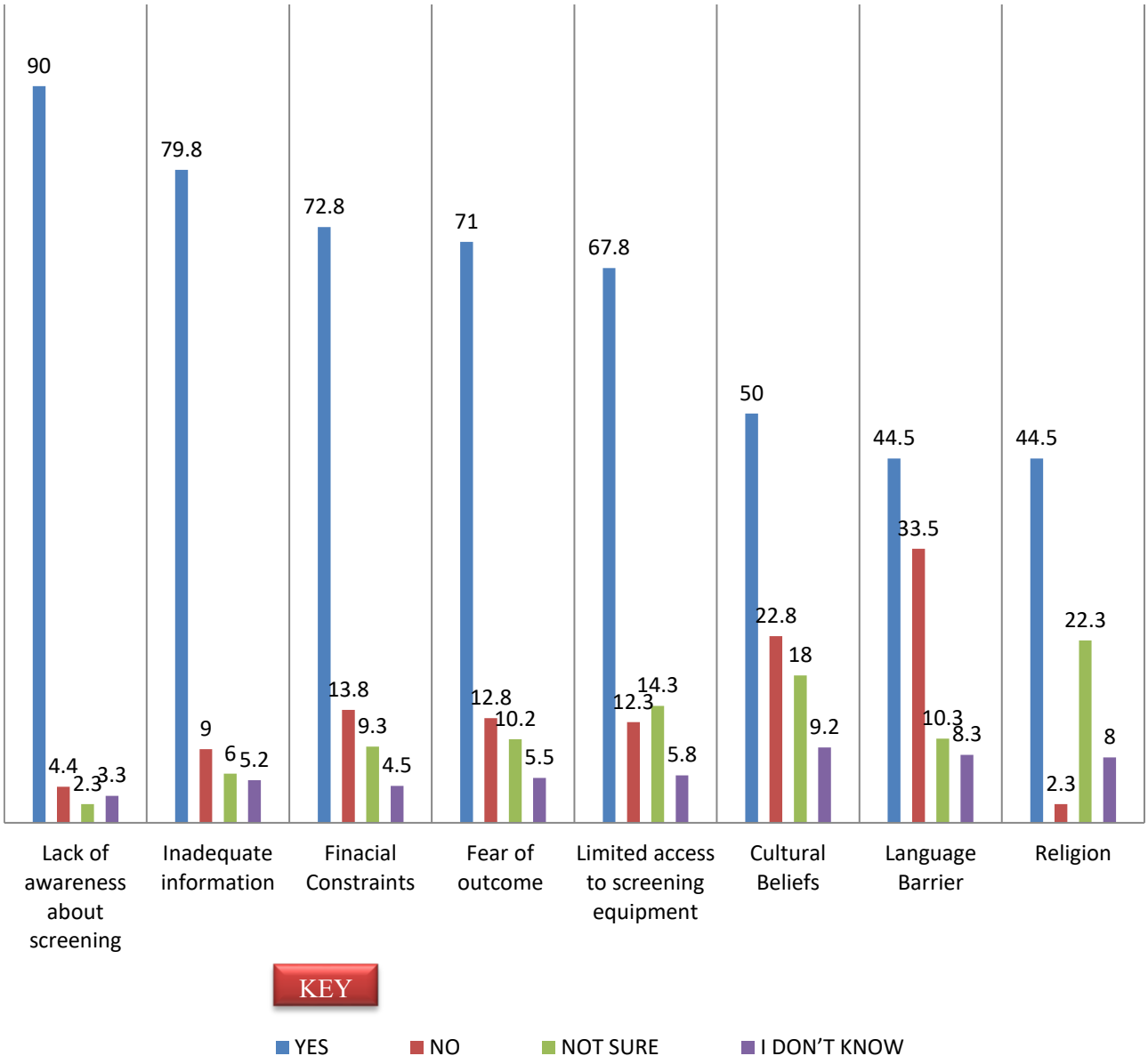

Figure 4.15:The Percentage of Respondents' Reactions to Perceived Hindrances, to the Uptake of B.C Screening.

Source: Field Survey

4.2 Communication Channels Used During the Pink October Campaign Through which MMUST students Encountered B.C Awareness Information

4.2.1.1ntroduction

This section is about the findings and discussions for objective 2, which sought to establish the communication channels used during the Pink October Campaign through which MMUST students encountered B.C awareness information, the activities undertaken during these campaigns and the impact of these messages on the on the 400 respondents and 16 FGD participants.

Table 4.8:Communication Channels Through Which Respondents First Encountered B.C Awareness Messages

Where did you encounter this information?	How was it presented?	Percentage
Television 15.5%	Documentary	7.5%
	News	8%
Radio 19.5%	Talk shows	14%
	News	5.5%
Print 16%	Billboards	10%
	Newspaper articles	4.5%
	Magazines	1.5%
Interne11.5%	Social media campaigns	11.5% %
Health Centre 12%	Health Worker-Face to Face	6.75%
	Health Centre/Posters	5.25%
Word of mouth from friends and family 6.5%	Word of mouth from friends	2.5%
	Word of mouth from family	4%

I have not encountered it.6.5%		I have not encountered	6.5%
I cannot recall 12.5%		I cannot recall	12.5%
Total	**100%**	**Total**	**100%**

Source: Field Survey

Table 4.9 indicating the types of channels that respondents encountered the awareness information and the percentages of each channel.

When the 400 respondents were asked where they had first encountered awareness information about B.C, 15.5% said they encountered this information on Television, 19.5% had encountered it on Radio, 16% had encountered it on Print media, 11.5% had seen it on the internet, 12% had seen it at a Health Centre, at least 6.5% of had heard from friends through word of mouth, 12% could not recall where they had seen it while 6.5% had not encountered this information at all.

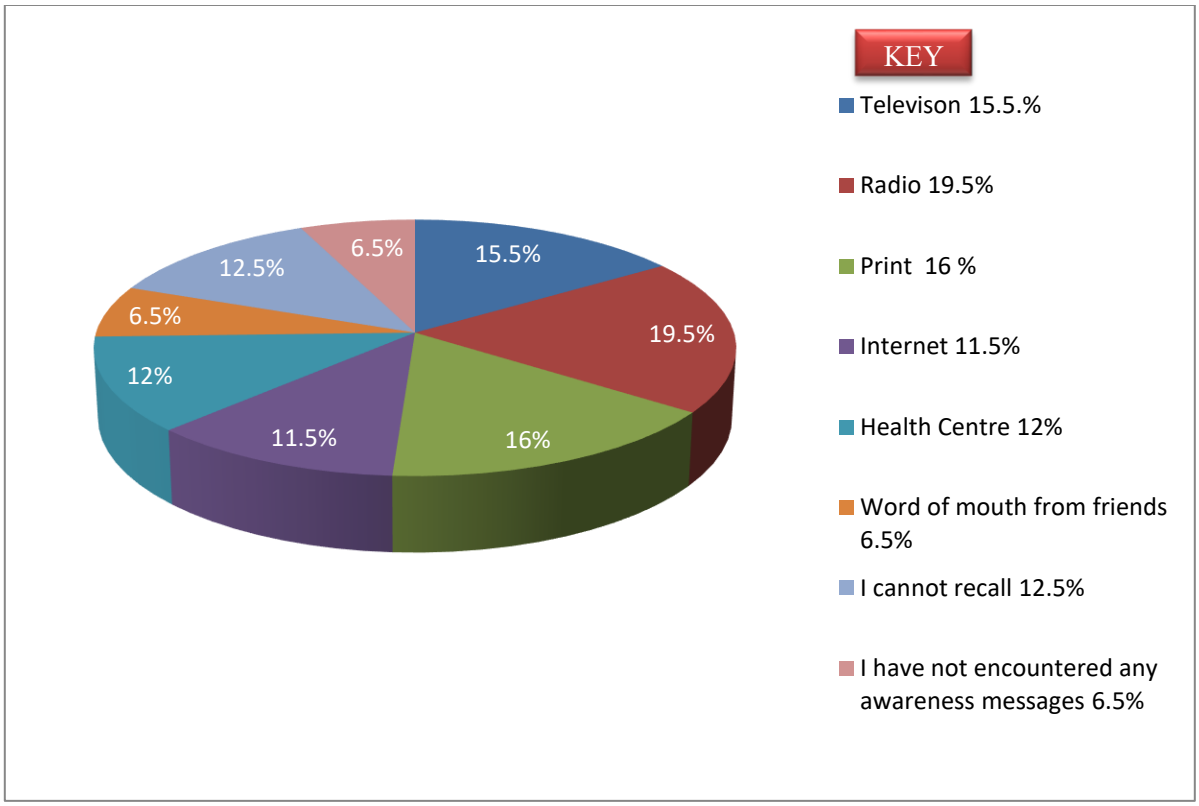

Figure 4.16: The Percentages of Respondents Who Had Encountered B.C Awareness Messages on Various Platforms and Channels.

Source: Field survey

In Television the most mentioned format of presentation was the news at 8% of all television encounters with B.C awareness information, in Radio, talk shows were the most popular format of presentation at 14% and in Print media, billboards were the most mentioned at 10% of all print media presentations.

The study concluded that breast cancer awareness ,screening uptake and breast health seeking behavior are hindered by factors that can be addressed by having adequate medical infrastructure that includes screening equipment and specialized personnel, improving the content in awareness messages by inclusion of relatable/culturally relevant aspects in designing to increase their reach through familiarity with the audience. This is because the

key issue mentioned with 90% of the respondents was lack of awareness and/or accurate information about breast cancer screening.

4.2.2 Respondents' Knowledge levels on the Existence of a Month dedicated to B.C Awareness

Table 4.9:Respondents' knowledge Levels on the Existence of a Month dedicated to B.C Awareness

Have you heard about breast cancer awareness month?		**Which Month is it?**		**Any other campaigns that are run during this period?**	
No	67.8%	I don't know	74.8%	I don't know	**87.3 %**
Yes	32.3%	October	19.8%	Free screening	**9.8 %**
		All the other months	5.5%	Awareness marathons	**0.8 %**
				Pink October campaign	**2.3 %**
Total	**100%**	**Total**	**100%**	**Total**	**100 %**

Source: Field Survey

Table 4.10.Indicating the percentage of the respondents that had heard of a breast cancer awareness month, those who knew the month it is held and those aware of other campaigns that were run in the same month.

When the 400 respondents were asked if they had heard about a month dedicated to B.C awareness 32.3% stated that they had heard about it while 67.8% had not yet heard of it by the time the study was undertaken.

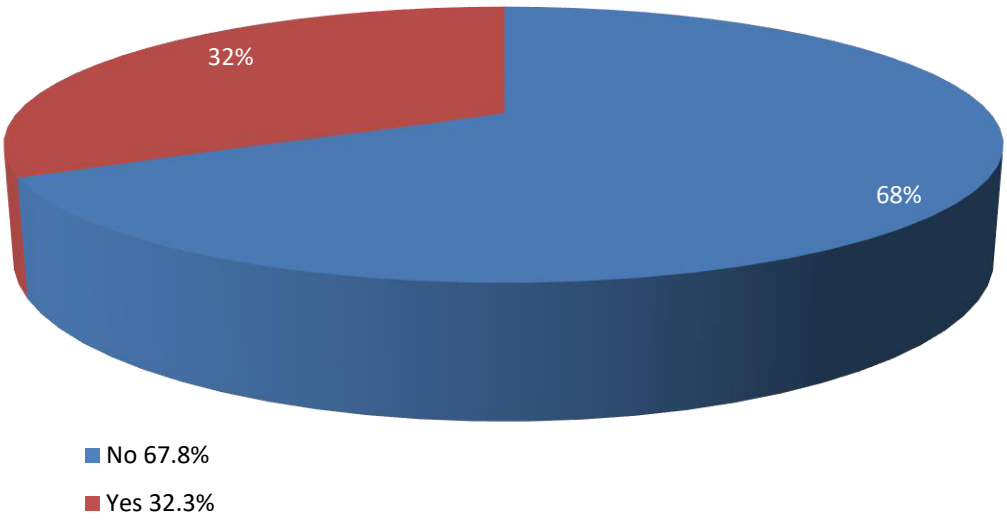

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Figure 4.17: The percentage of the 400 respondents who had heard of a month dedicated to B.C Awareness which was 67% and the percentage who had not heard of it before which was 33%.

Source: Field survey

When asked if they knew which month it was held, 74.8%of the respondents' were not aware, at least 19.8% were aware it was held every October while the remaining 5.5% though aware of its existence could not recall the particular month it is held.

