

Breast Cancer Social Media Advocacy and Health Behaviour of Gregory University Female Undergraduates: Interrogating the Influence

Ukaegbu, Michael Ibe, PhD.

Department of English and Communication Art,
Ignatius Ajuru University of Education,
Port Harcourt, Rivers State, Nigeria.
Email: michaelibe22@gmail.com

Efetobor, O. Elijah, PhD.

Department of Mass Communication,
Joseph Boakai College of Social and Management Sciences,
Gregory University, Uturu
Abia State, Nigeria.
Email: e.efetobor@gregoryuniversityuturu.edu.ng

Ugoriji, Ngozi Jennifer

Department of English and Communication Art,
Ignatius Ajuru University of Education,
Port Harcourt, Nigeria.
Email:ugorji.ngozi@yahoo.com

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ABSTRACT

Previous research efforts have focused on mass media and how the public, as receivers, understand the issue of breast cancer. However, just a few studies have focused on the influence of breast cancer campaigns on the knowledge, attitude and practice among young women, and it appears none has focused on the influence of breast cancer social media campaigns on their health behaviour. This current study determines the extent to which the knowledge level and health behaviour of female undergraduate students have increased as a result of using social media to exchange health-related information about breast cancer detection, risk factors, prevention, treatment, screening methods and practice. Anchored on the theoretical framework of the Health Belief Model, the study adopted a descriptive research design, using the survey research method. The population of the study is the entire 815 undergraduate female students of Gregory University Uturu, Abia State, based on the statistics obtained from the Admissions Unit, 2021/2022 Academic Session. Taro Yamane's statistical formula was used to take a manageable sample size of 268. The questionnaire was used as the only measuring instrument in this study. Evidence from research data shows that the attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices is highly dependent on their level of knowledge of social media breast cancer campaigns. Based on research data, the researchers reasoned that social media can be used to raise breast cancer awareness to promote breast cancer screening programmes, including clinical or self-examination, benefits of early

detection, testing, treatment and preventive practices, as well as modifiable risk factors. Accordingly, it was suggested among others, that since findings reveal that attitude towards the risk factors, prevention, treatment, screening methods and practices is highly dependent on their level of knowledge of social media breast cancer campaigns, there is a need to design various health programmes that are not only interactive but user-friendly for deliberate postings and sharing on the social media space.

Keywords: *Breast Cancer, Social Media, Advocacy, Health Behaviour, and Influence*

1.1 Introduction

The prevalence of breast cancer in this part of our world has increased over recent years, affecting the young female population today. The estimated annual number of cases diagnosed globally exceeds one million and this number is expected to rise to 1.5 million by the end of the decade because of the major increase in the number of cases in countries with limited resources (Love, R., Love, S., Laudico, A., 2004).



Source: Google Photos

Recent data on breast cancer indicate that breast cancer is responsible for an estimated 627,000 deaths in 2018, which is approximately 15 % of all cancer deaths among women (WHO, 2018). The majority of breast cancer patients are diagnosed at a quite late stage (Mastura & Azlina, 2018), which makes breast cancer a leading cause of death, especially among young Nigerian women. This is due to several reasons such as poor awareness, the absence of screening programmes, and cultural restrictions and limitations.

The breast plays a significant role in the life and self-identity of a woman. A disorder in the breast, whether benign or malignant, can cause great uneasiness and fear of potential disfigurement, loss of attractiveness and even death. Breast cancer is one of such disorders that pose a major health problem mostly among women.

The Cancer Statistics Worldwide (2012) estimated 14.1 million new cases of cancer worldwide, 6.7 million of these in women. This number is expected to increase to 24 million by 2035. According to WHO, cancer accounts for 13% of all deaths registered globally and 70% of that figure occurs in middle and low-income countries of which Nigeria is among. The

International Agency for Research on Cancer (IARC), stressed that there will be 21 million new cases of cancer every year and 13 million cancer deaths by the year 2030 (IARC Report, 2013).

It is estimated that in every 100,000 Nigerian women, 116 of them have breast cancer (Akpor, Akhator & Akpo, 2010). According to former Health Minister of Nigeria, Professor Onyebuchi Chukwu, the data collected from 11 Federal tertiary hospitals by the National System of Cancer Registries showed 7,000 new documented cases of cancer which also correspond to the estimated average of 100,000 new cases of cancer reported in Nigeria annually. From the data, 60% of cancers occur in women and 39.8% in men. Breast cancer accounts for 40% of women's cancers (National System of Cancer Registries, 2014).

In Nigeria, the peak age of breast cancer in women is about a period of ten years, earlier than in Caucasian women (Okobia, Bunker, Okonofua & Usifo, 2006). It affects one in eight women at some point in their lifetimes (Dumitrescu & Cotaria 2004; Bray, McCarron, & Parkin, 2005; Okobia et al, 2006). A ten-year evaluation of breast cancer in Eastern Nigeria showed that patients with breast cancer constituted 30% of all patients with breast disease and that 69% of these patients were before their menopause between the ages of 35 and 45 years (Salaudeen, A., Akande, T. & Musa, O., 2009, p.8).

