

Awareness of Breast Cancer Self-examination and the Role of Social Media in Information Dissemination Among Women Inabeokuta, Nigeria

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Abstract

Introduction:

This study examined the awareness of breast self-examination (BSE) and the role of social media in influencing BSE practices among women in Abeokuta, Nigeria.

Methods

A descriptive cross-sectional survey was conducted among 150 adult women across various community centers in the Abeokuta metropolis. Data were collected using a validated, structured questionnaire administered via face-to-face interviews. Statistical analysis was performed using SPSS, employing correlation analysis to explore relationships between variables.

Results

Out of 150 participants, 149 responded (99.3% response rate). Most respondents were aged 30–54 years, primarily traders (60.4%) with diverse educational backgrounds. Overall BSE awareness was high, particularly among the 40–44 age group, with a significant positive correlation between age and awareness ($r = 0.3184$, $p = 0.001$). Social media (33.6% Facebook, 27.5% WhatsApp) was a primary information source for younger women (20–24 years), while medical practitioners led for older groups. Most participants (72.4%) agreed that social media increased their confidence in performing BSE. However, significant barriers to following recommendations included fear of diagnosis (34.2%) and financial constraints (33.5%). Despite concerns about misinformation, 88.6% recommended social media for health advocacy, preferring short reels and live chats with professionals.

Conclusion

Social media is a powerful tool for breast cancer advocacy in Abeokuta, significantly enhancing confidence in BSE. To optimize impact, digital campaigns should utilize local languages and short-form video content while addressing psychological and financial barriers to screening.

INTRODUCTION

Breast cancer is a malignant tumor found on breast tissue and this condition is the most commonly diagnosed amongst women, as well as the leading cause of cancer-related mortality in the globe (Aristokleous et al., 2023). The fact that over two million new cases were reported in the world in 2020 demonstrates, why breast cancer is a serious health burden and needs efficient awareness and early detection strategies (Zexin et al., 2023). The rates of breast cancer among Nigerian women are so high and most of them present the disease at advanced stages due to the inability to access healthcare,

socio-cultural factors, and unawareness about breast cancer (Dobrossy *et al.*, 2020). Applicable techniques in early detection such as mammography and clinical breast examination are not accessible in low-resource countries; consequently, breast self-examination (BSE) is a valuable and cost-effective behavior that allows women to detect abnormalities at an early stage (Cortiana *et al.*, 2025). No matter how significant BSE is, the level of its awareness and its practice among the Nigerian women is low due to such factors as the lack of knowledge, fear, misunderstanding of the culture and the absence of health education (Vraga *et al.*, 2018). Barriers to breast cancer screening are misinformation and stigma that complicate the overall process of identifying and treating cancer in time (Biancovilli *et al.*, 2021).

The introduction of information and communication technologies has changed the way health promotion activities take place in the world. The social media platforms have proven to be powerful tools that can be used to disseminate information on breast cancer as fast as feasible to huge communities and provide education, support, and advocacy opportunities (Gandamihardja *et al.*, 2023). The latter tools enable the discussion of personal experiences that engage both emotions and cognitive responses of the users and raise awareness and support preventive actions such as BSE (Zexin *et al.*, 2023). However, such drawbacks also have social media such as the spread of fake news and unsatisfactory content quality capable of impacting the health promotion campaigns negatively unless managed properly (Biancovilli *et al.*, 2021). According to the research, awareness campaigns associated with breast cancer carried out on social media platforms are usually supportive and fundraising, but do not give real health messages that promote screening practices (Plackett *et al.*, 2020). Involvement of trusted influencers like mommy bloggers has been demonstrated to be effective in increasing exposure to scientifically valid information regarding the risk of breast cancer and behavioral intentions of women (Wright *et al.*, 2018).

Some locations in Abeokuta, Nigeria lacks knowledge regarding the risk factors of breast cancer, and the early detection measures including BSE. It would be relevant to use the potential of the social media platform to fill these gaps by delivering culturally relevant information to the demands of the locals. The information on the importance of using social media in enhancing awareness and practice of BSE among women in this society is a requisite in the establishment of effective interventions that will lead to an increase in the rate of early detection and ultimately decrease the level of death among women who have breast cancer. The study examined how social media can be used to create higher awareness on the self-examination of breast cancer among women in Abeokuta in the broad of the epidemiological challenge in Nigeria and the tendency of global health communication through digital media.

METHODS

Study Design

The research employed a descriptive cross-sectional survey design to examine the awareness and the role played by social media in influencing the BSE practices among women in Abeokuta. The design enables measuring of knowledge, attitudes and behaviors at a particular time.

Study Population

The research was focused on adult females in various places in the Abeokuta metropolis so that there would be diversification in terms of age, education, and socio-economic status.

Sampling Method

Convenience sampling was applied to carry out distribution of 150 questionnaires in different community centres like market places, government parastatal and health centers. This method was helpful to reach a wide scope of respondents. Of these 149 questionnaires were returned, which is equivalent to 99.3% response rate.

ETHICAL AND CONSENT APPROVAL

Ethical approval

was obtained from the Ethics Review Committee of Federal Medical Centre Aeokuta, Ogun State Nigeria with approval no. FMCA/470/HREC/01/2024/20. Participants gave their written informed consent attesting to their voluntary participation after being fully explained all research procedures. All the data were anonymously recorded and kept private and specimens were analyzed only for the intended purpose of the study. Results were communicated to the participants after the study period.