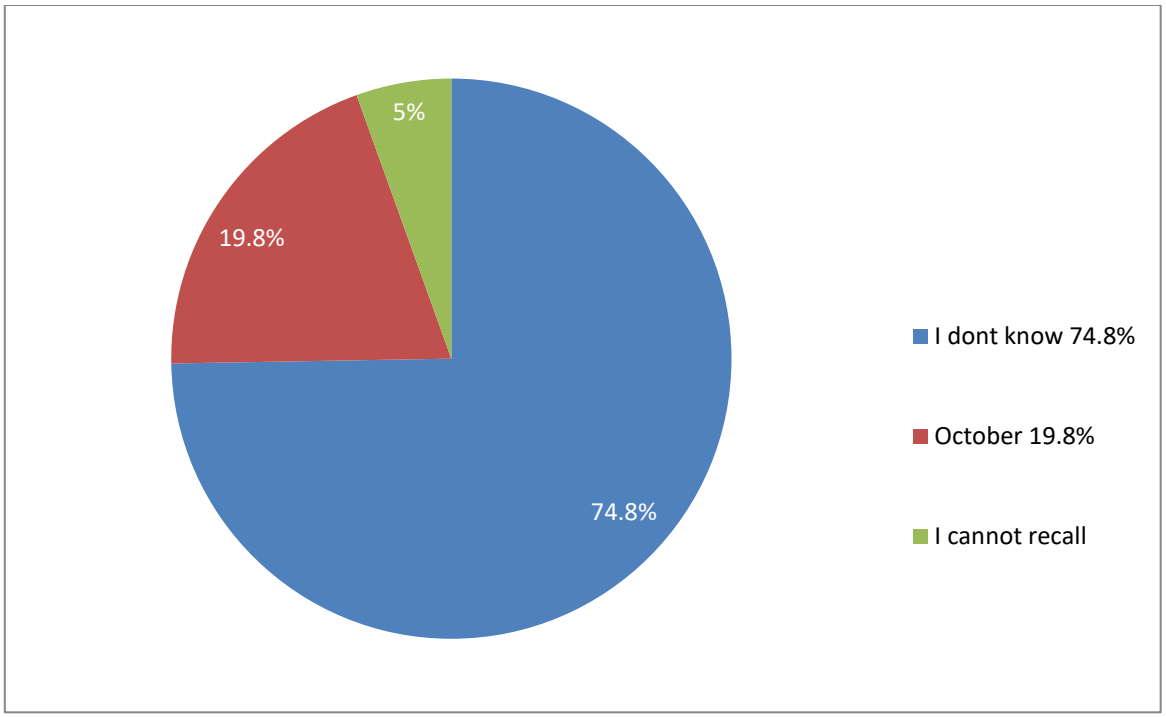

Figure 4.18:Indicates the percentage of respondents who were aware of October as the month dedicated to B.C awareness, those who could not recall the particular month despite being aware of its existence and those who were not ware when it was held.

Source: Field Survey

When asked if they were aware of other campaigns that were run during the same period, 9.8% of the respondents stated free screening, 2.3% listed the Pink October campaign and 0.8% listed awareness walks/marathons all of which were activities that fell under the Pink October campaign. This was further evidence that the messages disseminated and activities undertaken during the Pink October Campaign were so diverse and independent of each other that respondents were under the assumption they were different campaigns.

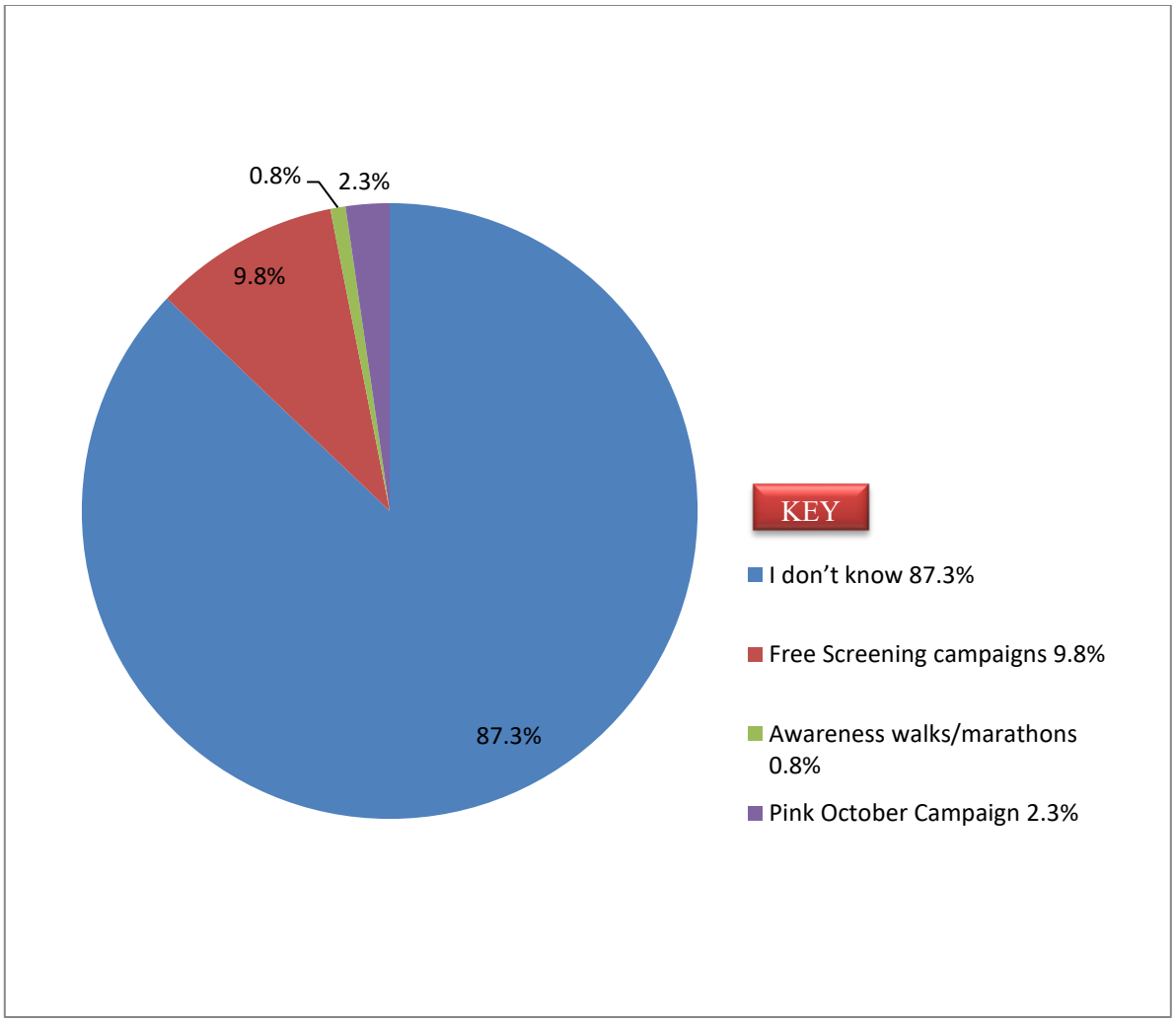

Figure 4.19: The percentage of respondents who listed the types of campaigns they knew occurred during the month of October and the percentage of those who were not aware of any campaign.

Source: Field Survey

During the FGDs, three FG-1 members had heard about it before on social media where signs and symptoms were being discussed while the remaining five FG-1 members had not heard about it. In FG-2, one female member had heard it was about free breast cancer screening online while seven, FG-2 members had not heard of it.

This separation of activities under one campaign indicates there is no unified campaign strategy for B.C awareness creation or that it's divided into separate sections by the organizers inadvertently leading the targeted audience to assume they are different campaigns with different objectives. This leads to miscommunication and results in confusion if not well articulated to the target audience.

These results are similar to the findings by Hirst (2018) that established the advertising campaigns are most effective when they bear similar themes and messages that are not subject to a variety interpretation as this will lead to ambiguity. In this study ,the significance of having a singular theme, tone and choice of content cannot be overstated as respondents believed each activity was independent of the other leading to the assumption they these were different campaigns.

When it comes to the FGDs, FG-1, had only one female member who knew about the existence of B.C awareness month while the other 7 had not heard about it.FG-2 on the other hand had four members who had heard about it through social media out of whom one member had attended the Pink October Campaign which was held at the Kakamega school (Kakamega Approved school), in Kakamega county on October 2024.This meant that 32.3% of the sampled population and five out of sixteen FGD participants were aware of the month dedicated to B.C awareness.

The study concluded that awareness levels about a specific month dedicated to B.C awareness were very low and that the targeted audiences who encountered these messages had different interpretations of the same event. Health Communication experts should therefore develop specific themes and content are uniform across all platforms to maximize

retention and a holistic comprehension of all the activities that occur under the Pink October Campaign.

4.2.3 Respondents understanding and interpretation of the Pink Ribbon symbol in B.C awareness .

Table 4.10:Respondents understanding and interpretation of the Pink Ribbon Symbol.

Have you ever seen this symbol?		**Where did you see this symbol?**		**Do you know what this symbol represents?**		**If yes explain its meaning?**	
Yes	80.1%	Television	23.6	No	74.3%	I don't know	74.3%
No	19.8%	Not seen it	20%	Yes	25.7%	Breast Cancer awareness	16.3%
						H.I.V/AIDS	4.8%
						Breast Cancer is dangerous/Fatal	3%
Not Sure	0.3%	Billboard	13.8%			Breast Cancer survivors/patients	1.5%
		Health Center(Poster/Health worker)	13.5%			Breast Cancer research for a cure	0.3%
		Internet/social media	12.8%				
		Newspaper	7.8%				
		Pamphlet	7.8%				
		Magazine	0.7%				
	100%		**100%**		**100%**		**100%**

Source: Field Survey

Table 4.11 indicating where respondents said they had seen the Pink Ribbon, where they had seen it and those that know its meaning

When the 400 respondents were asked if they had ever seen the pink ribbon before, 80% responded that they had encountered it, 0.3% could not recall where they had seen it before while 19.8% had not. Of the 80% who had seen it,23.6% had seen it on Television,13.8% had seen it on billboards,13.5% had seen it in Health Centre either on a poster or on the medics uninform during breast cancer awareness month,12.8% had seen it on Internet,7.8% had seen it on a Newspaper,7.8% had seen it on Pamphlets and 0.7% had seen in a Magazine.

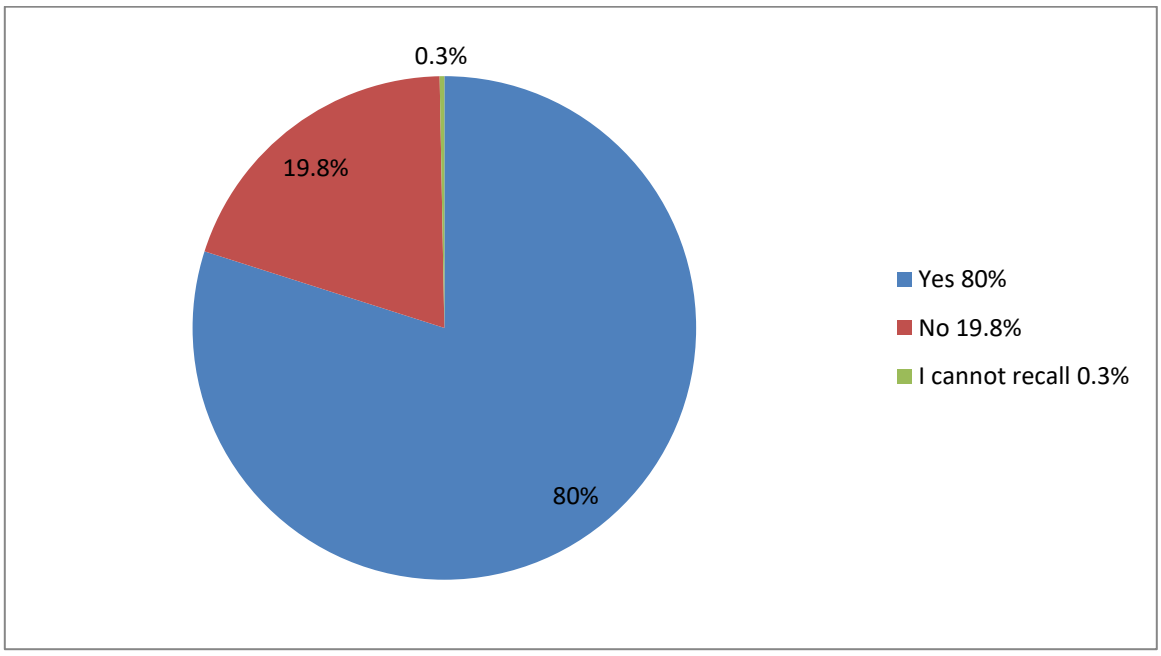

Figure 4.20: The Percentage of Respondents Who Had Seen the Pink Ribbon Symbol, Those Who Could Not Recall if They Had Seen It Before and the Ones Who Were Sure They Had Not Seen It.

