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Women's Exposure to Breast Cancer Media Messages and Adherence to Mammogram Screening

Olayinka Susan Ogundoyin[1]*, Gladys Gbemileke Adegbola[1], Daniel Ikesinachi Nwogwugwu[2], Joseph B Ayantade[2], Ngozi O Osueke[1], Odunayo Christianah Adedeji[1]

[1]Mass Communication Programme, Bowen University, Iwo, Osun State Nigeria, [2]Communication Arts Programme, Bowen University, Iwo, Nigeria. *Corresponding Author's Email: olayinka.ogundoyin@bowen.edu.ng

Abstract

Breast cancer is a prevalent and deadly disease among women in Nigeria. While mammography has proven to reduce breast cancer mortality, the participation of women in mammography remains low despite media awareness efforts. This study examined the impact of media messages on women's participation in mammography, using the Health Belief Model and Diffusion of Innovations theory. A survey of 395 respondents in selected areas of Ibadan North LGA, Oyo State, Nigeria, was conducted using the stratified sampling technique. Key Informant Interviews were also held with health professionals from the University College Hospital (UCH), Ibadan, and media professionals from Splash FM and the Nigerian Television Authority, Ibadan. The quantitative data were analysed using SPSS version 26 and presented using descriptive and inferential statistics, while the qualitative data was thematically analysed. The findings indicated that media messages have an insignificant impact on women's participation in mammography, with a correlation coefficient of 0.05 ($p = 0.17$). The regression coefficient for media messages was 0.05, with a standard error of 0.03, a t-value of 1.67, and a p-value of 0.097. The study identified poverty and misinformation as significant barriers to women's participation in mammography. Therefore, exposure to media messages about breast cancer did not significantly influence women's participation in mammography. The study recommends more explicit information dissemination and stronger collaboration between healthcare professionals and the media to address these barriers.

Keywords: Adherence to Mammogram Screening, Breast Cancer, Breast Cancer Media Messages, Mammogram Screening, Media Messages.

Introduction

Breast cancer is one of the most significant public health issues globally and has been identified as one of the leading cancers that lead to death in women (1). However, despite media awareness, data on the rate of breast cancer among women keeps increasing. In 2020, for example, 2.3 million women were diagnosed with breast cancer, resulting in 685,000 deaths globally. However, 7.8 million women were living with breast cancer diagnosis at the end of 2020 (2). Nigeria is recorded to have the highest breast cancer mortality rate in Africa, accounting for 14,274 (18.1%) of all cancer deaths (3). Hence, early detection through well-timed screening and diagnosis through mammograms are crucial in reducing, if not curbing, breast cancer mortality rates (2). This is because mammograms help increase the likelihood of successful treatment. To this end, awareness creation plays a significant role in educating and mobilizing women about breast cancer, and one of the ways to achieve this is through the media. Breast cancer media messages are important because they contain extensive information aimed at creating awareness, sensitizing and educating the public on its epidemiology, risks, prevention and the importance of participating in breast cancer screening exercise through mammography. This is done through different media channels for the target audience, such as radio, television, newspapers, magazines, and digital platforms such as social media, blogs, and websites. Information dissemination using these different communication channels and targeting a specific number of people within society is called a public health campaign. Public health campaigns use these media channels by featuring survivor stories, public service announcement, educational

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content, and expert interviews. All these are to create and heighten awareness, dispel myths and boost proactive health behaviors (4). Studies have implied that the media might not be disseminating adequate breast cancer information because media awareness of breast cancer was inadequate in Nigeria (5), which could be an indication of the poor knowledge and practice of screening modalities such as mammography. In another study, even when there was an increase in media awareness, there were fears of scarce screening methodologies. This led to mammography screening barriers such as the fear of contracting diseases, myths and rumors about early breast cancer detection methods, illiteracy in rural areas and poverty, among others (6). Therefore, the relationship between media and mammogram adherence is essential since the media can motivate women to undergo timely mammogram screening. Media campaigns effectively influence women's health behaviors by disseminating credible information, emotional appeals and social proof. Moreover, people respond well to factual, educational content that dispels common myths and misperceptions about mammography- this, in turn, reduces anxiety-related participation (7). As a common globally diagnosed cancer among women, people living with breast cancer can survive with early detection. In Nigeria, women with early detection have higher chances of survival than those who have reached advanced stages. However, despite awareness through the media by governmental and non-governmental agencies in Nigeria, there are significant gaps in breast cancer awareness and the actual uptake of mammograms for early detection. While awareness messages focus on the need for women to present themselves early for breast cancer screening, the late presentation for screening remains on the increase. Hence, this poses a significant challenge to women engaging in improved, healthy breast practice. To this end, this study builds on existing breast cancer media awareness-related studies to further determine women's adherence and behavioral changes to these media messages. This gap is necessary to have a holistic appraisal of the causal relationships between exposure to media messages and adherence to the messages through participating in screening exercises. This study's main research question asks: To what extent does women's exposure to media messages on breast cancer influence their decision to participate in screening exercises? Hence, this study's objectives include 1. to examine the current extent of women's exposure to breast cancer media messages, 2. to determine the influence of these media messages in encouraging women to participate in screening (mammogram), and 3. to determine the barriers that prevent breast cancer media messages from influencing women's participation in mammogram screening. In this study, exposure to breast cancer-related media messages is measured by the frequency of encountering information about mammogram screening messages in a month, while adherence to screening explores the impact of the media messages on their decisions to (or not) participate in mammogram screening exercises.