Data Collection Instrument

A well-structured questionnaire comprising 20 questions in four sections was developed based on literature and validated instruments. The questions covered demographic information, the general knowledge and awareness of breast cancer and BSE, information sources, focusing more on the social media platforms, and BSE attitudes and practices. The questionnaire study was thoroughly evaluated and pretested before administration to ensure clarity, relevance, and reliability of the items. Initially, an expert review was conducted where subject matter experts and survey methodologists examined the draft questionnaire to identify potential issues with question wording, ambiguity, or bias that could lead to measurement errors. This process helped refine the questions for better comprehension and appropriateness for the target population. Following expert review, a qualitative pretest interview approach was employed with a small sample of women similar to the study population. During these interviews, participants were engaged as co-experts to discuss their understanding of each question, allowing researchers to detect misinterpretations or difficulties in responding. The final questionnaire was then pilot tested on a small group before full deployment to confirm its usability and effectiveness in capturing accurate data.

Data Collection Process

The questionnaires were administered in a face-to-face format by the trained research assistants, after obtaining informed consent from participants. They made clarifications where necessary in order to give accurate responses. The data was collected during 4 weeks to increase representativeness due to the variation in locations and time.

Data Analysis

Completed questionnaires were first entered into Microsoft Excel for data cleaning and coding. Subsequently, data were imported into SPSS software for statistical analysis.

RESULTS

Out of 150 questionnaires administered, 149 participants responded, giving a response rate of 99.3% as shown in Table 1. The age distribution showed that the largest proportion of respondents were within the 40–44 years age group (22.8%), followed by those aged 45–49 years (14.8%), 35–39 years (14.0%), and 50–54 years (14.0%). Participants aged 30–34 years accounted for 12.7%, while those aged 25–29 years and 20–24 years represented 8.0% and 5.4% respectively. The least represented groups were those aged 55–59 years (4.7%) and 60 years and above (3.3%), indicating that the majority of respondents were between 30 and 54 years of age.

Regarding educational status, the majority of participants had secondary school education (34.2%), followed by those with no formal education (22.8%), primary school education (22.1%), and university/polytechnic education (20.8%), reflecting a fairly distributed educational background with a notable proportion having low formal education. In terms of occupation, most respondents were traders (60.4%), while 24.1% were farmers. Civil servants constituted 6.0% of the participants, 8.0% were engaged in other occupations, and only 1.3% were private sector workers, indicating that the majority were involved in informal sector activities. With respect to location, most of the participants were residents of Abeokuta (83.9%), while 16.1% were non-residents, suggesting that the study population was largely drawn from within Abeokuta.

The distribution of awareness of breast cancer self-examination (BSE) across different age groups is presented in Fig. 1. Overall, awareness was higher than non-awareness in most age categories. Awareness was highest among participants aged 40–44 years, where 26 reported being aware compared to 8 who were not. However, in the 55–59 years age group, non-awareness (18) exceeded awareness (10), indicating lower awareness in this category. Among those aged 60 years and above, only 1 participant was aware compared to 4 who were not aware. Correlation analysis showed a positive but weak relationship between age and awareness of breast cancer self-examination ($r = 0.3184$). This suggests that awareness tends to increase with age to some extent. The relationship was statistically significant ($p = 0.001$), indicating that the association between age group and awareness of BSE is unlikely to have occurred by chance.

The distribution of the first source of knowledge about breast cancer awareness varied across age groups (Fig. 2). Among women aged 20–24 years, social media (62.5%) was the most common source, followed by friends/family (25.0%) and hospital/medical practitioners (12.5%), while radio/television (0%) was not reported. Similarly, for women aged 30–34 years, social media (36.8%) and hospital/medical practitioners (31.6%) were the leading sources, followed by friends/family (21.1%) and radio/television (10.5%). In the 35–39 age group, hospital/medical practitioners (38.1%) were the most common source, while social media (28.6%) and friends/family (28.6%) were equally reported, and radio/television (4.8%) was least reported. For respondents aged 40–44 years, hospital/medical practitioners (41.2%) were the predominant source, followed by social media (29.4%), and both friends/family (14.7%) and radio/television (14.7%). Among those aged 45–49 years, hospital/medical practitioners (40.9%) remained the leading source, followed by social media (36.4%), friends/family (13.6%), and radio/television (9.1%).

In the 55–59 years age group, hospital/medical practitioners (35.7%) were again the most common source, followed by social media (25.0%), friends/family (21.4%), and radio/television (17.9%). Among participants aged 60 years and above, hospital/medical practitioners (40.0%) and social media (40.0%) were equally reported as the main sources, followed by friends/family (20.0%), while radio/television (0%) was not reported. Over all, there was a weak negative and non-significant relationship between age and the first source of knowledge about BSE ($r = -0.1173$, $p = 0.1542$), suggesting that age was not significantly associated with the initial source of BSE information among the participants.

Among the 149 respondents as presented in Table 2, the most commonly used social media platform was Facebook (33.6%), followed by WhatsApp (27.5%), TikTok (14.8%), Instagram (7.3%), and Twitter (6.0%), while 16 participants (10.7%) reported not using any social media platform. Regarding exposure to breast cancer screening information on social media, 44 respondents (29.5%) reported encountering such information occasionally and another 44 (29.5%) rarely, while 31 (20.8%) reported frequent exposure and 30 (20.1%) stated they never encountered such information. In terms of trust in breast cancer awareness information shared on social media, 55.7% of the participants reported trusting the information they see, whereas 32 respondents (21.4%) indicated that they only trust the information if it is posted by doctors, government agencies, or non-governmental organization campaigns, and 34 (22.8%) reported that they do not trust such information due to concerns about misinformation. Concerning the influence of social media posts on confidence in performing breast self-examination, 66 respondents (44.3%) strongly agreed and 42 (28.1%) agreed that such posts increased their confidence, while 22 (14.7%) disagreed and 20 (13.4%) strongly disagreed.