Source: Field survey

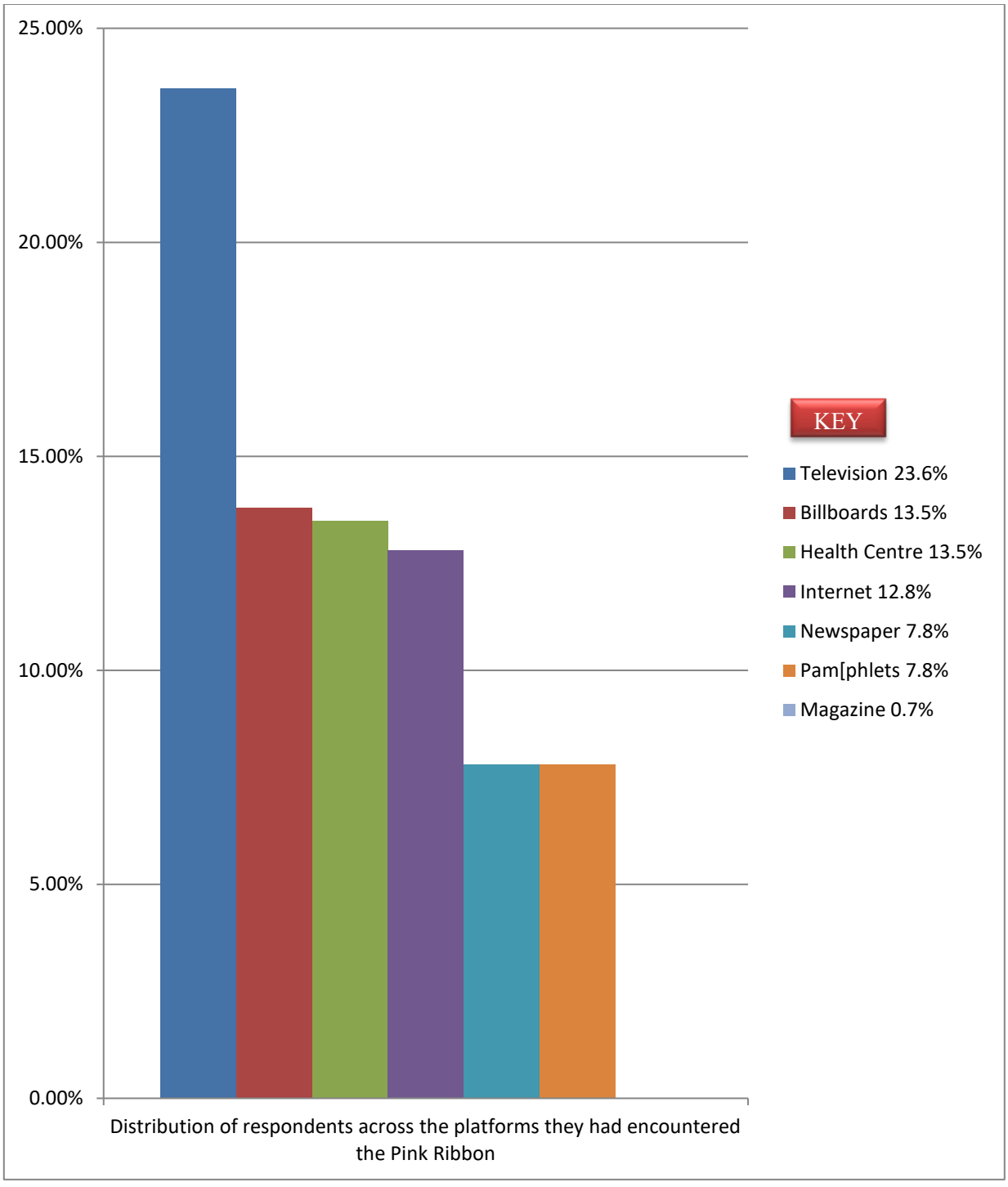

Figure 4.21:The distribution of the 80% who had seen the Pink Ribbon and the platforms they had encountered it.

Source: Field Survey

During the FGDs, two FG-1 members reported having seen the pink ribbon on television; two had seen it on social media, one individual had seen it on a healthcare worker's uniform, another had seen it on a billboard while two FG-1 members had not seen it before. In FG-2, four members had encountered it, two of them having seen it on social media, one individual having seen it on television, another member had seen it on a poster in a hospital while the other four members had not bringing the total of those who had seen it to 10(6+4) out of the 16 FGD members. The awareness levels about its existence are thus very high with 80% of the 400 respondents and 10 participants out of 16 from the FGD having seen it before.

When the 400 respondents were asked if they knew or understood what it meant, 25.7% stated that they knew while 74.3 % did not. Of those who knew,16.3% said it was a symbol of Breast Cancer awareness,4.3% said it was a symbol for HIV/AIDS,3% stated that it meant breast cancer was dangerous and fatal,1.5% said that it represented survivors and patients while 0.3% said that it referred to B.C research for a cure.

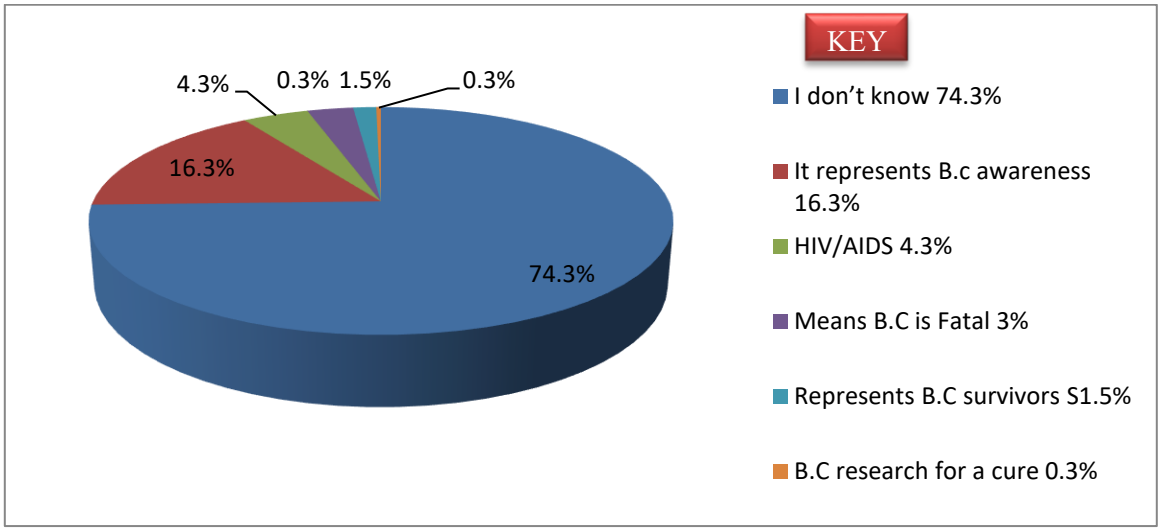

Figure 4.22: The percentages of the different interpretation of the Pink Ribbon according to the 400 respondents

Source: Field Survey

This means out of the 25.7% who said they knew the meaning, 7.8%(4.8+3) who said it meant HIV/AIDS and that breast cancer was fatal did not have the right information bringing the total of those who don't know its meaning to 82.1%(7.8+74.3%) while those who know reduced to 18.9%(25.7-7.8).

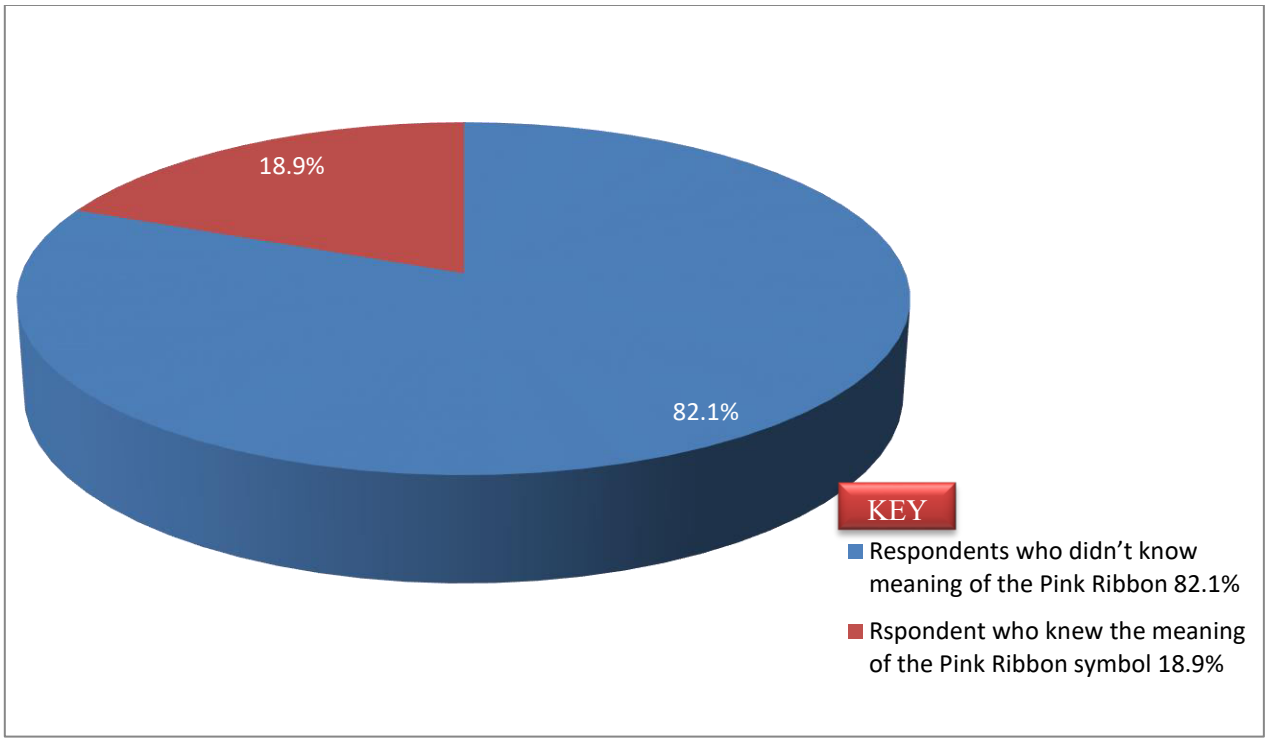

Figure 4.23 :The percentage of respondents who knew the meaning of the pink ribbon symbol and those who did not yet know its meaning at the time of the study.

Source: Field Survey

During the FGDs, one person from FG-1, stated that

'*It represents breast cancer awareness and also represents support of patients and survivors'*

While seven members did not know what it meant. In FG-2, two members said it represented breast cancer awareness and the other two said it represented HIV/AIDS while the remaining four members did not know. In FG-2, all the 8 members did not know what the pink ribbon represents. This brings the total of those who know it's meaning FGD to 3(1 +2) out of 16.

These findings align with Eucharia, (2018) whose study on the influence of Broadcast Media Campaigns on Breast Cancer Knowledge among Women in Enugu State established that 80.1% of respondents who were patients were aware of BC prior to a diagnosis; however they remained unaware of the significance of regular screenings or treatment.

However the effectiveness of the Mass media campaigns in terms of reach in this instance is encouraging at 80.1% of total respondents. This is indicative of the positive impact of mass media campaigns provided they are presented in the most comprehensible format. Similarly Ndone (2017) opines that emphasis is placed on human interest stories about cancer patients and cancer survivors with little attention paid to the significance of early screening, treatment options and cost of said treatment. In addition, his study concludes television and radio stations need to increase the coverage and accuracy of the health information they disseminate to the masses as majority of Kenyans still rely on them for information.

The research concluded that the respondents' level of understanding and interpretation of the pink ribbon symbol in breast cancer awareness was very low among the 400 respondents at 18.9% with 4.8% misidentifying it as the red ribbon that is used in H.IV/AIDS awareness campaigns similarly in FGDs, 3 out of 16 participants knew its correct meaning with 2 individuals out of the 13 remaining also misidentifying it as the HIV/AIDS ribbon.

Health communication experts should therefore strategize on expanding coverage and framing of their campaigns to highlight the significance of early screening, treatability,

treatment options and cost of said treatment as majority of the targeted audience doesn't seem to understand the messages while some misinterpret or misidentify the pink ribbon.

4.3 Effectiveness of the Pink October Campaign in Influencing MMUST Students to Undergo Voluntary B.C Screening.

4.3.1. Introduction

This section is about objective 3 which sort to establish the effectiveness of the Pink October Campaign in influencing MMUST students to undergo voluntary B.C screening by assessing the respondent's perception of the campaign, clarity of the messages shared, perceived benefits, activities that were undertaken during the campaign, observations and respondents' opinions. The results of the questionnaire survey and the FGDs were presented in the form of tables, Pie charts and bar graphs

4.3.2 Respondent's Perception of the Pink October Campaign

Table 4.11:Respondents' Perception of the Pink October Campaign

Have you heard about 'Pink October'		**What does it mean**		**Where did you first hear of it?**		**Activities undertaken during 'Pink October'**	
No	84.3%	I don't know	86.3 %	Never heard of it	84%	I don't know	87.8%
Yes	15.8%	Refers to the Breast Cancer awareness month	13.8 %	Television	5.3 %	Breast cancer awareness creation	5.5%
				Internet/social media	3.9 %	Free Breast cancer screening	3.3%
				Radio	3%	Wearing the Pink Ribbon symbol in solidarity with survivors	3%
				Print media/Newspaper	1.8 %	Fundraising for Breast cancer research	0.5%
				Word of mouth via a friend	1%		
				Educational institution/ High school	1%		
				I cannot recall	1%		
Total	**100%**	**Total**	**100 %**	**Total**	**100 %**	**Total**	**100%**

Source: Field Study

Table 4.12 indicating the percentage of respondents who had heard about Pink October Campaign, those who knew its meaning, where they first heard of it and the activities that are undertaken during the month long event.