Social media is becoming increasingly popular, estimated to be used by well over half of the world's population. Given social media's potential for widespread public engagement, it is commonly incorporated into public health interventions. Social media interventions can influence behaviour by targeting cognitive or emotional responses, generating discussions, and changing social norms. Additionally, social media allows health messages to be disseminated rapidly, at low cost, to large numbers of people across large geographical areas.



Source: Google Photos

This implies the use of modern channels of communication (social media) since the audiences today have become very large, scattered and anonymous. This explains why Adesonaye (1990, p. 62) asserts:

If communication is to be viewed as a means of sharing and participation by everybody concerned (communication and “communion” being cogenetic), and to the extent that mass communication in Nigeria excludes a large majority of Nigerians (some 79% of those living in the rural areas, Adequsa (1985) from the information sharing process, then it is

misdirected, unproductive and therefore irrelevant to the development effort of the country.

Breast cancer campaigns presently have become ever so important as a result of the increasingly high rate of mortality rate caused by menacing breast cancer. Sreberny (2005) affirms that when a campaign is effectively done, plays a pivotal role in changing people's knowledge, attitudes and (health) behaviour. It also allows caregivers to adopt positive attitudes and practices for breast cancer, providing them with effective implementation of the directive of such a campaign, thus, leading to improved health behaviour. McPhail (2009) emphasized the urgent need of using an effective campaign to bring positive messages and information that could improve less developed communities of which Nigeria is part.

Improving public awareness is significant in decreasing the overall morbidity and mortality of breast cancer. Social media brings a new dimension to healthcare as it offers a medium to communicate, used by the public, patients, and health professionals to communicate health-related issues with the possibility of potentially improving health outcomes.

The preceding background forms the base for directing this research interest on the influence of social media breast cancer campaigns on the health behaviour of Gregory University female undergraduates.

1.2 Statement of the Problem

The menacing increase in breast cancer occurrence has resulted in the growing emphasis on awareness campaigns on issues of breast cancer among women in Nigerian society. Notwithstanding the notable increase in campaigns initiated by state governments and non-governmental organizations, valid studies show that the scourge of breast cancer has remained on the increase. The incidence rate increased from 13.8-15.3 per 100,000 in the 1980s, to 33.6 per 100,000 in 1992 and 116 per 100,000 in 2001 (Adebanowo and Ajayi, 2001). This could be a result of a growing lack of awareness, and this is where social media comes in.

Social media provides an attractive environment for users to seek, share, support and recommend each other's in different contexts, compliance with individual behaviour such as health-related information exchange is also restricted the intensity of these actions. Prior research, demonstrated that the high intensity of online reviews such as liking number, rating, quantity, and accuracy play an essential role to adopt a specific behaviour or information (Filiari & McLeay, 2014; K. Zhao, Stylianou, & Zheng, 2018).

Though, previous research focused, in terms of health-related information exchange, mostly on the social benefits (Wicks et al., 2012; Z. Yan et al., 2016), personal expectation and self-efficacy (Lin & Chang, 2018). The user's perception of the interactive features of social media with the presence of other users, the source of information, and review intensity have less attention in terms of attitude toward such an online environment as a promoter of health awareness.

Previous research efforts have focused on mass media and how the public, as receivers of mass media messages, understand the issue of breast cancer. However, just a few studies have focused on the influence of breast cancer campaigns on the knowledge, attitude and practice among women and it appears none has focused on the influence of breast cancer social media campaigns on their health behaviour. Hence, this study directs a focus on closing the obvious knowledge gap.

Objectives of the Study

Away from the general goal of providing an overview of the available evidence concerning the influence of breast cancer campaigns via social media on the health behaviour of female undergraduates, This study specifically, attempts to:

1. Determine the level of awareness of breast cancer risk factors, prevention, treatment, screening methods and practice among female undergraduate students at Gregory University Uтуру.
2. Check the extent to which the knowledge level and health behaviour of female undergraduate students have increased as a result of using social media to exchange health-related information about breast cancer detection, risk factors, prevention, treatment, screening methods and practice.
3. Examine how perceived interactivity of social media and source credibility of the information, or content affect users' attitudes toward using social media in promoting breast cancer risk factors, prevention, treatment, screening methods and practice.
4. Check the extent to which the review's intensity moderates the relationship between users' awareness of breast cancer via social media usage and practice on the risk factors, prevention, treatment and screening methods.