Several factors were reported to discourage respondents from following breast cancer examination recommendations seen on social media. Fear of a doctor's diagnosis was the most commonly cited barrier (34.2%), followed closely by lack of money for laboratory tests (33.5%). Additionally, 34 respondents (22.8%) indicated that confusing information discouraged them, while 14 (9.4%) reported that they did not believe they were at risk of developing breast cancer. Overall, the majority of

respondents (84.6%) believed that social media has increased the overall awareness of breast cancer, whereas 23 participants (15.4%) did not share this view.

The results in Table 3 shows a strong support among participants for the use of social media in disseminating breast cancer awareness information. A large majority of respondents, 132 (88.6%), indicated that they would recommend the consistent use of social media for breast cancer awareness, while 17 (11.4%) did not support this approach. The mean score for this variable was 1.10 ± 0.32 , indicating a high level of agreement among participants.

Regarding preferred formats for receiving breast cancer information on social media, respondents reported varying preferences. Short TikTok/Facebook reels were the most preferred format, selected by 43 participants (28.9%), followed by live chats with medical practitioners, government representatives, or non-governmental organisations' (NGOs) campaigns with 40 participants (26.8%). Audio messages in local languages were preferred by 34 participants (22.8%), while pictures and infographics were chosen by 32 participants (21.4%). The mean score for this variable was 2.48 ± 1.20 , suggesting moderate variability in participants' preferences for different social media content formats.

Table 1
Sociodemographics Characteristics of study
Participants

Sociodemographics	
Age groups (years)	Frequency (%)
	N = 149
20–24	8 (5.4)
25–29	12 (8.0)
30–34	19 (12.7)
35–39	21 (14.0)
40–44	34 (22.8)
45–49	22 (14.8)
50–54	21 (14.0)
55–59	7 (4.7)
60 and above	5 (3.3)
Highest level of education	
Primary School	33 (22.1)
Secondar School	51 (34.2)
University/Polytechnic	31 (20.8)
No formal education	34 (22.8)
Occupation	
Civil servant	9 (6.0)
Private sector worker	2 (1.3)
Farmer	36 (24.1)
Traders	90 (60.4)
Others	12 (8.0)
Location	
Residence of Abeokuta	125 (83.9)
Non-residence of Abeokuta	24 (16.1)

Table 2
Impact and action of social media on breast cancer awareness among participants

Variables	Frequency (N = 149)	Percentage (%)
Social media platforms commonly used		
Whatsapp	41	27.5
Facebook	50	33.6
Instagram	11	7.3
TikTok	22	14.8
X (Twitter)	9	6.0
Others	0	0
None	16	10.7
How often do you encounter breast cancer screening information on social media ?		
Frequently	31	20.8
Occasionally	44	29.5
Rarely	44	29.5
Never	30	20.1
Do you believe breast cancer awareness information you see on social media		
Yes, I trust it	83	55.7
I only believe if its posted by doctors/government/NGOs	32	21.4
No, I don't trust it due to fake purposes	34	22.8
Social media posts about breast cancer self-exams increase my confidence in performing self-breast exams		
Strongly agree	66	44.3
Agree	42	28.1
Disagree	22	14.7
Strongly disagree	20	13.4
What discourages you from following breast cancer examination recommendations seen on social media?		
Fear of doctor's diagnosis	51	34.2

Variables	Frequency (N = 149)	Percentage (%)
Social media platforms commonly used		
Lack of money for Laboratory tests	50	33.5
The information on the contents are confusing	34	22.8
I don't think I am at risk of having breast cancer	14	9.4
Do you think social media have increased the overall awareness of breast cancer?		
Yes	126	84.6
No	23	15.4

Table 3
Participants' attitudes toward the use of social media and preferred formats for breast cancer awareness information

Variables	Frequency (%) (N = 149)	Mean $\pm$ STD
Would you recommend the consistent use of social media in disseminating breast cancer awareness contents		1.10 $\pm$ 0.32
Yes	132 (88.6)	
No	17 (11.4)	
How would you prefer to receive breast cancer information on social media?		2.48 $\pm$ 1.20
Short Tiktok/Facebook reels	43 (28.9)	
Pictures and info-graphs	32 (21.4)	
Audio messages in local languages	34 (22.8)	
Live chats with medical practitioners/government/NGOs	40 (26.8)	

DISCUSSION

This study examined awareness of breast cancer self-examination (BSE) and the role of social media as an information source among predominantly middle-aged, informally employed women in Abeokuta. The findings align with, and extend, a growing body of evidence on digital media and breast cancer awareness in low- and middle-income settings. The age structure (majority 30–54 years) and dominance of informal occupations are comparable to rural and peri-urban African and Asian studies where women are often traders, homemakers or farmers and have mixed or low formal education (Sinha and Sharma,

2024). Our findings are similar to a study in Kwami local government area of Gombe State, where 59.3% were aware of breast cancer and 83.5% had heard of BSE but practice was low (Ibrahim et al., 2022). This present study also shows substantial awareness of BSE, with age and education emerging as relevant correlates. Reports from Obaji et al. (2013) consistently identify education, age and occupation as predictors of breast cancer and BSE knowledge, supporting the observed positive (though weak) correlation between age and BSE awareness in Abeokuta ($r = 0.3184$, $p = 0.001$).