When the 400 respondents were asked if they had heard about Pink October and knew what it meant, 15.8% were familiar with the phrase while 84.3% had never heard of it before the study.

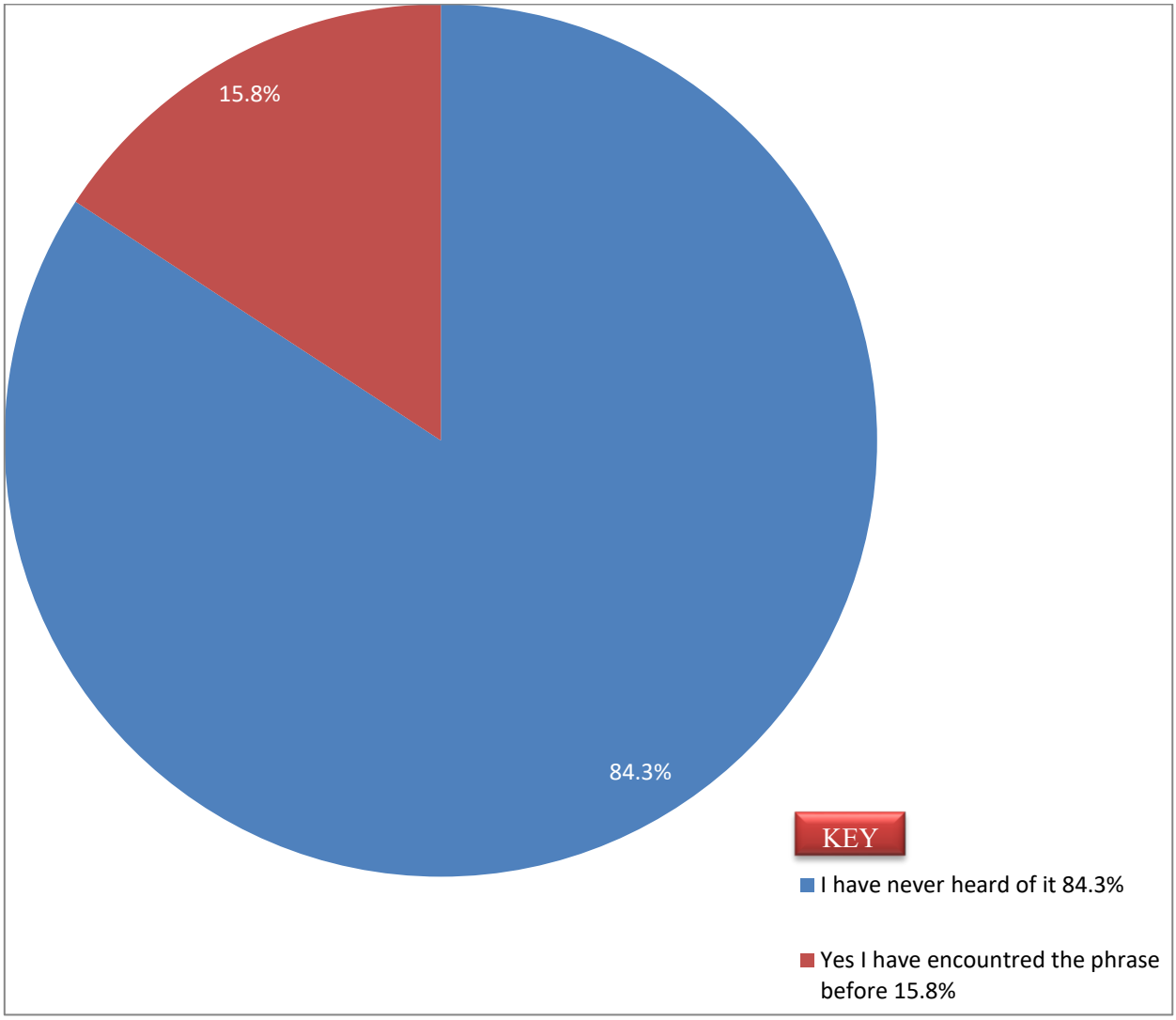

Figure 4.24: The Percentage of Respondents' Aware of the Phrase 'Pink October' and Those Who Were not aware.

Source: Field Survey

When the 400 respondents were asked if they knew its meaning, 13.8% knew that it refers to the breast cancer awareness month while 86.3% of them did not know what it meant.

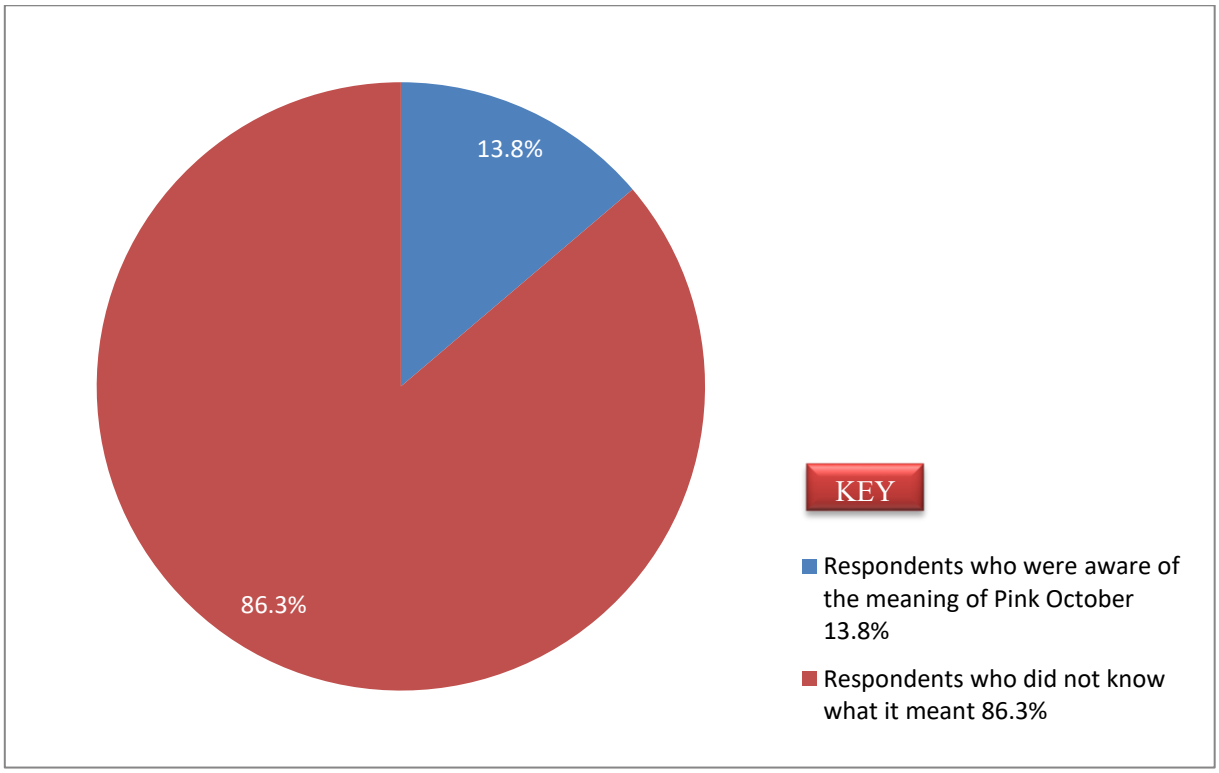

Figure 4.25: The Percentage of Respondents Who Had Heard about the Pink October Campaign, Where They Had Heard It and Those Who Had Never Heard of It Before the Study.

Source: Field Survey

When the 400 respondents were asked if they knew the activities that are undertaken during the campaign, 5.5% of the respondents said it was about breast cancer awareness creation, 3.3% said the campaign activities were about free screening, 3% said it involved wearing the pink ribbon in solidarity with Survivors while 0.5% said the aim of the campaign was Fundraising for research towards a cure. All the various responses with regards to its meaning were all correct but incomplete as they detailed aspects of the campaign but not the campaign in its entirety. The remaining 87.7% did not have any idea

of what it meant. This shows the campaign had a limited reach on the targeted audience at 12.3 % which was fragmented in detail despite all their responses being accurate.

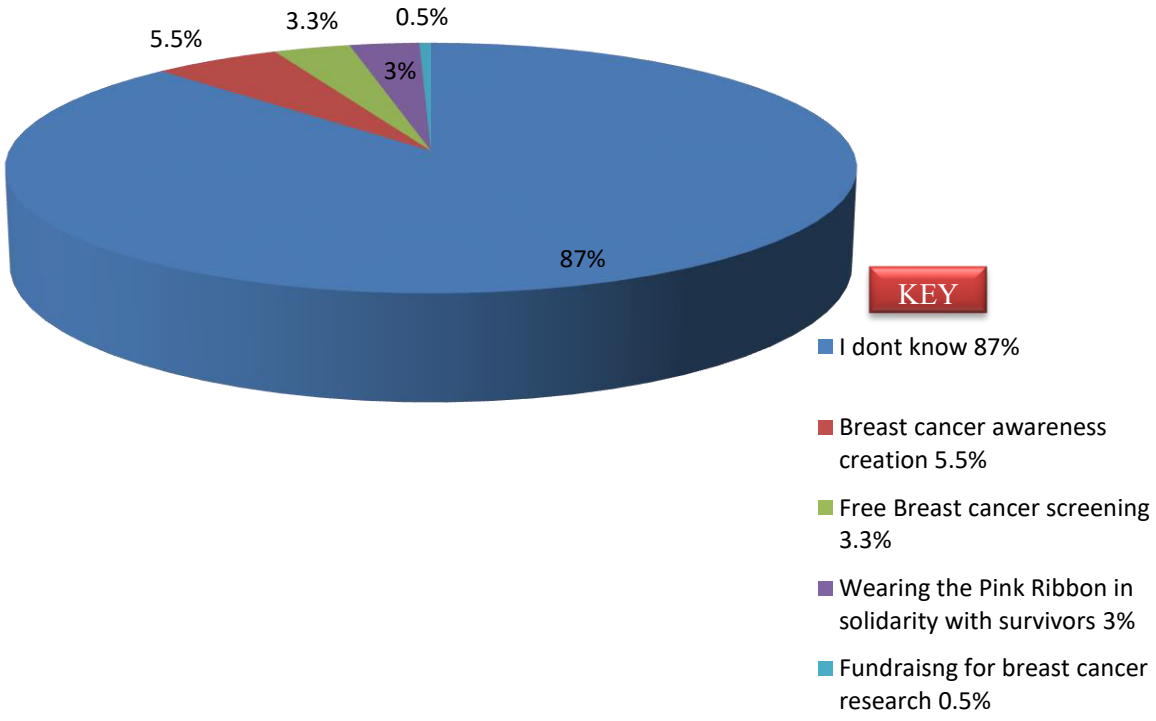

Figure 4.26 : The Percentage of Respondents Who Knew the Meaning of the Phrase Pink October and Those Who Did Not Know Its Meaning at the Time of the Study.
Source: Field survey

When the 15.8% of respondents who were familiar with the phrase were asked where they first encountered the phrase, 4.3% said they had seen it on Television, 3% had heard about via Radio, 1.8% had encountered it in a newspaper,1% said they heard about via word of mouth from friends,1% had heard about it while in high school and the last 1 % could not recall where they encountered it.

During the FGDs,2 members of FG-1,had heard about the Pink October campaign from television and radio respectively while the other six members had not All 8 members of FG-2, had not heard about Pink October before meaning 3(1+2) individuals out of 16 were aware of the campaign.