Research Questions

The following research questions were used to guide the study:

1. What is the level of awareness of breast cancer risk factors, prevention, treatment, screening methods and practice among female undergraduate students at Gregory University Uтуру?
2. Has the knowledge level and health behaviour of female undergraduate students increased as a result of using social media to exchange health-related information about breast cancer detection, risk factors, prevention, treatment, screening methods and practice?
3. To what extent has perceived interactivity of social media and source credibility affect users' attitudes toward social media use in promoting breast cancer risk factors, prevention, treatment, screening methods and practice?
4. To what extent has review intensity moderated the relationship between users' awareness of breast cancer via social media usage and practice on the risk factors, prevention, treatment and screening methods?

Research Hypotheses

To test for the statistical significance of the data collected, the following hypotheses were formulated.

Hypotheses One

H₁: Attitude toward social media usage positively affect breast cancer awareness of Gregory University female undergraduates.

H₀: Attitude toward social media usage does not positively affect breast cancer awareness of Gregory University female undergraduates.

Hypotheses Two

H₂: The attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices is highly dependent on their level of knowledge of social media breast cancer campaigns.

H₀: The attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices is not dependent on their level of knowledge of social media breast cancer campaigns.

Hypotheses Three

H₁: Perceived interactivity of social media and source credibility positively affect Gregory University female undergraduates' attitude toward social media usage for breast cancer-related information.

H₀: Perceived interactivity of social media and source credibility does not positively affect Gregory University female undergraduates' attitude toward social media usage for breast cancer-related information.

Hypotheses Four

H₁: Review intensity moderates the relationship between Gregory University female undergraduates' attitudes toward social media usage and breast cancer awareness.

H₀: Review intensity does not moderate the relationship between Gregory University female undergraduates' attitude toward social media usage and breast cancer awareness.

Significance of the study

This study is of utmost importance to professionals, practitioners, NGOs on health care services, women organizations, the media and all stakeholders in the area of breast cancer and improving health behaviour of women.

Furthermore, this research provides valid statistics that scholars and health experts can rely on in making good decisions and drawing reasoned conclusions in the areas of health intervention campaigns, breast cancer media advocacy and social media use generally.

The result of this study also provides useful data and serves as a literature review for future researchers and various institutions of learning in the area of influence of breast cancer media campaigns, either in the conventional media, or social media space.

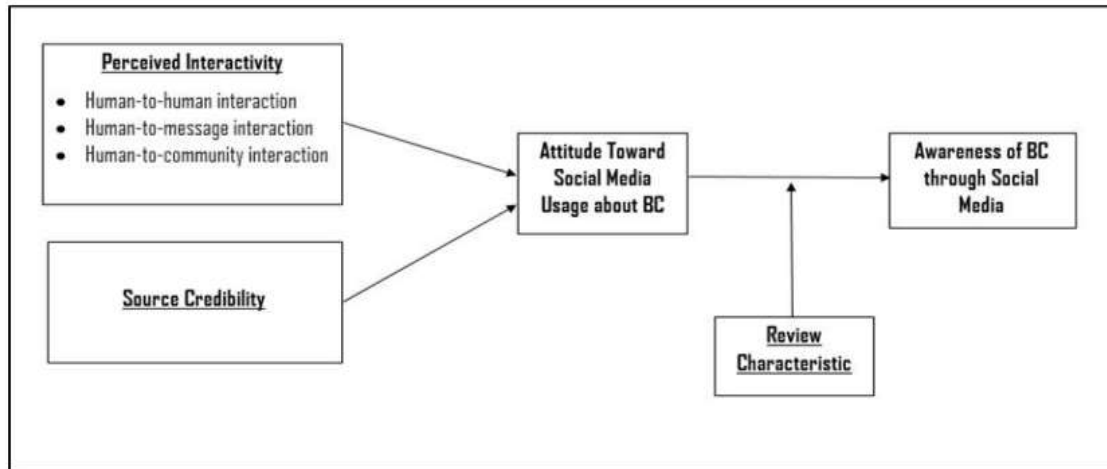
Scope of the study

The scope of this study evaluates the influence of social media breast cancer campaigns on the health behaviour of Gregory University female undergraduates. This involves all-female undergraduate students during the 2021/2022 academic session, who are most vulnerable to the scourge. Also, Gregory University female undergraduates were studied because all female undergraduates in Nigeria cannot be studied as a whole.

LITERATURE REVIEW

Conceptual Framework

To understand the mechanisms of the underlying effect of social media usage on women generally in Nigeria, and to extend the prior theoretical contribution of social media influence on breast cancer awareness, a conceptual framework is developed.



This framework examines the influence of perceived interactivity of social media and source credibility on women's attitudes to using these platforms as an information exchange tool about breast cancer, which will enhance their awareness of such potential risk. Furthermore, the model investigates the moderating effect of review intensity between women's attitudes toward using social media and their level of awareness in this virtual community.

Breast cancer

Breast cancer is a type of cancer originating from breast tissue, most commonly from the inner lining of milk ducts or the lobules that supply the ducts with milk. Cancers originating from ducts are known as ductal carcinomas, while those originating from lobules are known as lobular carcinomas. Breast cancer occurs in humans and other mammals. While the overwhelming majority of human cases are in women, breast cancer can also occur in men (Sariego J., 2010).