The lower awareness in women ≥ 55 years and particularly ≥ 60 years contrasts with the generally higher knowledge among older women reported in an Indian social media engagement study, where women ≥ 48 years gained more knowledge through social media than younger women (Sinha and Sharma, 2021). This discrepancy may reflect lower digital literacy and social media exposure in older Nigerian women, coupled with fewer structured outreach efforts targeting this age group, in contrast to the more highly educated urban Indian sample (Xia and Zhu, 2025). Culturally grounded fatalism and reduced contact with formal health services in older rural Nigerian women may further limit exposure to BSE messages. Across age groups, hospital/medical practitioners and social media were the dominant first sources of BSE information, with radio/television playing a minor role. This pattern is consistent with evidence that digital platforms and health professionals now represent primary sources of breast cancer information for younger women, while traditional broadcast media are declining in influence (Plackett et al., 2020; Hardianto and Kuswandari, 2025). A study among Indonesian undergraduates also depicts that social media and physicians were the top sources of breast cancer information, whereas television was rarely cited (Hardianto and Kuswandari, 2025).

In our present study, younger women (20–34 years) relied more heavily on social media, whereas mid-older age groups (35–59 years) more frequently cited hospital/medical practitioners. The absence of a statistically significant correlation between age and first information source ($r = -0.1173$, $p = 0.1542$) suggests that, although age shapes relative preferences within groups, social media and health professionals both cut across age strata. Systematic reviews of breast cancer discourse on social media show that the majority of participants are lay individuals and that social media can reach broad demographic segments, though engagement and reach may differ by age and ethnicity (Dobrossy et al., 2020). The weak age gradient observed in our study, may also reflect the relatively high penetration of mobile phones and WhatsApp across age groups in Nigeria, as reported in other LMIC contexts where WhatsApp has been successfully used for rural breast cancer education (Elizabeth et al., 2024). Facebook and WhatsApp emerged as the most used platforms, in line with global and LMIC data where Facebook is typically the dominant platform and WhatsApp a key channel for closed-group health communication (Johnson et al., 2024). The moderate levels of exposure to breast cancer screening content where most women reported “occasionally” or “rarely” mirrors scoping and systematic reviews showing that many national cancer campaigns achieve large impressions but relatively low per-user engagement and limited exposure to actionable content (Biancovilli et al., 2021; Cortiana et al., 2025).

More than half of respondents in this study, trusted information on social media, and a further one-fifth trusted it when posted by credible actors (doctors, government, NGOs). This pattern of conditional trust

aligns with data from a survey by Fridman *et al.* (2024), where trust in social media for cancer information was modest overall but substantially higher among specific demographic groups, and strongly predicted willingness to view cancer content and click on decision aids. This study findings, underscore the importance of visible institutional or professional endorsement to build credibility and mitigate concerns about misinformation, which has been widely documented in breast cancer content on YouTube, TikTok and other platforms (Basch *et al.*, 2022). One significant occurrence, is the high proportion of participants who reported that social media posts increased their confidence in performing BSE (72.4%). This self-reported gain in confidence accords with intervention studies showing that social media and mobile video interventions can significantly improve knowledge, attitudes and practice of BSE (Heo *et al.*, 2013). In a rural community in Bihar, a WhatsApp-based video intervention led to 100% awareness of BSE and a 60% increase in BSE practice within three months (Sinha and Sharma, 2024). Similarly, a WhatsApp health-education programme in India reported an increase in BSE practice (Sari *et al.*, 2019), and other cross-sectional studies found that higher social media engagement was strongly associated with higher knowledge and better preventive practices (Paul *et al.*, 2025).

Despite generally positive attitudes, fear of diagnosis and financial constraints were leading barriers to following screening recommendations encountered on social media. Emotional barriers such as fear of a cancer diagnosis, anxiety about the procedure, and worry about bad news are recurrent deterrents to breast cancer screening in diverse settings (Alanazi *et al.*, 2025). Studies from Saudi Arabia and other countries have highlighted fear, concerns about pain, and logistical challenges (costs, access, time) as reasons for low mammography and BSE uptake despite high awareness (Moshi *et al.*, 2026). The prominence of fear and cost in our study is therefore consistent with global evidence and underscores that information alone is insufficient; interventions must also address emotional, financial and structural barrier. Confusing or conflicting information on social media was cited by nearly one-quarter of respondents, and a minority expressed disbelief in personal risk. Research reviews have shown that breast cancer content on social media is heterogeneous, often includes misunderstandings about screening benefits and harms, and sometimes disseminates unscientific claims (Shetty *et al.*, 2021; Nastasi *et al.*, 2018). High-share “rumour” content about breast cancer is more widely disseminated than scientifically accurate information in some settings. These patterns plausibly contribute to confusion and mistrust among these women in Abeokuta and thus, reinforce the need for locally tailored, quality-controlled digital campaigns.