Theoretical Framework

The Health Belief Model (HBM) and the Diffusion of Innovations theory frame the study. The HBM explains and predicts health-related behaviors by examining individual perceptions and beliefs (8). According to this model, the perceived seriousness of, and susceptibility to, a disease influences an individual's perceived threat of disease. Similarly, perceived benefits and perceived barriers influence perceptions of the effectiveness of health behavior (9). In the context of breast cancer screening, the model provides a comprehensive framework for understanding the psychological factors influencing individuals' decisions to engage in breast cancer screening. Individuals assess their vulnerability to breast cancer. The successful implementation of breast cancer information aligns with the model by influencing perceptions of susceptibility, severity, benefits, and barriers, as well as by providing effective cues to action and enhancing self-efficacy. Those who perceive themselves as more susceptible to the disease are more likely to engage in screening. Implementing breast cancer information can influence this perception by providing details on risk factors, family history, and demographic considerations. The model further proposes that individuals weigh the benefits of a health action against the costs. Hence, breast cancer information that highlights the efficacy of screening in detecting cancer at an early, more treatable stage and the potential for improved outcomes can positively influence

perceived benefits, motivating individuals to participate in screening. The diffusion of innovations theory explains how new ideas, behaviors, products and services spread through a population over time (10). According to the theory, new ideas spread through a population gradually rather than at once. Adoption then begins with a small group known as early adopters and spreads to the early majority, late majority and laggards (10). The theory applies to women's engagement with mammogram screening. The characteristics of breast cancer media messages must be carefully crafted to highlight clear advantages over existing knowledge, emphasizing benefits such as early detection, improved survival rates, and reduced treatment intensity. Ensuring that breast cancer media messages align with women's values and beliefs is essential for compatibility and increased adoption rates. Simplifying communication about mammograms and breast cancer through media channels reduces perceived complexity, making it more accessible and understandable for women to incorporate into their health practices. Utilizing various communication platforms within the media landscape is crucial for reaching and mobilizing women for mammogram screening. Broadcasting breast cancer information through mass media platforms such as Television, radio, and online channels allows for widespread dissemination and increased awareness among women. Leveraging interpersonal communication within women's communities, families, and social networks further enhances the diffusion process by utilizing peer support and shared experiences. Engaging opinion leaders, including healthcare professionals and influential community figures, through media campaigns can accelerate the adoption of mammogram screening by providing credible information and guidance.

Materials and Method

The research employed a mixed-method approach combining qualitative and quantitative methods. The quantitative method employed a survey through a structured questionnaire to gather data, while an in-depth interview was used to gather qualitative data. The study population comprised women aged 40 and above from selected areas, such as Agodi, Mokola and Bodija, in the Ibadan North Local Government Area of Oyo State, Nigeria. Research reveals that women aged 40 years and above are prone to breast cancer (11, 12), hence the justification for the choice of respondents. Furthermore, there are an estimated over 50,000 women aged 40 years and above in Ibadan North Local Government Area (13). Hence, quantitative data was collected from 395 women selected using the stratified and convenience sampling techniques, while qualitative data was gathered from two purposively selected medical doctors from the University College Hospital (UCH), Ibadan, and two media professionals, who provided expert opinions on women's participation in mammography. Data was gathered concurrently, and the results from the data sets were merged and discussed. The quantitative data were analysed using SPSS version 26 and presented using descriptive and inferential statistics, while qualitative data was analysed using an explanation-building approach. Also, relevant ethical approval was granted, and all ethical procedures were observed in the study. Respondents were assured of the privacy and confidentiality of data, willingly gave consent to participate in the study and were informed of no known harm or risk to all information provided.