The balance of benefits versus harms of breast cancer screening is controversial. The characteristics of cancer determine the treatment, which may include surgery, medications (hormonal therapy and chemotherapy), radiation and/or immunotherapy. Surgery provides the single largest benefit, and to increase the likelihood of remission (no further sign of cancer), several chemotherapy regimens are commonly given in addition. Radiation is used after breast-conserving surgery and substantially improves local relapse rates and in many circumstances also overall survival.

Worldwide, breast cancer accounts for 22.9% of all cancers (excluding non-melanoma skin cancers) in women. In 2008, breast cancer caused 458,503 deaths worldwide (13.7% of cancer deaths in women). Breast cancer is more than 100 times more common in women than in men, although men tend to have poorer outcomes due to delays in diagnosis (Kennedy, 2006; National Center for Health Statistics, 2006).

Prognosis and survival rates for breast cancer vary greatly depending on the cancer type, stage, treatment, and geographical location of the patient. Survival rates in the Western World are high; for example, more than 8 out of 10 women (85%) in England diagnosed with breast cancer survive for at least 5 years. In developing countries, however, survival rates are much poorer (National Cancer Institute).

Attitude towards Social Media Usage and Breast Cancer Awareness

Social media such as Facebook, Twitter, YouTube, and Instagram provide users with unique mechanisms to transmit and receive information and feedback in different forms of rating symbols, comments, and shares. Prior research argued that users could be motivated for different reasons to engage in this online environment such as self-presentation (Joinson, 2008; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011), social benefits (Kite, Foley, Grunseit, & Freeman, 2016; Moorhead et al., 2013), source credibility (Westerman, Spence, & Van Der Heide, 2014; Wu & Wang, 2011), and subjective norms (Chin, Lu, & Wu, 2015; S. Kim, Lee, & Yoon, 2015). Therefore, to enhance breast cancer awareness among women, it is essential to understand the most motivational factors that shape their attitudes toward utilizing social media in terms of health-related information exchange. This research employs the Theory of Reason Action (TRA) and the Elaboration Likelihood Model (ELM) to explore the motivational factors that will influence users' attitudes toward using social media, which in return enhance breast cancer awareness.

The TAR theory (Fishbein & Ajzen, 1975), postulated that a person's behaviour is predicted by intentions, and their compliance to behave in a certain way is determined by their attitudes. In the health context, prior research indicated that using social media results in valued health outcomes such as awareness (Hagg, Dahinten, & Currie, 2018; Lyson et al., 2018), and user's attitudes toward utilizing these platforms improve their awareness of different health issues (Avcı, Çelikden, Eren, & Aydenizöz, 2015; Fuoco & Leveridge, 2015).

For instance, users that hold beliefs that using social media with its interactivity features would improve the level of awareness about breast cancer due to their positive attitudes toward these online communication applications. Past research demonstrated that social media interactivity impacts attitude formation (Chung & Austria, 2010; Fortin & Dholakia, 2005), and therefore could be interesting and powerful outlets for continuous usage and health-related information exchange (Chang, 2015; Lin & Chang, 2018). The ELM which was developed by Petty and Cacioppo (1986) in Tha'er, et al. (2021) proposes that attitude formation and adoption of a specific behaviour may be caused by two routes: the central route and the peripheral route. People often use source credibility as peripheral cues to process any information.

The possible reason is that social media users receive a large amount of information from other users, which often causes information overload. When information overload occurs, users seek a quick criterion to evaluate the usefulness of content (Forman, Ghose, & Wiesenfeld, 2008), sources authenticity, followers' number, or comments quantity (Watts & Zhang, 2008; Yan & Huang, 2014). Prior research found that authors with good reputations will reduce user's uncertainty about information quality (Liu, Liu, & Li, 2012; Shi, et al, 2018; Yan & Huang, 2014), which is resulted in more tendency of information adoption and exchange (Filieri, 2016; Filieri et al., 2018; Huang, et al, 2015).

Consequently, users may consider source credibility as further useful indicators that enhance their attitudes toward social media usage for breast cancer awareness. Likewise, people take another peripheral route that helps in the process of decision-making to adopt a piece of specific information or behaviour (Petty & Cacioppo, 1986), such as celebrity endorsements, or the information source attractiveness (Angst & Agarwal, 2009), information relevancy, value-added, accuracy, and quantity (Filieri & McLeay, 2014), likability, and ranking score (Filieri et al., 2018).

Previous studies adopted several peripheral cues of online reviews that could vitally affect users' attitudes in the online context. This study uses this review intensity as a moderating

variable, in which these peripheral indicators trigger a high level of engagement in breast cancer information exchange through social media.

Breast Cancer Awareness Campaigns

Breast cancer is the most common form of cancer, with one in seven women in Nigeria expected to develop the disease during their lifetime. By increasing awareness, women become more attentive to the signs and symptoms of breast cancer and spot it while it is more easily treatable (Lizzy, 2019).