An overwhelming majority (84.6%) perceived that social media has increased overall breast cancer awareness, and 88.6% recommended consistent use of social media for breast cancer awareness. These perceptions align with quantitative and qualitative evidence that social media interventions can increase knowledge, shape attitudes and, in some cases, improve screening behaviours (Biancovilli *et al.*, 2021). Reviews of breast cancer social media discourse highlight its potential for peer support, information sharing and empowerment, while also noting risks around privacy and misinformation (Aristokleous *et al.*, 2023). In a recent Nigeria mixed-methods study of young women, reports have it that digital media campaigns positively influenced perceptions of breast cancer and BSE behaviours, with high mean scores for changes in attitudes and self-reported practices (Ogundoyin *et al.*, 2025),

consistent with the favourable evaluations observed in Abeokuta. Participants' preferred content formats short TikTok/Facebook reels, live chats with health professionals or NGOs, audio messages in local languages, and infographics are congruent with emerging evidence that video-based and narrative formats are particularly engaging and effective. In same study by Sinha and Sharma (2024), short YouTube videos delivered via WhatsApp were associated with large gains in knowledge and BSE practice. A conjoint-analysis study among breast cancer patients found that instructional videos increased the likelihood of choosing a digital platform compared with text-based messages (Rafiei et al., 2025). Narrative analyses of breast cancer stories on Facebook show that longer, vivid, survivor-perspective narratives elicit higher affective and behavioural engagement (Zexin et al., 2023). Preferences in Abeokuta for short reels and live, interactive sessions suggest an appetite for succinct yet personalised and dialogic content, which can be further optimised by incorporating survivor narratives and local language audio.

The positive, statistically significant association between age and BSE awareness, alongside broad endorsement of social media as an awareness tool, indicates that digital platforms are reaching and influencing not only younger women but also middle-aged groups that are at higher risk for breast cancer. However, lower awareness in the oldest age groups and persistent emotional and financial barriers point to a risk of leaving the most vulnerable women behind. Evidence by Gumus *et al.* (2026) that ethnic minorities and lower-resource groups are often under-reached by social media interventions supports prioritising targeted, culturally adapted campaigns for older, less educated and rural women.

CONCLUSION

This study presents that awareness of breast self-examination (BSE) among women in Abeokuta is generally high, especially among those aged 30–54 years, with social media and healthcare providers serving as the main information sources. Age was positively associated with BSE awareness, though women ≥ 55 years had lower awareness. Social media use dominated by Facebook and WhatsApp moderately exposed participants to breast cancer content, increased confidence in performing BSE, and was largely trusted, particularly when endorsed by credible sources. However, fear of diagnosis, financial constraints, and confusing or misleading content remain barriers. Participants strongly supported social media for breast cancer awareness, preferring short videos, live interactive sessions, and audio messages in local languages. Overall, social media is a powerful tool for enhancing awareness but must address misinformation, emotional, and financial barriers to improve screening uptake. The study however, recommends developing evidence-based social media campaigns using short instructional videos, reels, and infographics to promote breast self-examination (BSE). Content credibility should be ensured through endorsements by healthcare professionals, government agencies, or reputable NGOs to increase trust and counter misinformation. Special attention should be given to older and less educated women by providing tailored formats, such as local-language audio messages and community-based digital sessions. Digital content should also address emotional and financial barriers by normalizing fear, providing clear guidance on screening procedures, and highlighting affordable or subsidized services.

Finally, the impact of social media campaigns should be evaluated beyond awareness by tracking changes in BSE practice and clinical breast examination attendance.

Declarations

Author statements

Funding

Not Applicable: The authors of the research study state that the study is not funded by any sources.

Ethical Approval: The study was conducted in accordance with the National code of Health Research Ethics, Nigeria. Ethical approval was obtained from the Ethics Review Committee of Federal Medical Centre Aekuta, Ogun State Nigeria with approval no. FMCA/470/HREC/01/2024/20.

Informed Consent

Potential participants were provided with a structured consent form that detailed the study's objectives and the nature of their involvement. The form explicitly outlined that participation was voluntary, and a specific mandatory question was included to confirm each individual's desire to take part in the study.

Consent to Publish

The consent process included a clear disclosure stating that the findings of the research would be published in an academic setting. Participants were informed that all data would be recorded anonymously and kept strictly confidential, ensuring that no identifying information would be linked to the published results.

Data Availability Statement

Survey data were examined after being imported from questionnaire survey, which is held and managed by the research group. The datasets generated and analyzed from the survey in this current study are available from the corresponding author, Golagha R.O. on reasonable request.

Author Contributions

Conceptualization: A.E.O., R.O.G.

Methodology: A.E.O., R.O.G., A.R.O.

Formal analysis: R.O.G., O.O.

Investigation: A.E.O., G.O.O.

Data curation: R.O.G., G.O.O.

Writing - original draft: R.O.G.

Writing - review and editing: A.E.O., O.O., A.R.O.

Supervision: O.O.

Project administration: A.E.O.