Results

Table 1: Respondents' Demographic Characteristics

Category	Count	Percentage (%)
Age Group		
40-49	116	29.37
50-59	111	28.1
60-69	79	20
70-79	69	17.47
80-above	20	5.06
Total	395	100%
Marital Status		

Married	239	60.51
Single	45	11.39
Widow	71	17.98
Separated	19	4.81
Divorced	21	5.31
Total	395	100%
Academic Level		
PhD	25	6.33
HND/BSc	98	24.81
Masters	59	14.94
NCE/ND	56	14.18
WAEC/SSCE	71	17.97
Primary School Leaving Certificate	86	21.77
Total	395	100%

Data from Table 1 reveals that more responses are from respondents within the 40 – 49 (29.4%) and 50 – 59 (28.1%) age ranges. However, there are respondents within the 60 – 80 and above age ranges. These respondents are mostly married (60.5%), while others are single (11.4%), widowed (18%), separated (4.8%) and divorced (5.3%). Furthermore, these respondents have varying academic degrees with more of them having Higher National Degrees (HND) or Bachelor's degrees (24.8%) and Primary Leaving School Certificate (21.8%). Others have Secondary School Certificates (18%), Masters degrees (14.9%), NCE/ND (14.2%) and PhDs (6.3%). The results imply that the respondents are well-suited for the study. The substantial representation of women in the 40-69 age range indicates that the respondents are within the critical age bracket for breast cancer screening. The high level of educational attainment among many respondents suggests that a significant portion of the respondents are literate and capable of understanding questions related to this study. The first objective examined the extent of women's exposure to breast cancer media messages. The results are presented in Tables 2 and Table 3.

Table 2: Respondents' Awareness of Breast Cancer

Heard of Breast Cancer	**Count**	**Percentage (%)**
Yes	317	80.3%
No	78	19.7%
Total	395	100%

Table 3: Media Respondents Receive Breast Cancer Messages From

Medium	**Frequency**	**Percentage**
Television	92	23.3
Social Media	98	24.8
Print	51	12.9
Radio	76	19.2
None	78	19.7
Total	395	100%

Table 2 reveals that there are more respondents (80.3%) who have heard about breast cancer than 19.7% of respondents who have not. This result calls for concerted efforts to create more awareness about breast cancer among women, as awareness and early detection are key to fighting breast cancer among women. Results from Table 3 reveal that respondents receive breast cancer messages from the most available media. For instance, social media platforms (24.8%) and Television (23.3%) are prominent media sources, while radio (19.2%) and newspapers (12.9%) are also sources for receiving breast cancer information. The results imply that all available

media are useful in disseminating information about breast cancer. Next, the study sought to understand the frequency respondents encountered breast cancer-related messages in the past 3 months. The findings are presented in Table 4.

Table 4: Frequency of Encountering Breast Cancer-Related Content Across all Media in the Past Month

Frequency of Encountering Breast Cancer-Related Messages in The Past 1 Month	Count	Percentage (%)
Very Often	71	17.8
Often	97	24.5
Sometimes	55	13.9
Rarely	94	23.8
Never	78	19.7
Total	395	100

Data from Table 4 reveals an almost balanced number of respondents who (very) often encounter breast cancer-related messages (42.3%) and those who sometimes and rarely encounter these messages (37.7%). However, 19.7% of respondents have never encountered breast cancer-related messages in the past month. The results imply that the media creates awareness and gets to the respondents often. Additionally, results from the qualitative data agree with the survey, as the media was found to have disseminated information about breast cancer. In-depth interviews with the media professionals showed that the media did its best in disseminating information about breast cancer:

> There is enough media information about breast cancer. The media is doing what it knows best regarding awareness, enlightenment and publicity, not just for breast cancer but for every other ailment. The media is doing its best, and the people know it, but there is always room for improvement. However, there is no specific dissemination frequency. For instance, breast cancer awareness week is where the media raises awareness about it and what women can do, which is where mammogram comes off (In-depth Interview, Media Professional 1, NTA Ibadan, 2024).

The media professional acknowledges the extant role of the media in raising awareness about health issues, including breast cancer. While the media does its best to provide information and publicity about various health conditions, there is always room for improvement. However, beyond events like Breast Cancer Awareness Week, there is no dedicated dissemination frequency for breast cancer awareness. This means that there are no dedicated programs specifically focused on breast cancer or mammograms, but there is a general weekly health program. Overall, while the media is active in spreading awareness about breast cancer, there may be a lack of consistent and dedicated programs specifically focusing on this important health issue. There is potential for improvement in providing regular and targeted information about breast cancer and the importance of mammograms to the public. Furthermore, the second objective of this study was to determine the influence of these media messages in encouraging women to participate in mammography (breast cancer screening). Quantitative and qualitative data are merged to present the findings.

Table 5: Respondents' Exposure to Media Messages about Mammography

Statement	SA	A	N	D	SD	Mean	Standard Deviation (SD)
I have come across media messages about mammograms before	148	169	50	18	10	4.1	0.94

I still frequently come across media messages about mammograms	10	34	70	224	57	2.28	0.9
In the past month, I can effectively recall media messages I encountered about mammogram	15	34	65	210	71	2.23	0.93
Grand Mean						2.87	

Key: SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly Disagree; U-Undecided Decision Rule: If mean is $\leq$ 1.49=Undecided; 1.5 to 2.49=Strongly Disagree; 2.5 to 3.49=Disagree; 3.5 to 4.49=Agree; 4.5 to 5 = Strongly Agree
If the SD value is *less than* $<\pm 2$ = true values; if the SD value is greater than $>\pm 2$, reject the outcome.

The results from Table 5 reveal that there are more respondents who (strongly) agree (317) to have been exposed to media messages about mammograms, 28 respondents (strongly) disagree, and another 50 respondents are neutral. A mean score of ($\bar{x}$ = 4.1, SD = 0.94) thus implies an agreement of the results. However, fewer respondents (44) agree they frequently come across media messages about mammograms, while the majority (257) disagrees. A mean score of ($\bar{x}$ = 2.28, SD = 0.9) implies that respondents strongly disagree with frequently coming across media messages. Lastly, data reveals that within the past month, more respondents (281) could not effectively recall encountering media messages about mammograms, while 49 respondents could recall. A mean score of ($\bar{x}$ = 2.23, SD = 0.93) implies that respondents disagreed with recalling media messages on mammograms within the past month. This underscores the importance of ongoing and effective communication strategies to ensure consistent awareness and information dissemination. Overall, the grand mean of 2.87 across all statements indicates moderate exposure to mammography information, with notable differences between past exposure and current or recent recall. Similarly, interviews conducted with medical and media professionals revealed varying responses on the media's role in creating awareness about breast cancer and screening. For instance, the media practitioners revealed that although the media was a potent tool in creating awareness about breast cancer and influencing women to participate in screening exercises, they had not lived up to this expectation. During the interview, a medical doctor stated that:

> I believe the media is a tool for making up the public's perception. Whatever the media disseminates is what the public will know and believe. The media is responsible for informing the women about mammograms and prompting them to undergo the screening. However, the result here is not so great. Many women are still unaware or uninformed about mammograms. Women should be encouraged by the media to engage in screenings, but I do not think so because many women are ignorant about mammography and its benefits (In-depth interview Medical Doctor A, UCH Ibadan, 2024).

Another medical practitioner shares similar views about the media's role in creating awareness about breast cancer and participating in screening exercises. Doctor B opined that several uninformed women were not fully aware of the need to participate in screenings:

> Media messages should encourage women to engage in mammograms. However, I do not think they do. Here, we see so many women with different sentiments and misconceptions about why they should not go for mammography or why they do not need it, while most are not informed (In-depth Interview, Medical Doctor B, UCH Ibadan, 2024).

This response reinforces the earlier statement, highlighting that despite the media's efforts; many women must be made aware of mammography, suggesting that the media's role in encouraging mammogram participation is limited. However,

the media professional's view differs from that of the medical practitioner. The media professional opined that the media creates awareness, but the women decide if they should go for the screening or not:

> Women are encouraged to go for screenings because the media creates awareness; it is left to the women to decide. The media is trying to create awareness of different subjects in society. There are no specific dedicated programmes for breast cancer or mammograms. However, there is a weekly health programme. But there are other ailments or issues to talk about because breast cancer is not the only disease, except in the cases of special requests, e.g. an NGO requesting airtime to discuss breast cancer and its curbing measures (In-depth Interview, Media Professional 1, NTA Ibadan, 2024).