Below are some powerful breast cancer awareness campaigns mostly chosen for their messaging and creativity, rather than product promotion:

Grab life by the boobs (2019)

UK breast cancer charity Coppafeel launched the ‘Grab Life by the Boobs’ campaign earlier this year. This forms part of their ongoing efforts to encourage young people to check their breasts regularly as, while less probable than for those aged over 50, symptoms can occur at any age (and particularly among those with a family history of cancer) (Lizzy, 2019).

The ad is uplifting and optimistic, featuring real young people who have been affected by breast cancer. You can learn more about their personal stories via a series of short video clips on the Coppafeel website.

Know your lemons (2017)

Initially created by designer Corrine Beaumont while studying for her doctorate in Design and Healthcare, the striking ‘Know Your Lemons’ infographic went viral in the early months of 2017. After losing two grandmothers and a friend to breast cancer, she dedicated her time to producing easy-to-read graphics that would help women recognise common symptoms.



Instead of using images of real breasts – which could strike a little too close to home – Beaumont altered images of lemons arranged inside an egg box. This clever substitution refers to a woman’s anatomy without overwhelming those who may not be as receptive to the idea of self-examination.

Furthermore, the fruit widens the image’s reach, as it is more likely to be displayed in public places than in a medically precise diagram. Speaking to Design Curial in 2017, Beaumont explained, “By using a substitute for a breast that’s not connected to the body, such as a lemon,

then it makes it possible to do a lot of teaching because it's a strong metaphor that's not already used." **Lizzy, (2019).**

Your Man Reminder (2011)

Rethink Breast Cancer took a risk in 2011 by launching a cheeky and humorous ad to tackle the topic and promote its self-examination app 'Your Man Reminder'.

The ad begins by resembling one of those cheesy, overly-scripted health advice videos that we've all seen in a waiting room at a doctor's or dentist's surgery.

That is until Dr. Rothaford explains, 'studies show that women are more likely to watch a video if it features a hot guy before handing over to some said 'hot guys' to demonstrate the checks. **Lizzy, (2019).**

The video has reached 7.5million views on YouTube at the time of writing, proving that humour makes for a memorable and effective campaign, despite the gravity of the subject.

#ITouchMyselfProject (2018)

In October last year, Serena Williams posted a poignant video of herself singing a rendition of Divinyls' 'I Touch Myself' as part of the #ITouchMyselfProject in association with Berli Australia. It has over 514,000 views to date (Lizzy, 2019).

The story behind this newly recorded version is a powerful one. In 2013, the lead vocalist of the rock band, Chrissy Amphlett, lost her battle with breast cancer. The hit song then became an anthem for breast cancer awareness and the importance of checking for early signs of the disease. The simplicity of the video is what makes it so intimate and so memorable.

Review of Empirical Works

Multiple studies have focused on the risk factor knowledge of university students. For instance, Burak and Boone (2008) discovered that, while over 90 per cent of American female university participants were aware of family history being a risk factor, less than half knew the same about increasing age, obesity, and high alcohol consumption, and low physical activity. Echoing these results, a global survey of female university students illuminated that, although close to 95 per cent of American participants knew the disease can be hereditary, less than 20 per cent knew that exercise, alcohol, and obesity are also risk factors (Peacey, et al. 2006).

Detective behaviours that young women can enact include clinical breast exams (CBE) and breast self-exams (BSE), although, as mentioned previously, the U.S. government no longer recommends them (American Cancer Society, 2011). According to the Healthy People 2020 cancer objectives, the rate of females aged 20-65 having a pap smear needs to increase from less than 60 per cent in 2008 to more than 65 per cent within this decade (Healthy People 2020, 2010).

Additionally, one study examining determinants of BSE in young women discovered that only 20 per cent of the university-aged female participants had performed the behaviour in the past month (Jones, Denham & Springston, 2006). Therefore, at least 20 per cent of university-aged women are not partaking in either of these detective behaviours. While neither CBEs nor BSEs is recommended, the same is not true for pap smears. Further, at the time the BSE-focused study was conducted, BSEs was still advised by the U.S. government. Thus, although the desired behaviours have changed, it appears as though college-aged women are also not being adequately informed and/or persuaded about important detective behaviours.

Osime, Okojie, & Aigbekaen (2008, pp. 115-119) studied the knowledge, attitude and practise of breast self-examination among civil servants in Benin City, Nigeria. They found out that though 83% of the respondents had heard of breast self-examination, only 26% of them could correctly

describe the procedure while only 15% practised it. They concluded that the level of awareness of breast self-examination among civil servants in Benin City was low.

Okobia (2006, pp. 202-207), indicated in his study on breast self-examination among women in urban dwellings in Edo state, Nigeria, that 58.7% of the women were aware of breast self-examination and 26.0% of the respondents could describe it correctly. Balogun and Owoaje (2005) showed that 37.1% of traders in Ibadan knew about breast self-examination. The level of awareness was highest (38.7%) among those aged 50-59 years. The study indicated that the women who had tertiary education were more knowledgeable about breast self-examination than those who had primary education only. Pharm and Mephee (1992, pp. 302-310) found out in a study they carried out that only 13% of Vietnamese women were aware of breast self-examination.

Adili Ndidi in her community medicine project indicated that 100% of the female medical students at Nnamdi Azikiwe University were aware of breast self-examination, 91.2% practised it while 31% performed it monthly. A study carried out by Ali, Salem and Abdulla (2007, pp. 1432-1437) on breast self-examination among female nurses in Jordan revealed that all (100%) were aware of breast self-examination but only 52% performed it regularly.

Recent studies have reviewed the question of the outcome of teaching breast self-examination. Two randomized tests of breast self-examination that were conducted in St. Peter's, Russia, and Shharphia, China indicated no clear occurrence to support the rule of the routine of breast self-examination. Neither of these studies showed a reduction in the risk of dying from breast cancer in women who were taught breast self-examination. The International Atomic Research Centre (IARC), (2002, pp. 87-117) based on the result, concluded that they were adequate evidence that breast self-examination could not reduce mortality from breast cancer. Nonetheless, other researchers do not concur with the conclusion made by IARC. Their opinion is that "the absence of evidence of a benefit is not the same as evidence of benefit". In the shanghai tests, there are points worth noting, first, it was a test of breast self-examination instruction, not on breast.

In a study carried out in 2009 by Agboola, et al. among health workers in Olabisi Onabanjo University Teaching Hospital, Sagamu, showed that 88.7% of them were aware breast cancer is common and may be determined by breast self-examination to improve the chances of survival of the patients.

A descriptive study was conducted by Ivo (2008) on the knowledge, attitude and practice of breast self-examination in a female population of metropolitan Sao Pavlo, Brazil. The study revealed that breast self-examination was performed by 90,3% of the women. Proper self-examination (performed monthly or one per cycle, after the menstrual period, with at least one state in standing or sitting up position) was performed only by 30.4% the poorest performance (18%) being among patients of the National Health Scheme and the best in female physicians (88%).

In a study on the relationship between the level of breast self-examination and mammography practice among women in western Turkey by Pinah, Dilek, & Gokce (2006, pp. 2219-2220), breast self-examination performers among the study group were more likely to be women who exhibited higher confidence and perceived greater benefits from breast self-examination.

Theoretical Framework

The study is rooted in The Health Belief Model, one of the first theories of health behaviour. A psychological model that attempts to explain and predict health behaviours. The

theory was developed in the 1950s by Godfrey Hochbaum, Irwin Rosenstock and Stephen Kegels, done to understand the failure of people to adopt disease prevention strategies or screening tests for the early detection of disease (Conner & Norman, 1996). The model is a framework for motivating people to take positive health actions that use the desire to avoid a negative health consequence as the prime motivation. The HBM derives from psychological and behavioural theory with the foundation that the two components of health-related behaviour are:

- the desire to avoid illness, or conversely get well if already ill; and,
- the belief that a specific health action will prevent, or cure, illness.

Ultimately, an individual's course of action often depends on the person's perceptions of the benefits and barriers related to health behaviour. The model postulates that health-seeking behaviour is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat.

The relevance of the Health Belief Model to this study lies in the fact that the health of individuals within any given society or community is dependent on their ability to identify the risks for specific health problems. This ability is based to a large extent on the knowledge and right perception of the state of illness and the state of the pathological abnormality in any of the organs of the body system. This knowledge is acquired mostly through either formal or non-formal education and this links up the domains of health education, health promotion and indeed health communication.

METHODOLOGY

The study adopted a descriptive research design, using the survey research method was used in this study. Taro Yamane's formula was used to take a manageable sample size of 268 out of the 815 female population of Gregory University Uturu, Abia State, based on the statistics obtained from the Admissions Unit, 2021/2022 Academic Session. With a multi-stage sampling process across 10 Colleges, the questionnaire serves as the only measuring instrument, used in collecting quantitative data. Descriptive and inferential statistical techniques were employed to show the frequency distribution of classification variables.

DATA ANALYSIS

4.3.1 Inferential Statistics

Table 4.3.1 Model Summary

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.861 ^a	.826	.026	.64888	2.062

a. Predictors: (Constant), social media usage, risk factors, interactivity of social media, Review intensity

b. Dependent Variable: breast cancer awareness

Table 4.3.2 ANOVA

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	.630	3	.210	30.499	.005 ^b
	Residual	23.579	56	.421		
	Total	24.208	59			

a. Dependent Variable: breast cancer awareness

b. Predictors: (Constant), social media usage, risk factors, interactivity of social media, Review intensity

Table 4.3.3 REGRESSION OUTPUT

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	2.198	.674		3.261	.002	.848	3.548
	social media usage	.147	.150	.132	2.726	.009	.152	.447
	Awareness of risk factors	.070	.120	.078	2.705	.003	.171	.311
	interactivity of social media	.026	.135	.026	2.196	.005	.244	.297
	Review intensity	.107	.050	.122	3.726	.004	.152	4.447

a. Dependent Variable: breast cancer awareness

The result in Table 4.3.1 shows The R-value (0.86) shows that a strong, positive and significant relationship exists between social media usage, risk factors, interactivity of social media, review intensity and breast cancer awareness. The adjusted R² value (0.830) reveals that 83% variation in breast cancer awareness is predicted by social media usage, risk factors, interactivity of social media, and Review intensity. Also, the F value (30.499) and p-value (0.008) which are greater than the f critical value at 0.05 level of significance and less than alpha (0.05), respectively, are negative signs of the relationship. The DW shows that there is no sign of autocorrelation as the model is a good fit since the value of DW is greater than the lower and upper values in the tables. The coefficients table shows that Arbitration ($\beta = 0.147$, $t = 2.726$; $p = 0.000$); Negotiation ($\beta = .070$, $t = 2.705$; $p = 0.000$); Mediation ($\beta = .026$, $t = 2.196$; $p = 0.000$); Conciliation ($\beta = .107$, $t = 3.726$; $p = 0.000$); are significant predictors of breast cancer awareness, since their p-values are less than alpha (0.05) and their t-values greater than t-critical, (1.408). Therefore, the hypotheses are rejected

4.2.3 R-Square

The goodness of fit of the estimated relationship and the significance of the model as indicated by the value of the coefficient of determination (R²). Based on the result, the R-square statistics=.826 using the final result from the fixed-effect model therefore R-square statistics is considered relatively high, 82.6% of the variation in expected breast cancer awareness are caused by social media usage, risk factors, interactivity of social media, review intensity, 18.4% are from the unobserved variables.

4.2.4 Overall significance of the model (F test)

$$H_0 = \beta_1 = \beta_2 = \beta_3 = 0$$

H_1 At least one of the β_1 is not equal to zero, where $i = 1,2,3$

Decision rule: Reject H_0 if the p-value is less than the significance level. Otherwise do not reject H_0 .

F-statistics = 0.000000 is all the model

Decision making: Reject H_0 since the p-value (0.0000) is less than the significance level of 0.05

Conclusion: The model is significant and it is valid and well fitted at a 1% level of significance the model.

4.4 Evaluation of Hypotheses

Hypotheses One

H₁: Attitude toward social media usage positively affect breast cancer awareness of Gregory University female undergraduates.

H₀: Attitude toward social media usage does not positively affect breast cancer awareness of Gregory University female undergraduates.

H₀: $\beta_1 = 0$

H₁: $\beta_1 \neq 0$

Decision Rule: Reject H_0 if the p-value is less than a 5% level of significance. Otherwise, do not reject H_0 and accept H_1

Decision: reject H_0 since the p-value is greater than the significance level of 0.05.

Conclusion: It can be inferred that a unit change in attitude toward social media usage causes about a 0.147% increase in the breast cancer awareness of Gregory University female undergraduates. Based on the above empirical evidence, we reject the null hypothesis. We, therefore, conclude that attitude toward social media usage positively affects breast cancer awareness of Gregory University female undergraduates.

Hypotheses Two

H₂: The attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices is highly dependent on their level of knowledge of social media breast cancer campaigns.

H₀: The attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices is not dependent on their level of knowledge of social media breast cancer campaigns.

H₀: $\beta_1 = 0$

H₁: $\beta_1 \neq 0$

Decision Rule: Reject H_0 if the p-value is less than a 5% level of significance. Otherwise, do not reject H_0 and accept H_1

Decision: reject H_0 since the p-value is greater than the significance level of 0.05.

Conclusion: It can be inferred that a unit change in the attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices causes about 0.070% increase in the breast cancer awareness of Gregory University female undergraduates. Based on the above empirical evidence, we reject the null hypothesis. We, therefore, conclude that the attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices is highly dependent on their level of knowledge of social media breast cancer campaigns.

Hypotheses Three

H₁: Perceived interactivity of social media and source credibility positively affect Gregory

University female undergraduates' attitude toward social media usage for breast cancer-related information.

H₀: Perceived interactivity of social media and source credibility does not positively affect Gregory University female undergraduates' attitude toward social media usage for breast cancer-related information.

H₀: $\beta_1 = 0$

H₁: $\beta_1 \neq 0$

Decision Rule: Reject H₀ if the p-value is less than a 5% level of significance. Otherwise, do not reject H₀ and accept H₁

Decision: reject H₀ since the p-value is greater than the significance level of 0.05.

Conclusion: It can be inferred that a unit change in Perceived interactivity of social media and source credibility causes about a 0.026% increase in the breast cancer awareness of Gregory University female undergraduates. Based on the above empirical evidence, we reject the null hypothesis. We, therefore, conclude that the perceived interactivity of social media and source credibility positively affect Gregory University female undergraduates' attitudes toward social media usage for breast cancer-related information.

Hypotheses Four

H₁: Review intensity moderates the relationship between Gregory University female undergraduates' attitudes toward social media usage and breast cancer awareness.

H₀: Review intensity does not moderate the relationship between Gregory University female undergraduates' attitude toward social media usage and breast cancer awareness.

H₀: $\beta_1 = 0$

H₁: $\beta_1 \neq 0$

Decision Rule: Reject H₀ if the p-value is less than a 5% level of significance. Otherwise, do not reject H₀ and accept H₁

Decision: reject H₀ since the p-value is greater than the significance level of 0.05.

Conclusion: It can be inferred that a unit change in review intensity causes about a 0.107% increase in the breast cancer awareness of Gregory University female undergraduates. Based on the above empirical evidence, we reject the null hypothesis. We, therefore, conclude that the review intensity moderates the relationship between Gregory University female undergraduates' attitudes toward social media usage and breast cancer awareness

Summary of Findings

Various findings, based on data analysis are hereby summarized:

1. Evidence from research data shows that attitude toward social media usage positively affects breast cancer awareness of Gregory University female undergraduates.
2. Findings reveal from research data that the attitude of female undergraduates' towards the risk factors, prevention, treatment, screening methods and practices is highly dependent on their level of knowledge of social media breast cancer campaigns.
3. Also, inferences from research data point out that the perceived interactivity of social media and source credibility positively affect Gregory University female undergraduates' attitudes toward social media usage for breast cancer-related information.
4. Results also show that the review intensity moderates the relationship between Gregory University female undergraduates' attitudes toward social media usage and breast cancer awareness

5. Data evidence reveals that GUU students are significantly exposed to social media, and used it regularly for seeking information, just as *Facebook* and *Whatsapp* were found to be mostly preferred by respondents in meeting their information needs.
6. Also, data suggests that the majority of the respondents know little or nothing about the risk factors, prevention, treatment, screening methods, and testing practice as a preventive measure as evidenced in self or clinical examination of breasts. This is largely due to a lack of exposure to basic information available on the social media space.
7. Research data also indicate that majority of the students lack knowledge of the fact that performing breast self-examination and having a clinical breast examination can indeed help in early detection and consequently lead to breast cancer reduction.

Conclusion

Social media should not be viewed as a solution to the complexities of behaviour change and improved health outcomes; instead, the use of social media in health promotion should be valued for its potential to engage with audiences for enhanced communication and improved capacity to promote programmes, products, and services. Based on data collected as analysed, the researchers have come to the reasoned conclusion that social media can be used to raise breast cancer awareness to promote breast cancer screening programmes, including clinical or self-examination, benefits of early detection, testing, treatment and preventive practices, as well as modifiable risk factors. However, the use of various social media platforms is variable across age, educational, and socioeconomic groups; therefore, breast cancer awareness campaigns utilizing social media should be tailored according to the target group.

Recommendations

Having examined the influence of social media breast cancer campaigns on the health behaviour of Gregory University female undergraduates, the following recommendations are made based on research data:

1. Since evidence from research data shows that attitude toward social media usage positively affects breast cancer awareness, it is hereby suggested that various development agencies of government and international support efforts to deploy social media in social change intentions. Such effort should be vigorously pursued and sustained.
2. Also, since findings reveal that attitude towards the risk factors, prevention, treatment, screening methods and practices is highly dependent on their level of knowledge of social media breast cancer campaigns, there is a need to design various health programmes that are not only interactive but user-friendly for deliberate postings and sharing on the social media space.
3. There is a need to give room for reviews and testimonials from those who have been clinically tested and treated. Since the review intensity moderates the relationship between users' attitudes toward social media usage and breast cancer awareness, this will become a huge boost to the effort to curtail the menace of breast cancer among the female youth population.
4. Apart from Facebook and Whatsapp, other social media platforms should be explored to increase exposure to social media information on risk factors, prevention, treatment, screening methods, and testing practice as a preventive measure as evidenced in self or clinical examination of breasts. This can be done by posting content links to other

platforms like Twitter, IMO, Skype Instagram, etc.

5. Social media users should be socially responsible enough by posting and sharing information on risk factors, prevention, treatment, screening methods, and testing practice as preventive measures they encounter in the social media space.
6. There is a need to review Mass Communication and Journalism curricula to capture the very essence of health communication, with a special touch and attention to breast cancer as a special subject of interest.
7. Since the results of this research will be lodged with the Central School Library, College and Departmental Library, it would serve more public good having this work in the conventional public libraries or e-libraries for the benefit of students.
8. While future researchers conducting studies in a similar area of knowledge may wish to depend on this study as a rich resource of literature material or secondary data, others may focus on replicative research effort, with a wider scope but similar methodology.

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