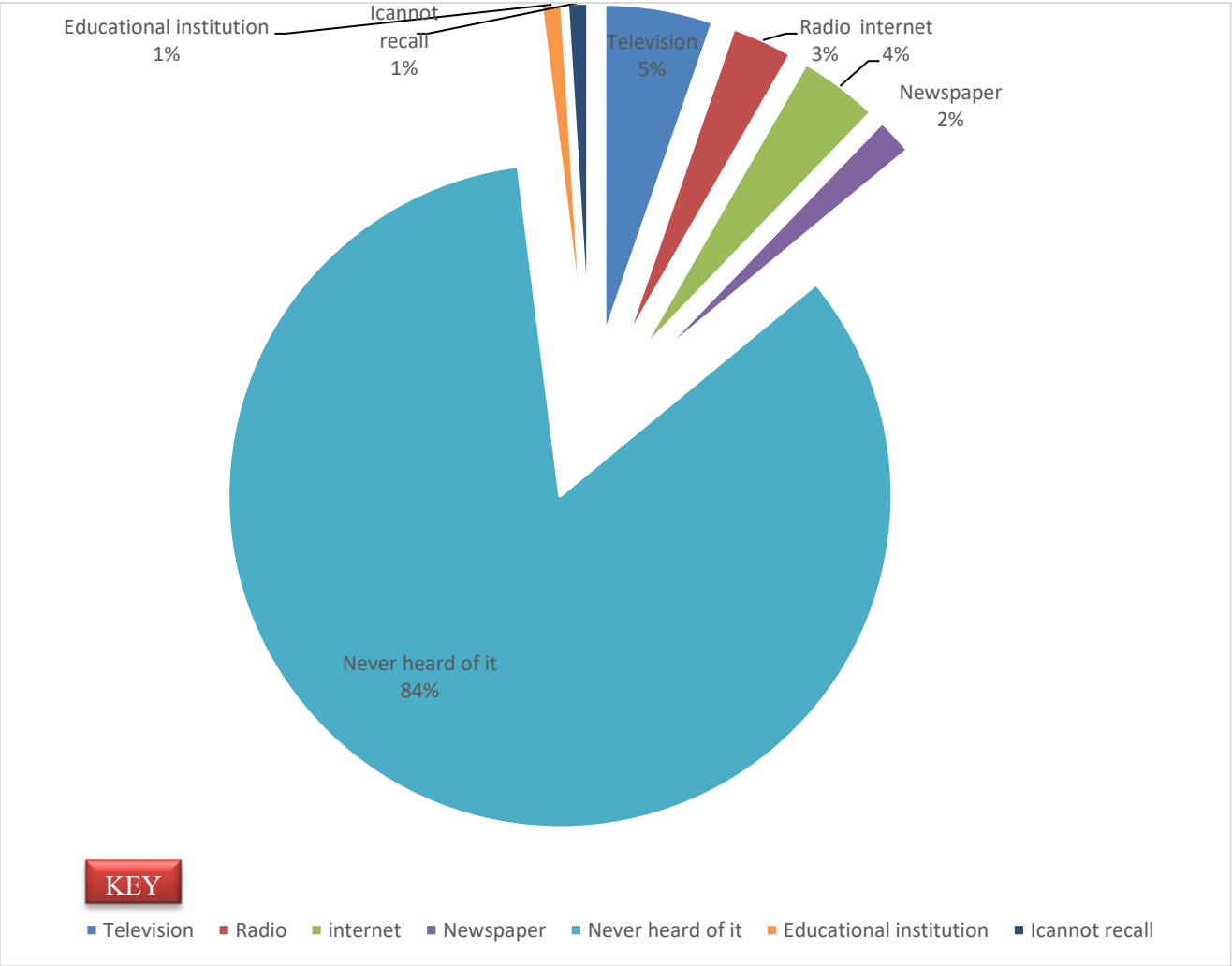

Figure 4.27 :The Percentage of Respondents Who Were Aware of the Activities Undertaken During The Pink October Campaign, Their Various Responses and also Those Who Were Unaware of Any Activity Undertaken During Pink October.

Source: Field Survey

During the FGDs two out of I6 FGD participants knew the activities undertaken with one FG-1 member stating that it involved free breast cancer screening while the other stated that the event involved educating the public about breast cancer and encouraging patients and survivors. The remaining 14 FGD members that remained did not know about the activities undertaken during the campaign.

All the activities stated by 12.3% of the 400 respondents and the two FGD members out of 16 were correct despite belonging to different categories as Pink October Campaign involves a variety of activities that are undertaken during this period to encourage public participation in awareness creation including but not limited to; Public educational lectures, walks, sporting events, wear pink days, and free screening campaigns (Mattos et al, 2024; 'Breast Cancer Awareness Month-Pink October', 2023).

Among the 400 respondents, those who knew about the activities undertaken made up 12.3 % which translated to 49 individuals, while in FGDs those who knew about these activities were 2 individuals out of 16 participants which translated to 12.5%.In both cases only 12% of the targeted audience was reached in This means the campaign did not have a wide reach as more than 87% of the target audience had never heard of it nor knew all the activities that were undertaken during the campaign period. Washirah(2014) opines that the causes of these unfavorable outcomes are attributed to limited funding on B.C awareness campaigns as focus by government and Non-governmental organizations in Kenya is still directed towards communicable diseases such a malaria and HIV/AIDS. Luna-Abanto (2022) in addition notes that October is not exclusively set aside for breast cancer awareness; other diseases have similar month long campaigns during the same period such as Downs Syndrome Awareness Month, Healthy Lung Month, Liver Awareness Month,

Lupus Awareness Month, National Orthodontic Health Month, National Spina Bifida Awareness Month and Rett Syndrome Awareness Month. It can therefore be argued that the significance of B.C awareness campaigns can get overshadowed or its impact reduced by many other competing awareness campaigns that are run on the same time period.

The study concluded that the Pink October was still unknown to the majority of respondents and FGD participants. Health communicators should therefore consider revising the structure and uniformity awareness messages currently in use, evaluate the modes of dissemination and highlight the significance activities like B.C screening, treatability and self-breast examination in order to reach more audiences.

4.3.3. Clarity of the Awareness Messages on the Targeted Audience.

Table 4.12:Clarity of the Awareness Messages on the Targeted Audience

Were you able to understand the awareness messages being Shared?		**Are you willing to share the information with others if you encounter these messages in future?**		**Have you ever been influenced to do anything during this period by the information shared?**		**Is the information shared during the campaign useful to you at a personal level?**	
I did not encounter any messages	76.3%	Yes	80 %	No	93%	Yes	53.3 %
Understood them clearly	6.3%	No	15.3%	Yes(Go for breast cancer screening)	7%	I don't know	41%
Understood them partly	12.3%	Not sure	4.7%			No	5.8%
Did not understand	5.1%						
Total	**100%**	**Total**	**100%**	**Total**	**100 %**	**Total**	**100 %**

Source: Field survey

Table 4.13 Indicates the percentages of the sample population of 400 respondents that were able to understand the awareness messages, those willing to share, those motivated to act by the information and those who found the information shared useful.

When the 400 respondents were asked if they were able to understand the awareness messages being shared during the Pink October Campaign, 12.3% understood them clearly, 6.3% understood them partly as some information was too complicated, bringing the total of those in agreement 18.6%(12.3+6.3), 5.1%(all males) disagreed stating that the messages being shared were not understandable as the terminologies used were unfamiliar to them such as Mammogram and Fibrocystic changes while 76.3% were yet to interact with or encounter the awareness messages. This further illustrates the limited reach of the campaign as the majority (76%) of the respondents had not encountered the messages hence they did not have opinions about it. For those who encountered the awareness messages totaling 23.7 %(18.6+5.1%), 5.1% could not comprehend the messages. Health communicators should therefore conduct an analysis of the targeted audience to better communicate to them using platforms and content that has clarity to improve on the reach and coverage. The feedback from the 5.1% who did not understand the messages despite encountering them suggests the underlying problem is in the framing of the awareness messages.

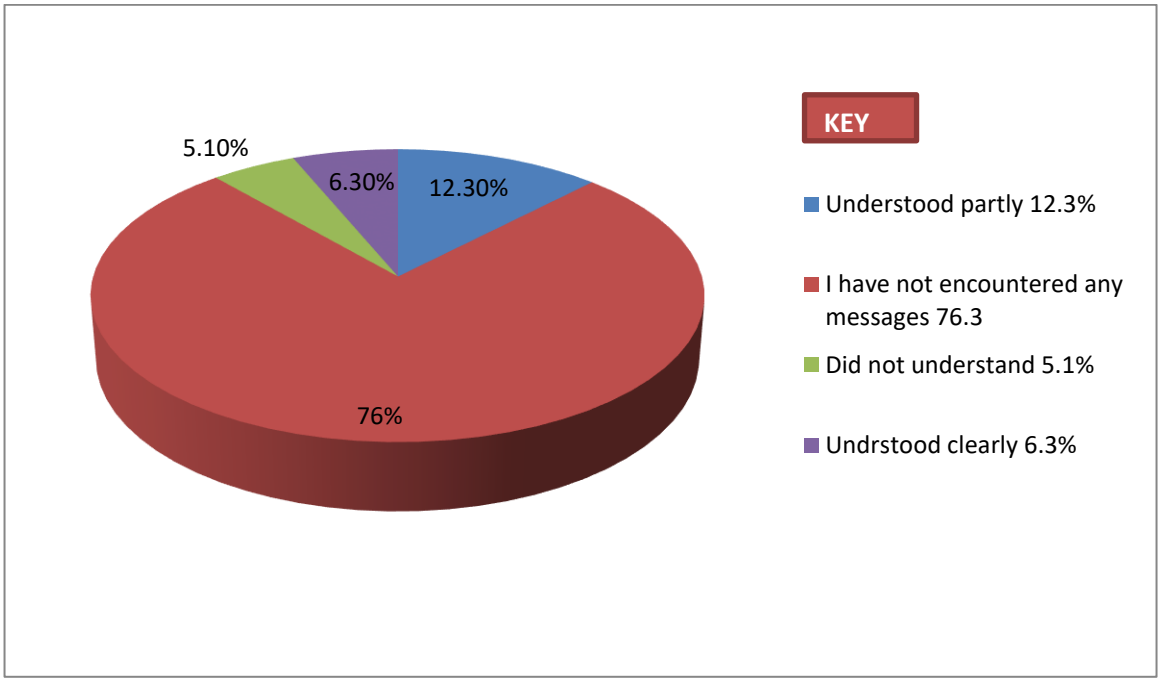

Figure 4.28: The Percentage of Respondents Who Were Able to Understand the Information That Was Shared,Who Were Not Able to Understand and Those Who Were Yet to Encounter the Messages.

Source: Field survey

During the FGDs, one FG-1 member (female) stated that she could understand the messages being transmitted while two FG-1 members did not know if they could as they had not encountered these awareness messages. Six FG-2 members were yet to encounter these messages while two FG-2 members (male and female) stated they could understand the messages, however the male group member said

'I could clearly understand that the poster was illustrating how to conduct a self –breast examination and I could follow the instructions but the pictures used were for a lady so it made me assume it doesn't affect men'

The remaining four FG-2 members had encountered the messages but did not understand them. The reasons given were; The issue of poor framing of messages leading to

confusion, using ineffective channels of dissemination or using a language or words that the audience is not familiar with. These issues could be addressed by applying the ELM model (Hedhli and Zourig,2022) in assessing the elements included in the messages before dissemination. In addition the gender bias in poster design as reported by the FG-2 male participant is a reflection of the HBM's key principle on how an individual's behavior is informed by their perceived susceptibility. The participant become disinterested after noticing it was a woman on the poster and assumed it was an issue only affecting women. These responses provide insights as to why most male respondents were not as informed as their female counterparts. Gender Inclusivity in the artwork and awareness materials can thus greatly improve retention and highlight the reality about the susceptibility of males.

When the 400 respondents were asked if the information disseminated during this time had ever influenced them to do anything, 7% stated that it had motivated them to go for the voluntary free B.C screening whereas 89.5% were not influenced in any way while 3.5% had never encountered the messages before the study During the FGDs, 15 participants from the 2 groups responded that they had never been influenced by the Pink October to do anything. One female FG-2 participant who had earlier seen the BSE poster stated that she performed the examination at least once or twice a month but had not gone for a clinical screening procedure. This implies the Pink October Campaign had very minimal impact of less than 10% of the sample population.