However, another media professional's opinion aligns closely with that of medical practitioners. The media professional noted that:

> I do not think women are fully encouraged to engage in mammograms. Instead, I think there is a disconnect between the media and the women's decision to undergo mammograms (In-depth Interview 1, Media Professional 2, Splash FM Ibadan, 2024).

This indicates a perceived gap between the information provided by the media and women's actual decisions to undergo mammography, suggesting that media efforts may not effectively translate into action. While there is recognition of the media's role in creating awareness about breast cancer and mammography, opinions differ on its effectiveness in influencing women's participation in screenings. The health professionals and a media professional point to significant gaps and a lack of impact, while another media professional underscores the importance of individual decision-making despite media efforts.

Table 6: Regression and Correlation Analysis showing the Influence of Breast Cancer Media Messages on Women's Participation in Mammography

Analysis	**Value**
Sample Size (n)	395
Correlation Analysis	
Correlation Coefficient (r)	0.05
p-value	0.17
Regression Analysis	
Intercept	0.2
Media Messages Coefficient (β)	0.05
Media Messages SE	0.03
Media Messages t-value	1.67
Media Messages p-value	0.097

The correlation coefficient (r) of 0.05 from Table 6 indicates a very weak positive correlation between breast cancer media messages and women's participation in mammography. This suggests that there is a slight tendency for higher levels of exposure to breast cancer media messages to be associated with slightly increased participation in mammogram screening among women. However, the p-value of 0.17 indicates that this correlation is not statistically significant at the conventional significance level of 0.05. Therefore, based on this sample, we cannot confidently conclude that there is a significant relationship between media messages about breast cancer and women's participation in mammography. In addition, the regression analysis from Table 6 reveals that the intercept of 0.2 represents the predicted value of women's participation in mammography when the exposure to breast cancer media messages is zero. The coefficient (β) for media messages is 0.05, indicating that for every unit increase in exposure

to breast cancer media messages, women's participation in mammography is predicted to increase by 0.05 units, holding other factors constant. Furthermore, the results from Table 6 reveal that the media messages coefficient's standard error (SE) is 0.03, and the t-value is 1.67. The t-value is used to assess the statistical significance of the coefficient. In this case, a t-value of 1.67 corresponds to a p-value of 0.097. Since this p-value is greater than 0.05, the coefficient for media messages is not statistically significant at the 95% confidence level. This indicates that, according to the regression model, the relationship between exposure to breast cancer media messages and women's participation in mammography is not statistically significant. By implication, while there is a weak positive correlation suggesting a possible association between exposure to breast cancer media messages and increased participation in mammography, neither the correlation analysis nor the regression analysis demonstrates a statistically significant relationship in this sample. This suggests that factors other than media messages about breast cancer may play a more significant role in influencing women's decisions regarding mammography participation. Lastly, the study's third objective explored the barriers that prevent breast cancer media messages from influencing mammogram participation among respondents. The quantitative and qualitative data are merged to present the findings.

Table 7: Barriers Limiting the Effect of Media Messages on Respondents' Participation in Mammography

Statement	SA	A	N	D	SD	Mean
The media messages concerning mammograms are not clear enough	96	164	-	75	60	3.41
It is not trustworthy enough to persuade me to go for a mammogram	120	201	-	41	33	3.85
I don't engage in mammogram because of the unavailability of laboratories for mammogram screening	118	119	-	97	61	3.34
I don't engage in mammograms because of its cost	150	170	-	50	15	3.91
Grand Mean						3.63

Key: SA-Strongly Agree; A-Agree; D-Disagree; SD-Strongly Disagree; U-Undecided

The results from Table 7 reveal that the majority of 260 respondents (strongly) agree that clarity of media messages is a major barrier to not participating in mammography exercises. A mean score of ($\bar{x}$ = 3.41) indicates that, on average, respondents perceive media messages about mammograms as somewhat unclear. Furthermore, the data reveals that the majority of 321 respondents agree that media messages are not trustworthy enough to convince them to participate in mammogram exercises. A mean score of 3.85 further highlights a significant scepticism regarding the trustworthiness of media messages to influence mammogram decisions. In addition, 237 respondents identified the unavailability of well-equipped laboratories as a barrier to participating in mammography screenings. A mean score of 3.34 further signifies an agreement with accessibility issues, which significantly affect participation in mammography. Lastly, the data from Table 7 reveals that 320 respondents identified mammogram costs as a barrier to getting screened. The grand mean of 3.63, indicating a moderate to high level of agreement with these barriers collectively. This suggests that respondents perceive several substantial obstacles that impede its effectiveness. The qualitative data revealed other barriers preventing women from engaging in mammogram screening. For instance, a medical professional observed that ignorance and poverty were key factors.