Conflict of Interest

The authors declare they have no conflict of interest

References

1. Alanazi W, Mohamed G, Alosaimi N, Alosaimi L. Breast cancer awareness, knowledge and self-screening intention among females in Northern Border of Saudi Arabia, Arar City. *BMC Public Health*. 2025;25. <https://doi.org/10.1186/s12889-025-22092-w>.
2. Aristokleous I, Karakatsanis A, Masannat Y, Kastora S. The Role of Social Media in Breast Cancer Care and Survivorship: A Narrative Review. *Breast Care*. 2023;18:193–9. <https://doi.org/10.1159/000531136>.
3. Basch CH, Hillyer GC, Yalamanchili B, Morris A. How TikTok is being used to help individuals cope with breast cancer: Cross-sectional content analysis. *JMIR Cancer*. 2022;8(4):e42245. <https://doi.org/10.2196/42245>.
4. Biancovilli P, Makszin L, Csongor A. Breast cancer on social media: a quali-quantitative study on the credibility and content type of the most shared news stories. *BMC Womens Health*. 2021;21. <https://doi.org/10.1186/s12905-021-01352-y>.
5. Biancovilli P, Makszin L, Csongor A. Breast cancer on social media: A quali-quantitative study on the credibility and content type of the most shared news stories. *BMC Womens Health*. 2021;21(1):202. <https://doi.org/10.1186/s12905-021-01352-y>.
6. Cortiana V, Chorya H, Abbas R, Ghazal J, Nadar S, Dohadwala T, Joshi M, Menon G, Balasubramanian M, Park C, Leyfman Y. Harnessing social media for cancer prevention and early detection: Challenges, opportunities, and pathways to equity. *J Clin Oncol*. 2025. https://doi.org/10.1200/jco.2025.43.16_suppl.9040.
7. Döbrössy B, Girasek E, Susánszky A, Koncz Z, Györfy Z, Bognár V. Clicks, likes, shares and comments a systematic review of breast cancer screening discourse in social media. *PLoS ONE*. 2020;15. <https://doi.org/10.1371/journal.pone.0231422>.

8. Elizabeth A, D'Souza C, Pinto S, Mathew S. Keeping abreast: Impact of whatsapp in creating breast cancer awareness among women. *Int J Sci Res*. 2024. <https://doi.org/10.36106/ijsr/3606256>.
9. Falisi A, Wiseman K, Gaysynsky A, Scheideler J, Ramin D, Chou W. Social media for breast cancer survivors: a literature review. *J Cancer Surviv*. 2017;11:808–21. <https://doi.org/10.1007/s11764-017-0620-5>.
10. Fridman I, Bylund CL, Elston Lafata J. Trust of social media content and risk of making misinformed decisions: Survey of people affected by cancer and their caregivers. *PEC Innov*. 2024;5:100332. <https://doi.org/10.1016/j.pecinn.2024.100332>.
11. Gumus EÇ, Küçükkaya B. The relationship between factors affecting breast cancer knowledge, awareness and prevention behaviors in women aged 20–49 years: The case of Bartın Province. *BMC Womens Health*. 2026;26(1):84. <https://doi.org/10.1186/s12905-025-04149-5>.
12. Hardianto N, Kuswandari F. Knowledge, Fear of Breast Cancer, And Breast Self-Examination Practices Among Female Undergraduate Students: A Cross-Sectional Study in Bekasi City, Indonesia. *Archives Breast Cancer*. 2025. <https://doi.org/10.32768/abc.2025122220-230>.
13. Heo J, Chun M, Lee KY, Oh YT, Noh OK, Park RW. Effects of a smartphone application on breast self-examination: A feasibility study. *Healthc Inf Res*. 2013;19(4):250–60. <https://doi.org/10.4258/hir.2013.19.4.250>.
14. Ibrahim R, Guduf M, Unar D, Danimoh M, Bala U, Kwairanga H, Shuaibu A, Ibrahim M, Gombe A, Usman A. Awareness Of Breast Cancer And Practice Of Breast Self-examination Among Rural Women In Kwami Local Government Area, Gombe State, Nigeria. *Jewel J Med Sci*. 2022. <https://doi.org/10.56167/jjms.2022.0302.02>.
15. Johnson A, Longfellow G, Lee C, Ormseth B, Skolnick G, Politi M, Rivera Y, Myckatyn T. (2024). Social Media as a Platform for Cancer Care Decision-Making Among Women: Internet Survey-Based Study on Trust, Engagement, and Preferences. *JMIR Cancer*, 11. <https://doi.org/10.2196/64724>
16. Mansour D, Nashwan A, Rasheed H, Hararah M, Nassar H, Abbas R, Alnuaimi M, Mrayat B. Use of Social Media in Breast Cancer Awareness: GCC Countries' Experience. *J Global Oncol*. 2018. <https://doi.org/10.1200/jgo.18.66200>.
17. Moshi JM, Abdelwahab SI, Taha MME, Alamer DA, Maashi HM, Badri RM, Al-Shamsi HO. Breast cancer awareness and screening predictors in young Saudi women: Findings from a cross-sectional study. *Health Sci Rep*. 2026;9(3):e71831. <https://doi.org/10.1002/hsr2.71831>.
18. Nastasi A, Bryant T, Canner JK, Dredze M, Camp MS, Nagarajan N. Breast cancer screening and social media: A content analysis of evidence use and guideline opinions on Twitter. *J Cancer Educ*. 2018;33(3):695–702. <https://doi.org/10.1007/s13187-017-1168-9>.
19. Obaji N, Elom H, Agwu U, Nwigwe C, Ezeonu P, Umeora O. Awareness and practice of breast self-examination among market women in Abakaliki, South East Nigeria. *Annals Med Health Sci Res*. 2013;3(1):7–12. <https://doi.org/10.4103/2141-9248.109457>.
20. Ogundoyin O, Adio I, Nwogwugwu D, Ayantade J, Osueke N, Adeniji O, Michael E. Young Women's Perceptions and Behaviours Towards Breast Cancer Campaigns on Digital Media. *Int Res J*

- Multidisciplinary Scope. 2025. <https://doi.org/10.47857/irjms.2025.v06i03.05309>.
21. Paul B, Headley-Johnson SA. The impact of social media on health behaviors: A systematic review. *Healthcare*. 2025;13(21):2763. <https://doi.org/10.3390/healthcare13212763>.
 22. Plackett R, Kaushal A, Kassianos A, Cross A, Lewins D, Sheringham J, Waller J, Von Wagner C. Use of Social Media to Promote Cancer Screening and Early Diagnosis: Scoping Review. *J Med Internet Res*. 2020;22. <https://doi.org/10.2196/21582>.
 23. Rafiei S, Heidarpour P, Souri S, Nejatifar Z, Amerzadeh M. The preferences of breast cancer patients regarding a digital social care platform. *BMC Womens Health*. 2025;25. <https://doi.org/10.1186/s12905-025-03792-2>.
 24. Sari A. (2019). The effectiveness of WhatsApp and Instagram as breast self-examination (BSE) health promotion media to prevent breast cancer. In *Breast Self-Examination Health Promotion Media* (pp. 1–12). <https://doi.org/10.1515/9783110678666-034>
 25. Shetty N, Yang Y, Asan O. (2021). A Scoping Review of Communication on Social Media - Breast Cancer. *Proceedings of the International Symposium of Human Factors and Ergonomics in Healthcare*, 10, 28–32. <https://doi.org/10.1177/2327857921101003>
 26. Sinha N, Sharma A. Understanding Social Media Usage and Engagement among Women to inform Breast Cancer Knowledge and Prevention Practices: Cross - sectional study in Delhi -National Capital Region of India. *Indian J Community Medicine: Official Publication Indian Association Prev Social Med*. 2021;46:411–5. https://doi.org/10.4103/ijcm.ijcm_429_20.
 27. Sinha N, Sharma A. (2024). Digital Media Intervention for Breast Cancer Awareness among Rural Women: A Quasi-Experimental Study from Bihar, India. *Clinical Epidemiology and Global Health*. <https://doi.org/10.1016/j.cegh.2024.101705>
 28. Xia X, Zhu M. The impact of digital literacy on older adults' utilization of community-based home care services: A cross-sectional study. *BMC Health Serv Res*. 2025;25(1):1367. <https://doi.org/10.1186/s12913-025-13427-9>.
 29. Zexin Z, Zhao R, X., Wang X. Stories that engage the audience: An investigation of popular breast cancer narratives on social media. *Telematics Inf*. 2023;85:102048. <https://doi.org/10.1016/j.tele.2023.102048>.
 30. Zexin Z, Zhao R, X., Wang X. Stories that engage the audience: An investigation of popular breast cancer narratives on social media. *Telematics Inf*. 2023;85:102048. <https://doi.org/10.1016/j.tele.2023.102048>.

Figures

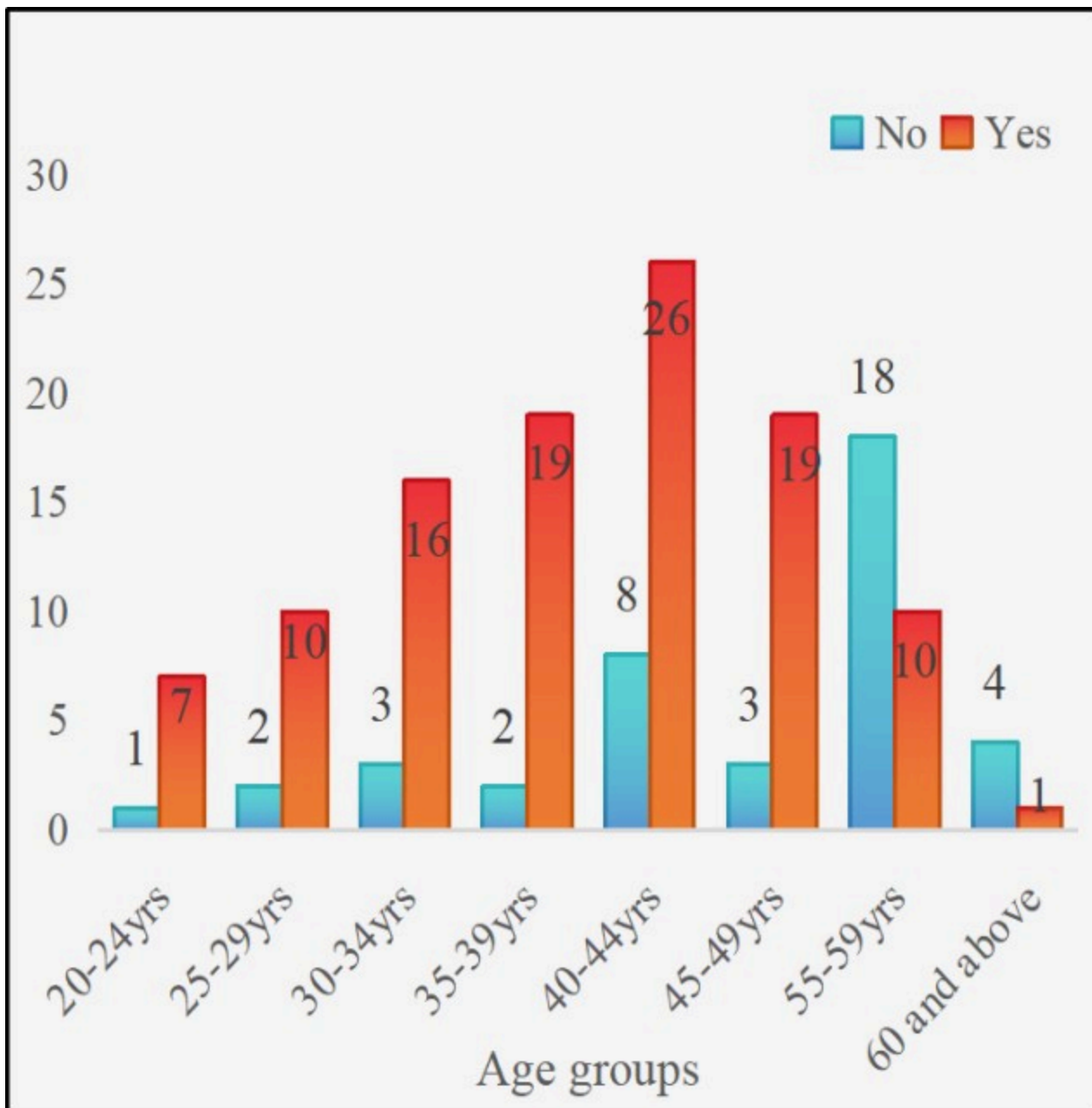


Figure 1

Awareness of Breast cancer self-examination by age group

$r = 0.3184, p = 0.001$

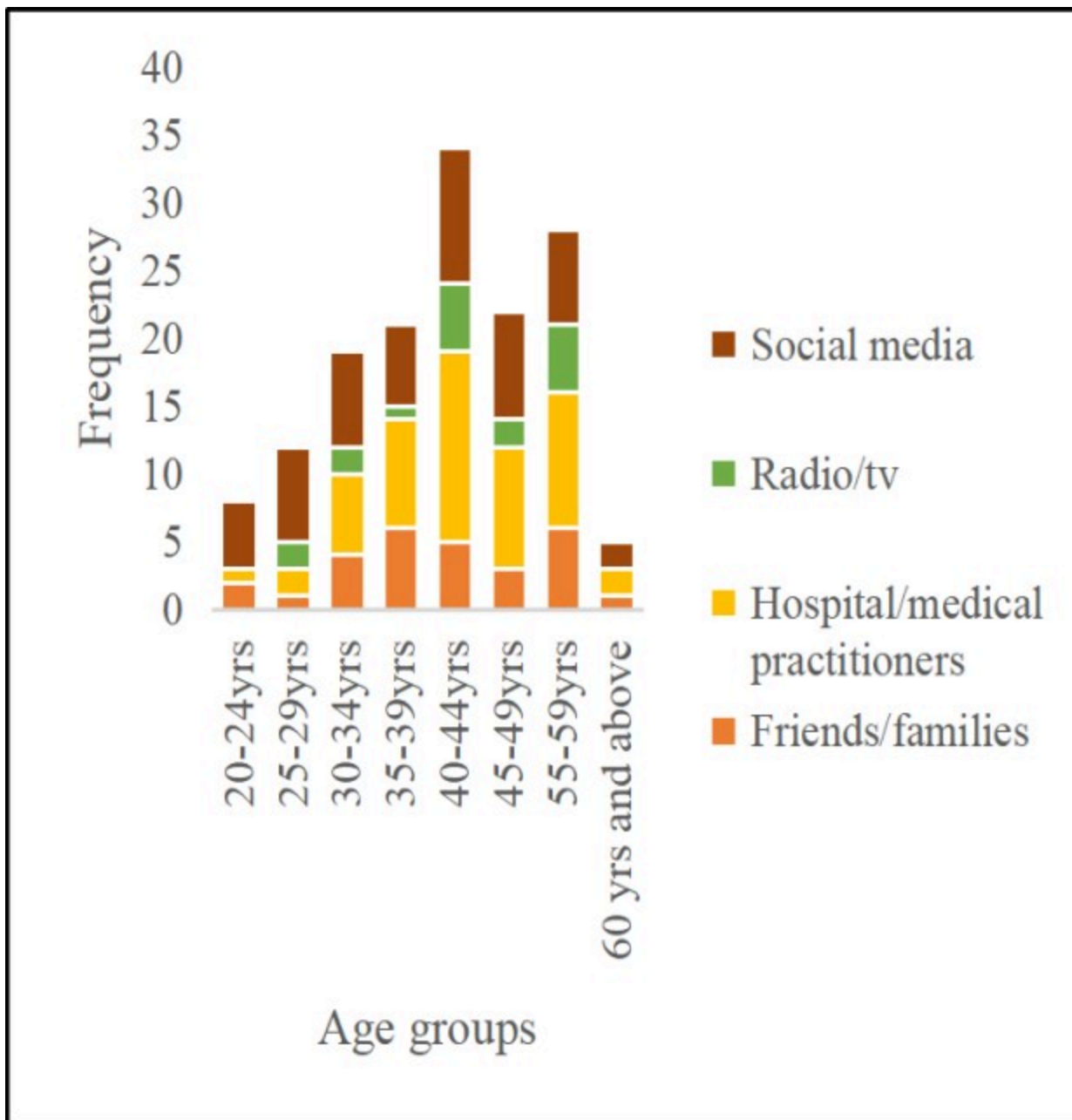


Figure 2

Distribution of first sources of breast cancer self-examination knowledge across age groups

$r = -0.1173, p = 0.1542$

Supplementary Files

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- [QuestionnaireforBREASTCANCERmanuscript.docx](#)