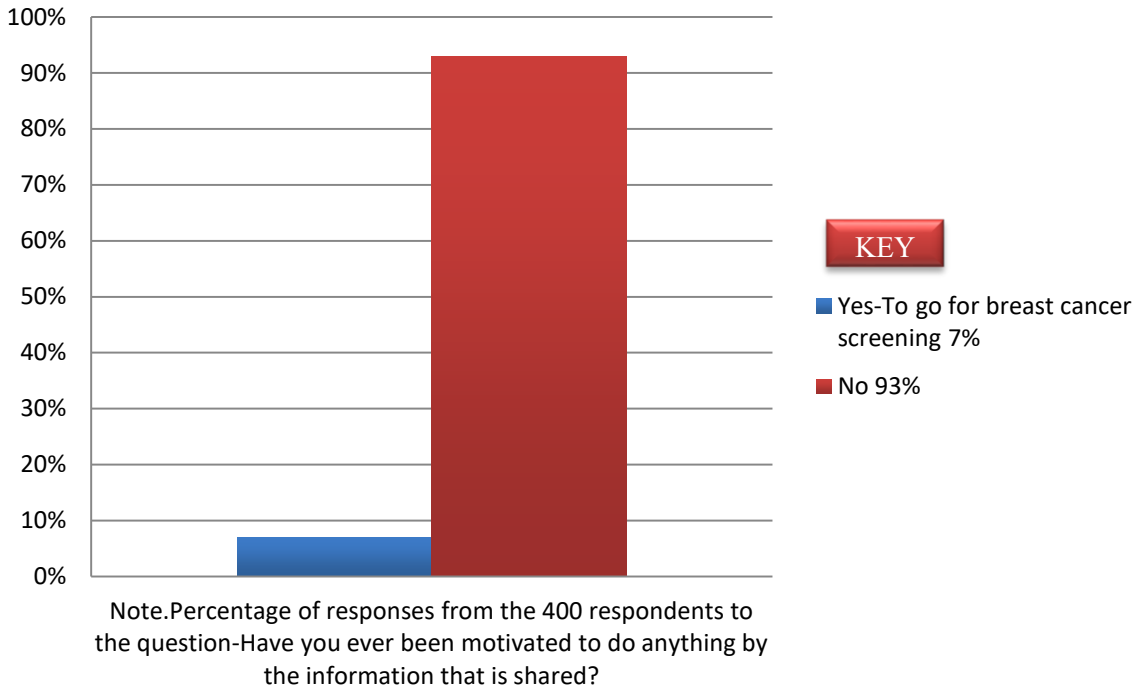

Figure 4.29: The Percentage of Respondents That Were Influenced By the Information To Go for Screening And Those That Were Not Influenced To Do Anything.

Source: Field survey

When the 400 were asked if the information shared was useful on a personal level, 53.3% said yes while 41 % remained neutral as 5.8% said no. During the FGDs, 4 participants said the information was useful, 10 were neutral as they had not encountered any awareness messages while 2 male FGD participants said the information was irrelevant to them as the disease only affected women. These results are echoed Loyland(2024) who opines that B.C's global prevalence rate and high mortality rate in LMIC' such as Kenya coupled with ignorance and conflicting reports about the disease or the associated risk factors results in confusion among the general public.

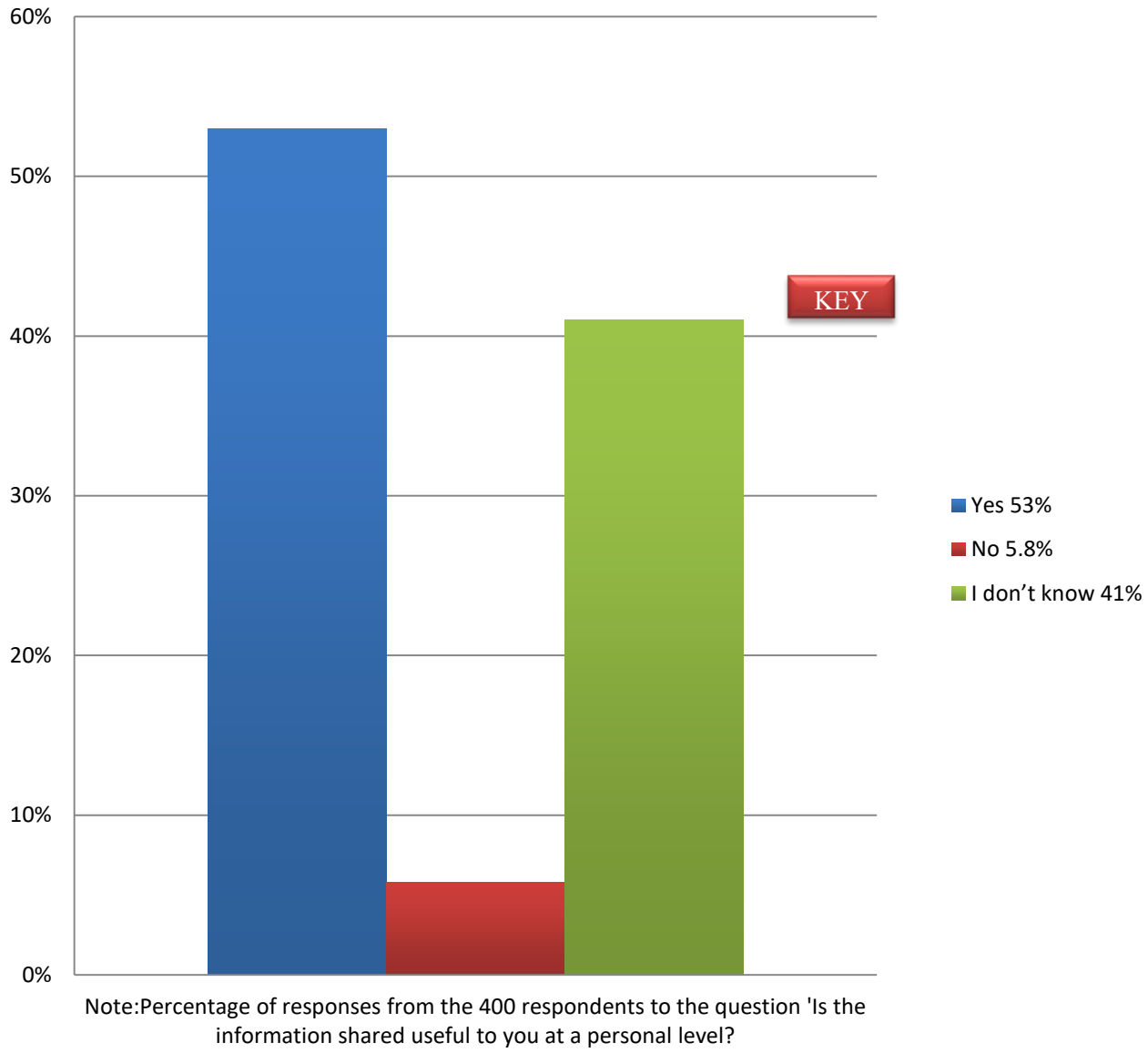

Figure 4.30: The Percentage of Respondents Who Found the Information Shared Useful To Them At the Personal Level, Those Who Did Not Find Them Useful and Those Who Did Not Know as They Had Not Encountered the Information Before.

Source: Field Survey

Despite more than 50% of the respondents saying they felt the campaign was useful as it contained informative information, they also insisted that it should be more consistent and uniform across platforms to avoid confusion. The 41% who were unsure or undecided are

still a very large number that should be targeted better in future efforts of awareness creation. The 5.8%(all male) who did not find the information helpful, felt that way as they believed being males ,they were not susceptible. In FGDs, 10 participants (8 female,2 male) felt the campaign was significant but should be more aggressive to reach more people while of the remaining six participants(all male) 4 remained skeptical about B.C affecting men. One FG-1 participant insisted ,

'I have never heard of a man developing Breast Cancer,'

Another FG-2 participant commented that,

'*Even if it affects men, it's a recent development due to junk food and genetically modified foods but I ensure I only eat organic food without preservatives,'*

The comments from the male participants not only aligns with HBM principle of susceptibility but it also ties in to the ELM principle of aesthetics affecting long term retention as female respondents related with images that included fellow women while the male respondents become disinterested or indifferent due to the same images. Health communication experts can therefore use these data results to ensure they design messages that highlight the benefits of B.C awareness information such as the significance of breast cancer screening and its treatability and gender dimensions of the disease.

4.3.4 Benefits, Information Sources and Recommendations about Pink October Campaign

Table 4.13:Benefits, Information Sources, Recommendations and Criticisms of Pink October

Benefits of 'Pink October'		**Where can you go to access information about 'Pink October'**		**Respondent opinion of the Pink October Campaign**	
I don't know	88.5%	Internet/Social media	40.8%	None	80.7%
Increased breast cancer awareness	8.8%	I don't know	37%	Consistent awareness creation throughout the year	6%
Uptake of breast cancer screening	2.2%	Health Centre	11%	Translate the information into native languages to increase coverage/reach	1.5%
Fundraising for breast cancer research	0.3%	Television	5.3%	Include this information in the school curriculum	1%
Encouraging patients and standing in solidarity with survivors	0.3%	Radio	3%	The use of the color Pink insinuates its gender specific	7.3%
		Newspaper	0.3%		
Total	**100%**	**Total**	**100%**	**Total**	**100**

Source: Field Survey

Table 4.14.indicates the percentage of the respondents who found the Pink October campaign beneficial, where they would go to find the information and their recommendations.

When the 400 respondents' were asked about the benefits of the pink October campaign, 8.8% stated that it increased awareness levels about breast cancer, which is true as its one of the objectives of the campaign ,2.2% said it encouraged the uptake of breast cancer screening,0.3% stated that it helps to raise money for breast cancer research while another 0.3% stated that it motivates breast cancer patients as it celebrates survivors giving hope of recovery.88.5% of the respondents did not know of any benefits. During the FGDs one FG-1 member found the information beneficial and stated,

'I find the messages shared to be beneficial on a personal level because, I learnt we can all become victims regardless of gender and that it's treatable'

5 members of FG-1 felt the information was important to them because breast cancer is a deadly disease and the public needs to know while the remaining 2 FG-1 members remained neutral.1 FG-2, member said that she felt the information was important as it created awareness about signs and symptoms, 5 FG-2 members had not encountered the information but said they believed public health awareness messages are important and beneficial to the recipients of said information while 2 FG-2 members wanted to wait until they encountered the messages to have an opinion about them.

11.5 %(8.8+2.2+0.3+0.3) among the 400 respondents understand the benefits of Pink October and could list them. Likewise in the FGDs, 12 (1+5+1) out of 16 individuals felt the information was beneficial to them despite 5 of them never having encountered any

information about breast cancer. This means 7(12-5) FGD members were the ones who were able to understand the messages.

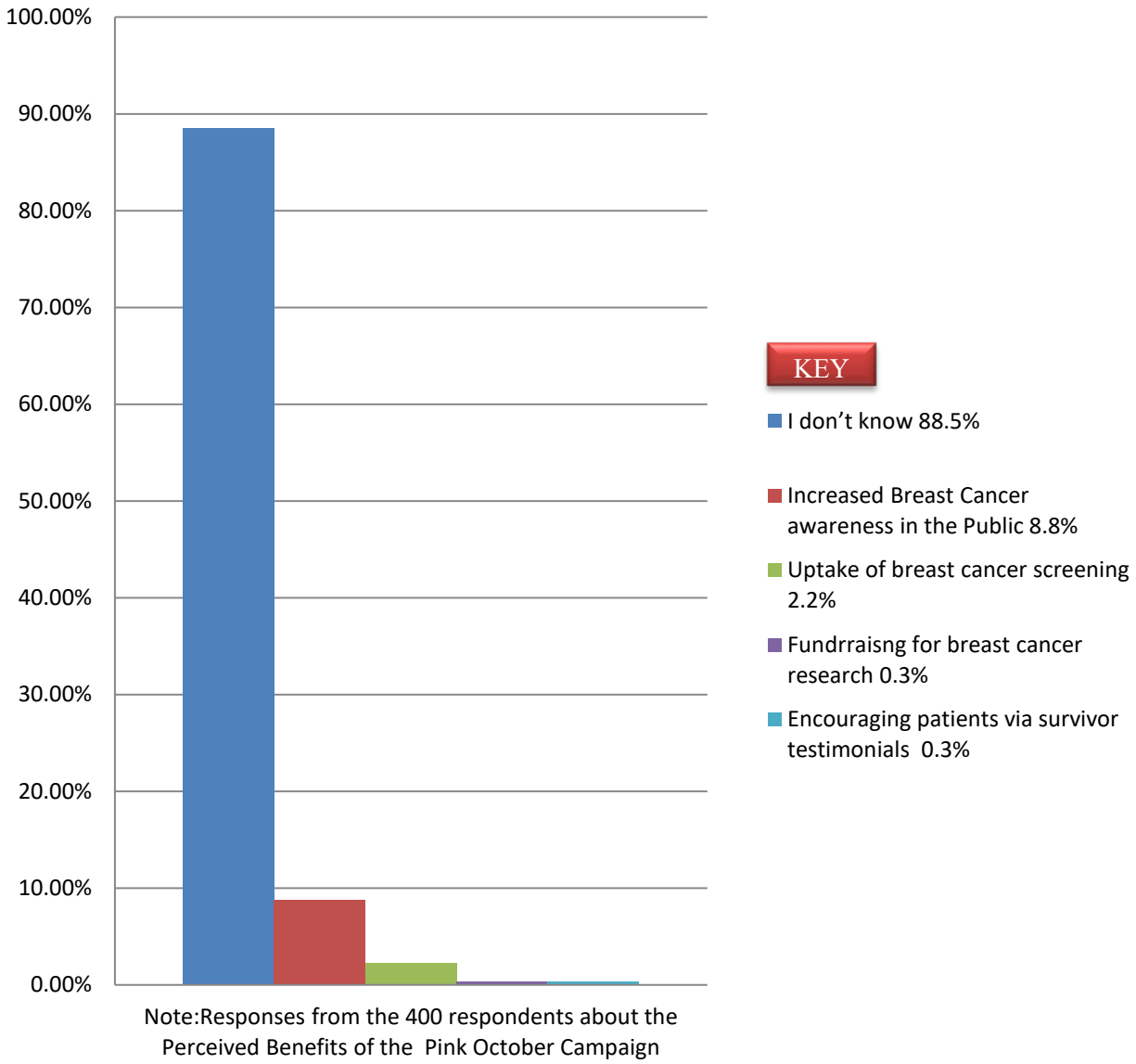

Figure 4.31: The Respondents Perceived Benefits of Pink October Including the Majority Who Were Did Not Know of Any Benefits

Source: Field Survey

When the 400 respondents were asked where they would go to look for information about the campaign ,40.8% said they would go the internet ,11% said the Health centre,5.3% said they would access the information via television ,3% said they would rely on the Radio while 0.3 % ,stated that they would rely on newspapers for the same information.