> I would say different factors. Ignorance is one major barrier that prevents women from participating in mammograms. Women are not informed about mammograms and why they should go for them. Another reason is poverty. Most people are suffering to feed themselves or have the necessities of life difficult for them. For these women, the affordability of the screening is like a far dream (In-depth Interview, Doctor, B, UCH Ibadan, 2024).

The doctor's response suggests that a lack of information about the importance of mammograms and financial constraints prevent many women from accessing this screening. The mention of poverty highlights the socioeconomic barriers some women face in accessing healthcare services. The phrase "affordability of the screening is like a distant dream" underscores the significant financial burden mammograms can pose for certain individuals.

Similarly, the media professional's response aligned with the sentiments of the medical professional. "*I am not sure. However, it is probably the funds because it is expensive. Aside from that, I do not think people should be scared of any uncertainty about the screening process; it does not bite*" (In-depth Interview, Media Professional 1, NTA Ibadan, 2024). The response suggests that the cost of the screening is likely a significant barrier, aligning with the doctor's comment about the expense of mammograms being a "far dream" for many individuals. The media professional also dismisses any concerns or fears about the screening process itself.

Furthermore, media misconceptions/misinformation about breast cancer and mammogram screening were identified as barriers. The medical practitioner revealed that:

> There are lots of misconceptions about breast cancer among the women. Many women believe that breast cancer is not their concern, so they have no business with mammograms. Some believe as long as they have their husbands, they can't have breast cancer (In-depth Interview, Medical Doctor, UCH Ibadan, 2024).

The information about the misconception from the medical practitioner is disturbing as it may prevent women from getting screened for breast cancer, potentially leading to delayed diagnosis and treatment. It suggests that cultural or societal beliefs may contribute to this misconception.

Discussion

The study's findings revealed that a significant majority of women have heard of breast cancer, with the media playing key information roles. However, when examining exposure to mammogram information, there is a notable disparity between past and current exposure. While many respondents have encountered information about breast cancer and mammograms at some point, the frequency of exposure is significantly lower. This discrepancy suggests that while initial awareness campaigns may have been effective, there is a lack of sustained and regular dissemination of information. This finding aligns with the observations of a previous study, which noted that awareness of breast cancer was inadequate as the frequency of exposure to and understanding of screening techniques like mammography remained insufficient (5). Similarly, another study emphasized the necessity of effective educational programs to enhance awareness and screening practices, particularly in low-resource settings (14). The need for targeted and regular dissemination of information is also echoed in a related study, where gaps between knowledge and practice of breast cancer screening were highlighted (15). There is a strong connection between the Health Belief Model (HBM) and the Diffusion of Innovations Theory. Our findings indicate that while women are generally aware of breast cancer (perceived severity and susceptibility), certain factors hinder their consistent participation in mammography. Furthermore, frequent exposure to media messages about breast cancer and mammography can move women through the knowledge stage of the Diffusion of Innovations theory. The more frequently women see these messages; the more likely they are to become aware of mammograms as a preventive measure. By focusing on the

frequency of exposure to media messages, the theory explains how repeated messages can influence women's knowledge, attitudes, and, ultimately, their decision to get mammograms. Effective campaigns consider the level of media saturation and tailor messages accordingly to optimize the diffusion process and encourage women to engage in preventive healthcare behaviors. The study's findings also revealed a weak positive correlation between exposure to breast cancer media messages and women's participation in mammography. This suggests that while there may be a slight tendency for increased exposure to media messages to be associated with higher mammography participation, this relationship is not strong enough. Similarly, the regression analysis showed that the influence of media messages on mammography participation was not statistically significant. Qualitative data also revealed the crucial roles of the media in shaping public perceptions. However, its impact on mammography was limited. Many women remained uninformed about mammography or were hindered by misconceptions and financial constraints. This suggests that while the media is responsible for disseminating information, it may need to be more effective in encouraging women to take action. Although the study acknowledged the media's role in creating awareness, it highlighted the importance of decision-making amongst women, implying that the media's role ends in awareness creation. These insights indicate that while awareness is necessary, it is insufficient to drive mammography participation. These findings align with a related study where a very low level of mammography uptake by women, with very little influence from the media, was found (16). The findings are also consistent with the Diffusion of Innovations Theory's propositions on how media messages shape women's participation in mammograms. By targeting different stages of adoption with tailored messages, media campaigns can encourage more women to get mammograms and contribute to improved breast cancer outcomes. The findings indicate that media messages might not effectively spread awareness for women to act. Hence, by addressing susceptibility, severity, benefits, barriers, and self-efficacy, media campaigns can encourage more women to see mammograms as a necessary and achievable preventive behavior. The study also found prevalent barriers that influence breast cancer media messages on mammography participation. The majority of the respondents indicated that the lack of clarity of media messages and the untrustworthiness of the content are major barriers. This aligns with previous research where the importance of clear and trustworthy information in empowering individuals to make informed decisions about breast cancer screening was underscored (17). Another significant barrier is the cost of mammogram screenings. This aligns with findings from other studies where financial constraints were a deterrent to accessing healthcare services, including breast cancer screening (15, 16). The findings also reveal the unavailability of laboratories for mammograms as one of the barriers, echoing concerns raised in earlier studies that limited access to screening facilities in certain regions or communities posed a significant barrier to women seeking mammography (18, 19). Furthermore, while the fear of potential risks and uncertainties, along with religious beliefs, were identified as lesser barriers in the current study, they still influence women's decisions about screening. The role of cultural beliefs and practices in shaping healthcare-seeking behaviors, including breast cancer screening, was highlighted in another study (20). Applying the Health Belief Model (HBM) to these findings helps elucidate why these barriers are so impactful. The HBM posits that perceived barriers to taking that action influence health behavior. The findings indicate that significant perceived barriers, such as high costs, lack of clarity, and unavailability of facilities, deter women from participating in mammogram screenings. According to the HBM, even if women recognize the benefits of mammography (perceived benefits), these barriers can significantly hinder their willingness or ability to act. In light of the above, public health practitioners are expected to develop health campaign messages directed at women on the importance of regular mammogram screening. These messages should be disseminated through different media platforms for easy reach and accessibility. They should also try to encourage feedback from the target audience so that barriers that prevent effective media influence in mammogram participation can be addressed

promptly. Moreover, healthcare practitioners can help develop outreach efforts and educational programs to meet specific needs and challenges women in Nigeria face.

Conclusion

The findings of this study indicate that while most respondents have come across information about mammography, the specific, regular, and consistent exposure to this information remains limited for the majority of participants. Many respondents have never had a mammogram, while only a few have. The few who had undergone a mammogram were influenced mainly by health professionals. The study also found that the media does not play a role in their decision to have one. Barriers that limit the influence of breast cancer media messages on women's participation in mammograms include lack of clarity in media messages, distrust of the media, screening costs, unavailability and inaccessibility of mammogram screening facilities, as well as fear of potential risks and religious sentiments or beliefs. We, therefore, recommend the need for the media to come up with strategies for more consistent and better dissemination of information about breast cancer that would prompt women to undergo mammography to suit the information needs of women across all levels or classes. Media campaigns should focus on educating women about the importance of regular mammograms, the benefits of early detection, and the potential risks of not getting screened. These campaigns should include personal stories, expert interviews, and clear statistics to emphasize the importance of mammography. Similarly, the media can use storytelling or testimonials to share the stories of women who have benefited from early detection through mammography. We argue that this step could help to persuade other women to take action by getting screened.

Recommendations

A major limitation of this study is that it could not cover other local government areas in Oyo State, Nigeria, which would have enabled a more generalized finding across the State. As a case for future research avenues, factors influencing women in their response to breast cancer media exposure and mammogram uptake are recommended to be examined in the context of cultural and socioeconomic characteristics. This may involve exploring the diverse populations to determine factors that could obstruct or encourage screening engagement. Also, future studies can assess the framing and messaging of information about breast cancer in the media setting and how best to promote the motivation for mammograms. This might consist of a content analysis of political communications across many media systems and campaigns.

Abbreviation

Nil.

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Author Contributions

All the authors contributed to the study in terms of conception, writing, reviewing, methodology, data curation, analysis, and editing.

Conflict of Interests

There is no conflict of interest among the authors.

Ethics Approval

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