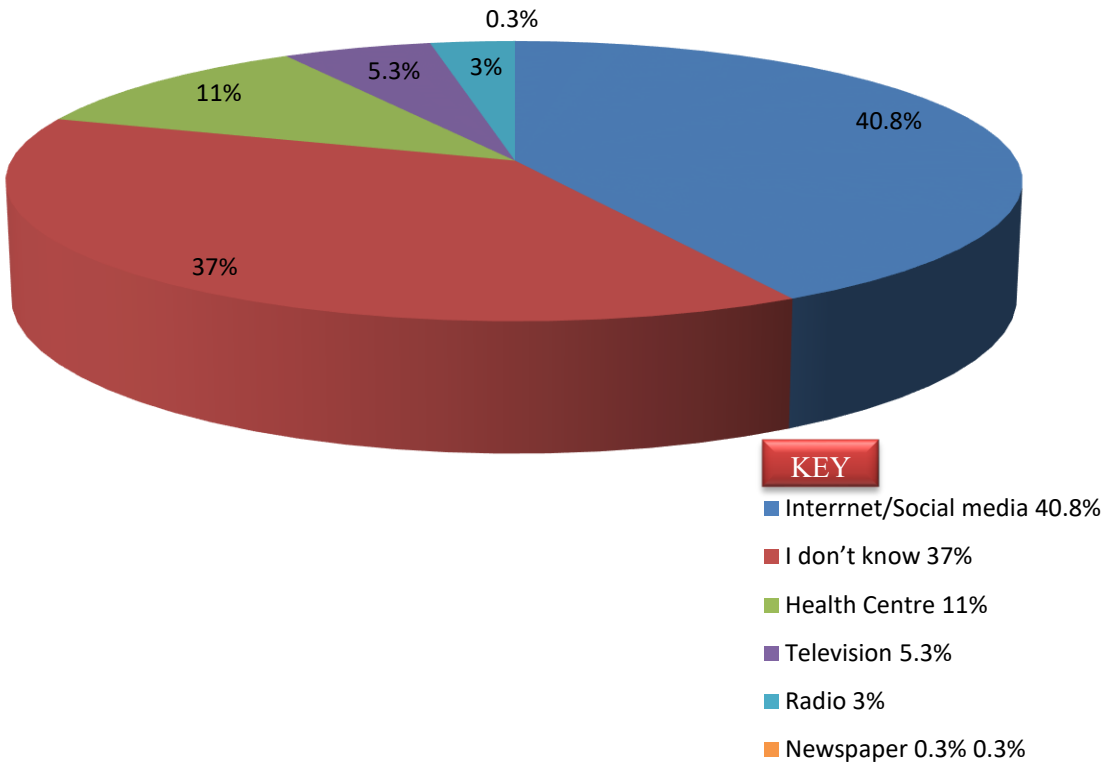

Figure 4.32: The Percentages of the Respondents Preferred Information Sources Regarding Breast Cancer.

Source: Field Study

During the FGDs, 5 FG-1 members said they would rely on the internet to get information about breast cancer, 2 FG-1 members said they would visit a health center if they needed

that information while 1 individual said she did not know where to get this information. FG-2 had 5 individuals state they would rely on the internet while 2 individuals said they still depended upon Radio talk shows for their health information while the remaining member did not know where to go to get this information.

This highlights social media as a powerful channel for awareness creation and the need to use all available platforms since print media at 0.3% and Broadcast media (Radio and Television)at 8.3% are losing ground to social media platforms as the primary information source for certain demographics especially millennial, Generation Z and Generation Alpha.37% of 400 respondents and 2 FGD members did not know where to go to get this information for themselves hence the need for health communication professionals to direct individuals to credible sources in order to fill that information gap.

These results that placed Social media above broadcast media in terms of reach were contrary to those of the State of the media report (2022) which placed broadcast media as those with the widest reach. This could be a result of the demographic of respondents being young, educated and exposed to enabled internet devices. However it's important to note that previous studies such as one conducted by Gandamiharja et al (2023) and Hill and Hayes (2015) established that despite being interactive, social media had the effect of encouraging 'Slacktivism' which means it does not push recipients in to action as the digital engagement tends to satisfy most recipients need for further inquiry from medical professionals. In this way, social media campaigns though interactive have their limitations in terms of influencing the targeted audience into acting on the information received. It therefore would imply that social media is a powerful too in sharing awareness messages due to its interactive nature but it should be used alongside other strategies as the main

objective of the campaign is not only to inform but to promote the adoption regular voluntary screening as well.

When the 400 respondents when asked if they had any recommendations, observations, opinions or criticisms about the Pink October campaign from a recipients' point of view, they gave the following suggestions; At least 7%(all male) of the respondents felt the use of the Pink color insinuated that it's an issue that only affects women, 6%(All female) proposed that awareness creation should be consistent and not just one month in a year for it to be effective and reach more people, 1.5% of the respondents suggested that the information in awareness campaigns be translated to native languages including urban street slang to ensure all the targeted demographics have been reached.1% of the respondents suggested that the awareness creation information become part of the school curriculum so as to ensure people are armed with the correct knowledge as early as possible in life.

During the FGDs, the participants gave the following recommendations when asked ; 1 member from FG-1 and 2 from FG-2 suggested that the awareness campaigns should be consistent throughout the years opposed to just 1 month. This is similar to recommendations by the W.H.O(2024) based on global trends in western countries where breast cancer screening uptake spikes during the campaign period then starts dropping after the campaign period has elapsed. Consistent awareness creation would prevent these fluctuations and encourage better breast health seeking behavior. During the FGDs, 4 members of FG-1 suggested that this information should be part of the school curriculum.

These observations align with the results of an earlier study by Budakoglu et al (2007) which established that educational programs that create breast cancer awareness have been effective in increasing health-promoting behaviors such as BSE and that following being exposed to an educational video, women's susceptibility, perceived self-efficacy of BSE and perceived benefits of mammography increased. This aligns with the HBM (Petty et al,2009) which posits individuals will only take action regarding a health issue if they aware of their susceptibility.

This is because in the absence of a cure for breast cancer, early detection is fundamental in helping to reduce breast cancer mortality. In addition, Seymour (2018) supports incorporating this information into the school curriculum because when knowledge levels about an issue are increased from a young age, risk factors can then be reduced as the audience is thus empowered with information that enables them to make informed decisions regarding their health or treatment in the event of an illness.80.7% of the 400 respondents shared no opinions or observations about the Pink October

7 FGD members(3 FD-1+4 FG-2) did not have any recommendations as they were not familiar with the campaign.1 member from each group suggested that the government should subsidize cost of screening and medication to make them more accessible to more people,1 member of FG-2,suggested the use of community outreach programs and inclusion of local opinion leaders to reach people in rural areas which aligns with earlier research study conclusions by Sayed (2019) and Nyambane et al (2015),which established that the use of opinion leaders from a diverse sub-group i.e. religion, politics and culture together with community members in voluntary capacities had also been observed to create a sense of ownership of outreach programs by the targeted communities.

However, such strategies that aim to blend in with different cultures and their respective native tongues in connection with raising B.C awareness or communicating screening uptake in Kenya are yet to be realized or attempted. 1 FG-1 member proposed free breast cancer screening throughout the year to facilitate early detection and these results are similar to findings by Koech *et al.* (2024) that established approximately 80% of B.C patients in developed countries survive due to the awareness campaigns and early detection strategies while the situation is different in LMIC; s such Kenya where the percentage of Kenyan women who voluntarily undergo B.C screening is at 12% in population of 54 million and only 7% of the sample population reported that they went for screening.

The study concludes that majority of the respondents (63%) know how and where to access breast cancer awareness information, however it's the framing of the contents and the challenge of limited accessibility to said information result in the information the gap between health communicators and their recipients when it comes to B.C awareness. Establishing trusted sources for B.C information, ensuring availability of adequate screening equipment and specialized personnel to targeted audiences is vital in increasing the uptake of breast cancer screening

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This study was conducted in order to assess the Pink October Campaign as a tool for B.C awareness among students of Masinde Muliro University of Science and Technology (MMUST) in Kakamega County, Kenya. The objectives were to examine the knowledge levels among MMUST students regarding B.C symptoms, treatability and preventive measures,To establish the communication channels used during the Pink October Campaign through which MMUST students encountered B.C awareness information and to determine the effectiveness of the Pink October Campaign in influencing MMUST students to undergo voluntary screening for B.C.This section deals with the results from the data analysis and the conclusions recommendations that arise.

5.1 Conclusions

The results of the questionnaire survey established that the level of awareness about the existence of B.C was 89.5%which was also very high while for the FGDs it was 100% as the groups were made up of continuing students who had been exposed at least once or more than thrice to the campaign. However, aside from having heard about it or being aware of its existence, the level of awareness about the actual nature of the disease, treatment options and preventive measures against it was very low with 42.5% of the 400 respondents aware of the signs and symptoms.32.5% were aware of potential causes, 21.1% were aware of preventive3c measures while 19.9% were aware of breast cancer screening.48.3% were aware that it is treatable while only 2% had managed to go for screening.

90% of the respondents stated that lack of awareness about the B.C screening was the reason for not doing the test while 79.9% listed inadequate information as the major hindrance towards uptake of breast cancer screening.71.5% of the respondents also listed fear of outcome as a reason for not going for screening, this was due to the fact that cancer and breast cancer in particular has the unofficial reputation of being a fatal disease.

When it came to the awareness strategies that were currently in use, 32.3% were aware of breast cancer awareness month with 19.8% knowing that it occurs on October. The study concluded that the use of broadcast media platforms in disseminating B.C awareness messages was one of the strategies that had the widest reach and coverage with Television and radio accounting for 47.5% of sample population that had encountered awareness messages. This means in broadcast media television accounted for 58.94% while radio accounted for 41.05% of all broadcast awareness messages that reached the sample population.

Print media, accounted for 16% of the sample population that encountered these messages. Billboards emerged as having the widest reach accounting for 10% of all print media awareness strategies that were mentioned by the respondents. This means billboards account for 62.5% of all print media awareness strategies that reached the sample population .Health centers accounted for 12% of the sample population that had encountered the awareness messages and this can be improved as they have a consistent flow of human traffic and they are open throughout the year. The use of posters can also be increased as they account for only 5.5% yet they are the most visible communication materials in health center receptions.

Social media sites accounted for 11.5% of all the sample population and this should be taken into account as online digital platforms are quickly replacing traditional platforms in the younger demographics as a source of information. Word of mouth came last at 6.5% and was encountered at home or via face to face interactions with health care professionals yet it is the most convenient and cost effective means of communication that should be included as part of community outreach programs.

When it came to the Pink October campaign, 15.8% of the sample population had heard about it with 12.3% able to explain its meaning accurately.18.6% of the sample population was also able to understand the breast cancer awareness messages they came across with 7% stating they had been persuaded by those messages to go for screening. This means more than two thirds of the sample population could not understand or had not come into contact with any awareness messages with 89.5% were not impacted in any way by the awareness messages shared during the campaign 3.5% were yet to be reached by the campaign hence had not interacted with the information..

However, 53% felt that the information shared was useful at a personal level with 11.5% able to articulate the perceived benefits of the Pink October Campaign. The study therefore concludes that the Pink October Campaign was not an effective strategy for spreading B.C awareness among MMUST students in its current state as it only managed to persuade 7% of the 400 respondents and 0% of the FGD participants to go for voluntary B.C screening.

From the data collected from the 400 respondents, and the 16 FGD group members, it was established that respondents, felt one month was not adequate to create awareness that would have the desired impact on the targeted audience. In addition, they also had issues

with the use of English and Kiswahili in most of the awareness messages they encountered as it left out those who can only speak in their native languages. The use of the Pink color was also mentioned by 7 %(All male) of the 400 sampled population and 1 FGD-1 Participant as a source of confusion or, miscommunication with regards to the specific gender being targeted. The most common criticism however was the limited access to information about B.C.

5.2 Recommendations

Basing on the results from the data analysis, the information gaps and the awareness strategies identified, the following recommendations when implemented will improve the outcomes of future breast cancer awareness campaigns.

- The first recommendation is that the awareness strategies should be designed with the targeted audience in mind, for example with 40% of the sample audience preferring to use the internet if and when they are to search for health information, the campaigns should incorporate the use of popular online platforms among the youth like Tiktok, Facebook, Snapchat and X (Formerly twitter) to reach this demographic. For the audiences that are not fluent in Kiswahili or English, the use of native languages and urban street slang in the awareness material being shared will greatly increase the coverage and reach of these messages. Furthermore, the framing of the content used in the awareness messages in the media should highlight the actual nature of the disease, treatability, treatment options, preventive measures and survivor testimonials which offer encouragement to current victims or those yet to undergo screening as compared to the current trend of highlighting incidence and mortality/fatality rates which instill fear in the recipients. For

example instead of referring to the tests as breast cancer screening procedures, they can be categorized under breast health tests as there are many other issues that affect the breasts. This will also diffuse the fear of outcomes as it does not insinuate the test will be positive for breast cancer and even if it is, the fact that it's treatable in early stages also removes the fatal label that is currently attached to the disease and is re-enforced by the often shared .mortality statistics. Public Health communication specialists therefore must ensure to develop messages that appeal to both the direct and indirect routes of the conscious mind while highlighting the significance of regular screening, treatability and the 4 stages of breast cancer.

- In Public universities and colleges, this information can be included in the orientation programs or added as a common course to increase the current low levels of awareness among undergraduate students as established by the results of the data analysis. In Primary and secondary schools the same information can be incorporated into the syllabus to give the younger sections of society the ammunition that will enable them make better health choices as they grow. This will not only reduces the fatalistic stigma associated with the disease but also encourage the adoption of preventive measures early on in life.

- The government through its Ministry of Health should offer more support in terms of developing policies that address funding and acquisition of specialized human resource and adequate breast cancer screening equipment acquisition for public health facilities to increase accessibility. A separate budget should also be allocated for awareness creation as the current budgetary allocation for B.C focuses on palliative care and treatment. Awareness campaigns should also be facilitated to

continue throughout the year in combination with free screening services just as has been done for HIV/AIDS with the introduction V.C.T whose presence all over the country and the free services offered reduced the stigma that had been attached to the disease. Lastly, just like HIV/AIDS and Malaria, Information about breast cancer should be incorporated into the school curriculum to create awareness as early as possible.

When all the established factors hindering the Pink October campaign from reaching its target audiences are managed and the recommendations' taken into consideration during the designing, planning and implementation of breast cancer awareness campaigns, the results will be wider coverage as all the targeted demographics in Kenyan will be reached.

5.3 Suggestions for further research

Areas of study that require further research should be studies to determine the best feedback mechanisms that can be used during awareness campaigns to assess their effectiveness and the study of emergent trends in awareness campaigns that can better communicate to audiences who rely on the internet as a primary source of information as opposed to the traditional media (Television, Radio and Print Media) whilst having the ability of cuing recipients into action.

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APPENDICES

Appendix 1: Questionnaire

This questionnaire is prepared for the purpose of collecting relevant data for an academic research project Utilization of the Pink October Campaign as a tool in Breast Cancer Awareness among University Students in Kenya.

(TICK WHERE IT IS APPROPRIATE)

Demographic information

Please indicate your age bracket (Tick the appropriate box)

1. Age: **Gender: Male** **Female**

i. 18- 28years

ii. 29- 39 years

iii. 4**2. Please indicate your marital status (Tick the appropriate box)**

i. Single (Never married)

ii. Married

iii. Widow

iv. Separated

v. Divorced

3. Please indicate your current education level (Tick the appropriate box)

i. 1st Year

ii. 2nd Year

iii. 3rd Year

iv. 4th Year

4. Please indicate your School (Tick the appropriate box)

i. School of Arts & Social Sciences

ii. School of Education

iii. School of Public Health, Biomedical Sciences and Technology

5**. Please indicate your Department (Tick the appropriate box)**

i. Criminology and Social work

ii. Journalism and Mass communication

iii. Languages and Literature Education

iv. Medical Laboratory Sciences

v. Health Promotion and Sports Science

6. Please indicate your denominational affiliation (Tick the appropriate box)

i. Christian

ii. Islam

iii. Others (please specify) ……..

7) Please indicate the number of children born to you (Tick the appropriate box)

i. None

ii. 1-4 children

iii. 5 or more children

SECTION A: Knowledge Levels among University Students Regarding Breast Cancer.

1. How many types of cancer do you know about?

2. Have you ever heard of Breast Cancer?

a) Yes

b) No

3. Where did you hear about it?

i. Home

ii. Health Centre

iii. Radio

iv. Television

v. Newspaper

vi. Community gathering

vii. Internet

4. What message was being communicated? Please explain.

5. In what format/Channel was the information presented? (Tick all that are appropriate to you)

i. Newspaper

ii. Magazine

iii. Posters

iv. Billboard

v. Pamphlet

vi. Radio

vii. Television

viii. Internet

ix. Health Worker

x. Opinion Leaders./Student Leaders

6. Is Breast Cancer gender specific?

a. Yes

b. No

c. I don't know

7. If yes which gender is most affected?

a) Men

b) Women

8. Is breast cancer treatable?

a. Yes

b. No

c. I don't know

9. If yes, give a brief explanation?

10. If the answer is no, give a brief explanation

11. If the answer is ‘I don’t know,’ give a brief explanation.

12. What causes Breast Cancer?

13. Who is at most risk of developing breast cancer? Briefly explain

14. Do you know of any signs or symptoms of Breast Cancer?

15. Are you aware of any tests that can be done to detect Breast Cancer?

a) Yes

b) No

16. If yes list the ones that you know

17. How often should Breast Cancer Screening be conducted?

18. How did you get the information about breast cancer screening?

19. If you wanted to access information about breast cancer today, where would you go to get it?

20. Have you ever done any breast cancer screening test?

a) Yes

b) No

21. Do you know the name of the test you did?

22. How many times have you done this test?

23. Do you know of anyone who has done breast cancer screening?

24. How many times should this test be done?

25. What is the importance of breast cancer screening? Briefly explain

26. Are these tests paid for or offered for free?

27. In your view, what are the reasons that prevent people from going for Breast Cancer screening?

(Indicate your response with a tick)

EASON	YES	NO	NOT SURE	I DON'T KNOW
Lack of awareness about Breast Cancer				
Limited access to Breast cancer information				
Limited access to screening equipment				
Financial Constraints				
Inadequate information				
Fear of the outcome from screening.				
Cultural beliefs				
Religious beliefs				
Language Barrier				
Other (Specify)				

28. Can individuals self-examine themselves for Breast Cancer?

29. If yes, how often should one do it?

30. How can an individual reduce their chances of developing Breast Cancer?

Section B: Campaign Strategies Currently Being Used In Breast Cancer Awareness.

1. Have you heard about Breast Cancer Awareness Month?

a) Yes

b) No

2. If your answer is yes, which month is it?

3. What activities take place during this month?

4. Do you know of any campaigns that are carried out during this period?

a) Yes

b) No

5. Can you list the ones that you know?

6. Have you ever seen this symbol?

7. Where did you see this symbol?

a) Pamphlet

b) Television

c) Newspaper

d) Internet

e) Bill board

f) Health worker/Nurse/Clinical Officer/Doc

8. Do you know what this symbol represents?

a) Yes

b) No

9. If your answer is yes, briefly explain?

10. Does this symbol motivate you to do anything?

11. If so, what does it motivate you to do?

12. Are you aware of any other ribbons that represent other types of cancer?.

a) Yes

b) No

13. If the answer is yes, give examples.

14. Have you ever gone for breast cancer screening?

c) Yes

d) No

15. If the answer is yes, state what influenced your decision?

16. If the answer is no, state the reason why?

Section C: Suitability of the Pink October Campaign As a Tool in Breast Cancer Awareness among University Students in Kenya.

1. Have you ever heard of the phrase 'Pink October'?

a. Yes

b. No

2. If your answer is yes, can you explain what it means?

3. When did you first hear about the Pink October campaign?

4. What are some of the activities that are carried out during the pink October campaign?

5. Are there any benefits arising from the Pink October Campaign?

6. Have you ever been influenced to do anything with regards to Breast Cancer during this month?

7. Where can you go to access information about the pink October campaign?

8. Are you able to understand the messages about breast Cancer that you have been exposed to during this period?

9. Would you be willing and able to share the information you got with others?

10. Do you find the information that is shared during this period useful to you at a personal level?

11.

12. Do you have any criticism or recommendations' about the; 'Pink October Campaign'

Appendix 2: Focus Group Discussions

This FGD guide is designed for the purpose of collecting relevant data for an academic research project on Utilization of the Pink October campaign as a tool in breast cancer awareness among MMUST Student in Kakamega County, Kenya.

Introduction

Good morning and welcome to our session. Thanks for taking the time to join us. My name is Kevin Omwayi; I am a master's student in MMUST from the department of Journalism and Mass Communication. I am here to collect information from those of you in attendance about your perceptions with regards to the Pink October Campaign as a tool in Breast Cancer awareness.

You were invited because you currently reside in Kakamega County and are part of the MMUST student body which at 16500 students represents a sizeable proportion of Kakamega county residents.

There are no wrong answers but rather differing points of view. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that we're just as interested in negative comments as positive comments, and at times the negative comments are the most helpful.

We're video recording the session because we don't want to miss any of your comments. People often say very helpful things in these discussions and we can't write fast enough to get them all down. We will be on a first name basis today, and we won't use any names in our reports. You may be assured of complete confidentiality.

Section A

1. How many types of Cancer are you aware of?
2. Have you ever heard of Breast Cancer?
3. What causes Breast Cancer?
4. What are the signs and symptoms of Breast Cancer?
5. Is Breast Cancer Treatable?
6. Who is, most affected by Breast Cancer?
7. Where did you get this information?
8. Basing on today's discussion, what is the most important piece of information about BC that you would share with others given the chance?

Section B

1. Have you heard about Breast Cancer Awareness month??
2. What are some of the activities that take place during this period?
3. Have you seen or heard about the Pink Ribbon?
4. Where did you see or hear about it?
5. What does the pink ribbon represent?
6. In your view, what is the relationship between the Pink ribbon and breast cancer awareness?
7. Does the pink ribbon influence you to do anything?
8. What other breast Cancer awareness campaigns are you aware of?

Section C:

1. What does Pink October mean?
2. What are some of the benefits of the Pink October Campaign?
3. Are there negative aspects of this campaign?
4. How long should the Campaign last?
5. Has the Pink October campaign influenced your decision to go for voluntary breast Cancer screening?
6. Where can you go to access information about breast cancer today?
7. Would you voluntarily participate in the pink October campaign?
8. Do you have any recommendations or suggestions with regards to the Pink October Campaign?

Appendix 3:Approval letter

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

Tel: 056-31375
Fax: 056-30153
E-mail: ierc@mmust.ac.ke
Website: www.mmust.ac.ke

P. O. Box 190,
50100.
Kakamega,
KENYA

Institutional Scientific and Ethics Review Committee

REF: MMU/COR: 40312 Vol 6(01)

Date: July 30th, 2025

To: Mr. Kevin Omwayi Ngaira

Dear Mr. Omwayi,

RE: ASSESSING THE EFFECTIVENESS OF THE PINK OCTOBER CAMPAIGN IN PROMOTING BREAST CANCER AWARENESS AMONG UNIVERSITY STUDENTS IN KENYA. A CASE STUDY OF MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY.

This is to inform you that the ***Masinde Muliro University of Science and Technology Institutional Scientific and Ethics Review Committee (MMUST-ISERC)*** has reviewed and approved your above research proposal. Your application approval number is **MMUST/ ISERC/143/2025.** The approval covers for the period ***July 30th, 2025 to July 30th, 2026.***

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by ***MMUST-ISERC.***
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to ***MMUST-ISERC*** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to ***MMUST-ISERC*** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to ***MMUST-ISERC***.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed

Yours Sincerely,

Prof. Gordon Nguka (PhD)
Chairperson, Institutional Scientific and Ethics Review Committee

Copy to:

- The Secretary, National Bio-Ethics Committee
- Vice Chancellor
- DVC (PR&I)

Appendix 4: Nacoste Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **779600**

Date of Issue: **14/August/2025**

RESEARCH LICENSE

This is to Certify that Mr.. Kevin omwayi Omwayi of Masinde Muliro University of Science and Technology, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kakamega on the topic: Assessing the effectiveness of the Pink October Campaign in Promoting Breast Cancer Awareness among University Students in Kenya. A Case Study of Masinde Muliro University of Science and Technology. for the period ending : 14/August/2026.

License No: **NACOSTI/P/25/4177997**

779600

Applicant Identification Number

Ag. Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions