East African Journal of Health and Science, Volume 7, Issue 1, 2024
Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

East African Journal of Health and Science
eajhs.eanso.org
Volume 7 Issue 1, 2024
Print ISSN: 2707-3912 | Online ISSN: 2707-3920
Title DOI: https://doi.org/10.37284/2707-3920

EAST AFRICAN NATURE & SCIENCE ORGANIZATION

Original Article

Communication Strategies for Intervention Against Breast and Prostate Cancers in Plateau State, Nigeria

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Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

Date Published:
09 August 2024

Keywords:
Communication Strategy, Health Campaign, Breast Cancer, Prostate Cancer, Health Belief.

ABSTRACT

Effective communication strategy has been the pivot of any health campaign. While several stakeholders have made efforts to ensure that information about diseases are adequately stepped down to the public in the most effective way, global burden of disease keeps increasing, especially since the COVID-19 pandemic. This study, using breast and prostate cancers as key variables, sought to examine communication strategies to be used as intervention for breast cancer in women and prostate cancer in men. Anchored on the Health Belief Model which supports preventive, sick role and clinic use behavioural changes, the study conducted a survey across six selected LGAs in the three Senatorial Districts of Plateau State. 2,652 copies of two sets of questionnaire were distributed among the male population for prostate cancer and the female population for breast cancer. Findings of the study revealed that mainstream media platforms such as Radio and Television, with traditional channels such as worship places are the communication channels both males and females are exposed to more frequently than other contemporary channels such as Facebook and WhatsApp. It was also found out that respondents' preferences for effective communication channels in their communities were affected by other fields of experience such as religion and settlement patterns. Furthermore, while both men and women claim to be aware of the two kinds of diseases, further analysis showed that their sources of information on health issues are limited, creating gaps in their knowledge. The researchers therefore recommended that health institutions and health communicators should devise other strategies for communicating health issues to the public, especially in rural areas where modern communication avenues are limited, such as partnering with the media to develop holistic knowledge-based information strategies that suit people with different experiences.

APA CITATION

Obateru, T. C., Akila, M. A., Bashok, L. & Kazi, T. T. (2024). Communication Strategies for Intervention Against Breast and Prostate Cancers in Plateau State, Nigeria *East African Journal of Health and Science*, *7*(1), 335-364. https://doi.org/10.37284/eajhs.7.1.2094.

CHICAGO CITATION

Obateru, Taye Cosmas, Mabas Amos Akila, Lengnen Bashok and Timothy Timjul, Kazi. 2024. "Communication Strategies for Intervention Against Breast and Prostate Cancers in Plateau State, Nigeria". *East African Journal of Health and Science* 7 (1), 335-364. https://doi.org/10.37284/eajhs.7.1.2094.

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Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

HARVARD CITATION

Obateru, T. C., Akila, M. A., Bashok, L. & Kazi, T. T. (2024) "Communication Strategies for Intervention Against Breast and Prostate Cancers in Plateau State, Nigeria", *East African Journal of Health and Science*, 7(1), pp. 335-364. doi: 10.37284/eajhs.7.1.2094.

IEEE CITATION

T. C., Obateru, M. A., Akila, L., Bashok & T. T., Kazi, "Communication Strategies for Intervention Against Breast and Prostate Cancers in Plateau State, Nigeria", *EAJHS*, vol. 7, no. 1, pp. 335-364, Aug. 2024.

MLA CITATION

Obateru, Taye Cosmas, Mabas Amos Akila, Lengnen Bashok & Timothy Timjul, Kazi. "Communication Strategies for Intervention Against Breast and Prostate Cancers in Plateau State, Nigeria". *East African Journal of Health and Science*, Vol. 7, no. 1, Aug. 2024, pp. 335-364, doi:10.37284/eajhs.7.1.2094.

INTRODUCTION

Maximum control of disease – its prevention, including total eradication – and a drastic change in health behaviour has been the ultimate goal of every successful public health campaign. Researchers in the field of personal and public health have over the years, and more importantly in the 21st century, recognized the place of health communication in the overall success of a typical health project. Research has uncovered improvement of interpersonal and group interactions in clinical situations (for example, between provider and patient, provider and provider, and among members of a healthcare team) through the training of health professionals and patients in effective communication skills (Centers for Disease Control and Prevention, 1999; Sixsmith et al., 2014).

The communication pattern mentioned above is not haphazard but carefully designed to achieve intended outcomes. In more explicit terms, they are well-thought-out strategies put in place to ensure the holistic success of message delivery, reception and action.

No doubt, strategic communication has been the hallmark of modern health programming and activity. As a matter of definition, it is viewed as "actions, interactions, and negotiations of multiple actors and the situated practices that they draw upon in accomplishing that activity" (Jarzabkowski et al., 2007, p. 8). Strategic communication is an activity that sits between management strategy and communication (Thomas and Stephens, 2015). These two definitions largely fit into the context of this research work. However, it is imperative to assert that the terms 'strategy' and 'communication' have been laden with an array of definitions, which invariably makes a single definition scarcely acceptable.

Nevertheless, since the early 90s when health communication shifted to the 'strategic era', the role of communication became all-encompassing and interwoven into the fabrics of the administration, logistics, planning and outcomes of a health campaign (Rimon, 2001). It is characterized by multichannel integration, multiplicity of stakeholders, increased attention to evaluation and evidence-based programming, large-scale impact at the national and local levels, more pervasive use of mass media, and a communication process in which participants ("senders and receivers") both create and share together – where the sender of the information is so much aware of the psycho-social state of the receiver of the information. Communication in itself has equally provided needed knowledge through public campaigns in handling deadly diseases such as the Ebola scourge, which led to the death of scores of people chiefly due to limited information than the disease itself (Onwuekwe, 2018; Odorume, 2015; Azuonwu & Chukwu 2015).

In the aspect of non-communicable disease control, prevention and awareness, strategic communication can be handy in tackling high prevalent diseases such as diabetes, high blood pressure, sickle cells anemia and cancer as this study suggests. Statistics from a 2012 study by the World Health Organisation's International Agency for Research on Cancer tagged *'The Globocan Project'*, show that worldwide, over 24 million people will present with cancer annually in the next couple of years; while low income earners who are predominantly in Africa will be

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Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

the most affected (National Cancer Control Plan 2018-2022, 2017).

While statistics for Nigeria is undoubtedly on a high, given that more than 72,000 people die yearly from cancer and over 102,000 new cases are reported yearly, the astonishing fact presented by the report is that breast cancer is the most prevalent among women while prostate cancer is the most common among men. Further statistics corroborate this claim indicating that prostate cancer in males account for 45.3% of all cancers found in men and breast cancer in women account for 45.7% of the total of cancers found in women. A similar finding was recorded in the bordering countries of Benin, Cameroun, Chad and Niger (Baba & Hincal, 2016; Chu et al, 2011).

Prostate cancer is generally known to be associated with older men as against breast cancer which is chiefly associated with mutations in the genes of a female and can occur in very young females (American Cancer Society, 2018). However, recent development proves that the prevalence rate is escalating. Bowa (2010, p.111) indicates that "prostate cancer presents in a younger age group in Africa, approximately a decade earlier, than it does in western countries, and the patients also present with advanced disease in over 70% of cases." This leaves more than is desired.

Late presentation of breast and prostate cancer has been the major factor accounting for the high mortality rate while inadequate information to the public has been identified as culprit for the high prevalence rate (Akinremi et al., 2011). Regardless of who is to blame, the above underscores the dire need for not just a policy statement but also a comprehensive strategic communication project to effectively reach out to people (from the ignorant farmer in the village and not-well-informed intellectual in the city).

This research therefore sought to measure the extent to which the public in Plateau state has been informed about these two types of cancers with the view to identifying the most effective communication strategy and channels for information dissemination to be adopted for any health campaigns that relate to these cancers. It was envisaged by the researchers that, the study would serve as a pilot study to further promote an intensive awareness campaign, which is an integral part of the National Cancer Control Plan of the Ministry of Health, Federal Government of Nigeria.

STATEMENT OF THE PROBLEM

Despite several attempts by the government and other non-governmental organizations to provide advocacy and awareness for breast and prostate cancers, knowledge about the diseases still remains largely low among the general population. Obviously, effective deployment of communication strategies that would guarantee the success of these health campaigns and programmes has been lacking (Ugwuegede et al., 2021). This is evident in several research statistics which demonstrate that cancer cases and mortality rate for the most common cancer in men and women have significantly increased in recent times (Jedy-Agba et al., 2012). Patients mostly present late with breast cancer and prostate cancer due to inadequate information on the disease to check out for possible symptoms (Bowa 2010). Furthermore, Adetifa and Ojikutu (2009) in a survey found out that most women thought symptoms of breast cancer were going to manifest as in the case of malaria and other diseases, and since there are no glaring symptoms, they did not bother the high risks involved.

Similarly, the National Cancer Control Plan (NCCP) for 2018 – 2022 has recognized the need to overhaul the country's cancer registry due to inadequate and insufficient database for cancer cases. This shows a lackadaisical approach to tackling the skyrocketing prevalence rate of breast and prostate cancers in Nigeria. Although the NCCP also claimed that the last cancer plan for the period 2013 – 2017 has completed among other objectives an "increased cancer Information dissemination, education and cancer outreach services nationwide", it remains to be seen how effective this claim has been in reducing the

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prevalence rate of these two cancers and increasing the knowledge base of the public.

Ultimately, the researchers seek to verify the claim made by NCCP regarding the increased information dissemination and education of cancer issues with the view to determining how effective the awareness campaigns have been on the prevalence of breast and prostate cancer in Plateau State. Also, the research argues that a communication policy to drive health communication is long overdue to increase the efficacy of the fight against breast and prostate cancer, or any other disease at all in Nigeria. This is in the belief that, "promoting health education through effective communication is not just an option, it is an ethical imperative that, when embraced with diligence and dedication, can lead to healthier individuals, stronger communities and a more robust global society" (Ugwuegede et al., 2021 p. 70).

RESEARCH OBJECTIVES

This study is hinged on the following four objectives:

- To find out the level of knowledge among men and women on breast and prostate cancers in Plateau state.
- To establish the extent to which communication has reduced the spread of prostate cancer and breast cancer in Plateau State.
- To find out available and suitable communication channels for adoption in creating awareness on breast and prostate cancers among the heterogeneous population in Plateau State.
- To find out the kinds of messages to receive greater emphasis in media campaigns on breast and prostate cancers in Plateau state.

RESEARCH QUESTIONS

The following research questions serve as a guide to the study:

- How knowledgeable are men and women in Plateau state on breast and prostate cancers?
- To what extent has communication reduced the spread of prostate cancer and breast cancer in Plateau State?
- What are the available and suitable communication channels for adoption in creating awareness on breast and prostate cancers among the heterogeneous population in Plateau State?
- What kinds of messages should receive greater emphasis in media campaigns on breast and prostate cancers in Plateau state?

LITERATURE REVIEW

Health communication research is one of the key areas of development communication project around the globe with major international organization as propellers. It is a multidisciplinary field that combines elements of medicine and communication in harmony to provide the needed health benefits to a world ravaged by diseases, war-related ailments and increased environmental and climatic degradation. Reports offered by WHO's World Health Statistics (2023) indicate that the global burden of disease had risen from 6,140,789 in 2000 to 7,461,884 in 2015 and even more in 2021 after the pandemic. This explains the greater need to focus on communication as a means and strategy of effective health campaign for any kind of disease, which has led to its inclusion as a major component of the major health awareness and disease control programmes across the globe. Medical/health researchers and programmers have come to continuously appreciate the expertise of communication scholars in the health programming mix. In this regard, Udoudem et al., (2024) assert that cultivating a responsive communication framework is imperative for the success of health campaigns or programmes.

The field of health and communication is a prototype of how theory and practice can be fused together for the benefit of public and personal health. As a theoretical field, it handles elements

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Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

of planning and research while in practice, it demonstrates the act of information dissemination through administrative organizing, execution, strategic communication and evaluations.

Cancer as one of the diseases with high prevalence has been put under the microscope with several researches undertaken to determine cases and possible cures for this disease. Despite advancement in research that seeks to provide better management of the disease, a cure for cancer remains evasive. Rather, the world is witnessing an increasing prevalence of certain kinds of cancer – particularly breast cancer in women and prostate cancer in men – which are believed to be the most common among these two genders (National Cancer Control Plan, 2017).

Health Communication

The concept of health communication as defined by the Centers for Disease Control and Prevention (CDC) cited in Schiavo (2007, p.17) is "the study and use of communication strategies to inform and influence individual and community decisions that enhance health". This definition brings to bear the very important objective of communication which seeks to influence individuals and communal decision-making with, and in this instance, improve outcomes by sharing health-related information. This role is becoming even clearer leading to an all-important definition of health communication as "the main currency of health care in the 21st century" (Clancy cited in Krisberg, 2004).

Effective health communication views communication as both an instrument (a means of acquiring information) and a ritual (an integral part of a human's social existence and his relationship with his environment). Ugwuegede et al. (2021) also described effective health communication as an interactive process that inspires, informs and transforms individual and community behaviours through knowledge, skills and the motivation needed to make informed decisions about their health and well-being. Simply put, a health communication plan that focuses on only aspects of transmitting information without demonstrating an awareness of man's nature and desire to socialize, is bound to fail (Rimal & Lapinski, 2009). For example, an Ebola disease awareness campaign that uses mass media to educate the populace of the dangers and myths associated with the disease without considering the fact that rural dwellers need opinion leaders such as religious leaders, traditional leaders and primary health clinics to make them understand the transmitted messages in their own terms, will not achieve the expected level of success.

Health communication packages in Nigeria must be holistic, combining contemporary and traditional channels as a means of taking into cognizance the field of experience of all members of the population (Udoudom et. al, 2024). Apart from attempting to reach the unreached with health messages, the health communicator must be aware of new channels for communicating health information that focus on digital and mobile technologies. Smartphones and mobile applications that help check and monitor health are available and can be developed to handle awareness creation among an elite and/or urban population (The Community Guide, 2017). Since communication is a two-way activity, there is every need for major players (provider-patient, medical expert, and communication expert) in the health communication project to continuously interchange their roles as source and receiver. This is inevitable since one of the central tenets of health communication interventions is the need to conduct extensive formative evaluation, audience needs assessment and message pretesting (Rimal & Lapinski, 2009).

Effective Communication and Cancer Care

Over the years, communication despite its importance, has experienced some drawbacks. One area which has drawn clinical attention with regards to effective communication is among people living with cancers – such as breast and prostate cancers. These persons have been shown to experience a great deal of difficulty with regards to communicating effectively with their therapists, family and friends. There is also the problem of the failure of health managers and

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Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

practitioners to convey accurate facts and information which studies have identified as a leading cause of significant but preventable amount of mortality (Bauder et al., 2023). On the other hand, there exists a challenge on the side of the therapist with regards to communication and intervention in cancer care due to the nature of the problem, coupled with the limited application of effective communication strategies.

Closing the gap between medical treatment for cancer and balancing psychological, social and other needs is therefore necessary through an integration of medicine and clinical psychology. Effective communication is a core aspect of psycho-oncology care - an area of intervention that brings about the application of psychological principles, theories and methods to intervention in cancer care (Chaturvedi et al., 2014).

According to the United States National Cancer Institute (2021), effective communication strategies and prevention for people living with cancer is an all rounded phenomenon which include the combined roles of the patient, caregivers, family, the healthcare team and society at large. This complexity in effective health communication is such that information must not only be factual and truthful, but must be presented in a convincing manner to the target audience to make the desired impact (Bauder et al. 2023). The onus is therefore on all parties involved to discharge their different duties to see to the anticipated recovery of the patient.

Several studies have been conducted in the area of effective communication and intervention among people living with cancers, producing varying results and recommendations for clinical trials and intervention. For example, Granek et al., (2013) in their study on Oncologists' strategies and barriers to effective communication about end of life, examined the communication strategies adopted by twenty oncologists between November 2010 and July 2011 across adult oncology centers in Canada. Results reviewed the strategies adopted to be open and honest, having ongoing early conversations, communicating about modifying treatment goals and balancing hope and reality. These communication strategies were seen to be effective and thus recommended to be taught, learned and adopted by oncologists for effective communication and intervention in cancer care.

Other researchers have established that clinical psychologists play a major role in cancer care - psycho-oncology. For instance, Castelli et al., (2015) in their review of "Psycho-oncology: Clinical Psychology for Cancer Patients, the Key Role of Clinical Psychology", examined the role of clinical psychology to cancer care to include facilitation of effective communication strategies which happens to be a major aspect of intervention in cancer care. Following Castelli et al. (2015) and Saita et al., (2015) in their review on coping with early-stage breast cancer in 72 Italian women with breast cancer, results revealed that women who rated high on assertiveness and social anxiety were more likely to utilize active coping strategies (fighting spirit). Psychological factors were considered active determinants of effective communication strategies and thus recommendations included that intervention should hinge more on those psychological factors that serve as barriers for effective communication while at the same time promoting the positive factors that improve effective communication strategies.

The Imperative of Strategic Communication in Breast and Prostate Cancer Treatment

Poor outcomes for cancers diagnosed at an advanced stage have been the driver behind research into techniques to detect disease before symptoms are manifest as well as prevent the pathology through adequate health information. As already noted, health communication and education is increasingly recognized as an important factor in cancer prevention and treatment success (Kreuter et al., 2007; Payán et al., 2020 & Sørensen et al., 2020). Patients with limited health literacy have worse diabetic control (Schillnger et al., 2002); often present with more advanced diseases, such as prostate cancer (Bennett, 1998); use fewer preventative services (Scott et al., 2002); and are up to twice as likely to be hospitalized (Baker, 1998).

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Accordingly, communication campaigns are an important component of cancer prevention and treatment which have not been fully explored and understood among indigenous populations such as Nigeria (Boyd et al., 2021). Successful cancer prevention strategies must be tailored to support usability by comprehensively engaging the community at multiple levels of influence and may effectively include lay health workers and faith-based cancer education interventions (American Society of Clinical Oncology Educational Book, 2021).

Furthermore, developing appropriate intervention strategies for cancer-related communications depends on understanding the basic mechanisms underlying persuasion for attitude change (Briñol & Petty, 2008). The effectiveness of communication about cancer depends on factors such as respect for traditional knowledge, use of appropriate language, involvement of community members in the communication process, inclusion of people from different generations in message design, and absolute confidence in health communicators (Boyd et al., 2021).

Also, nearly 23% of breast cancer cases are preventable (Cancer Research UK, 2015 & Sung, et al., 2021). More than 90% of women diagnosed with breast cancer at the earliest stages (stages 0 and I) survive their disease for at least five years compared to around 15% for women diagnosed with the most advanced, metastatic stage of disease (Cancer Research UK, 2021). This has implications for early detection of cancer which is influenced by health communication amongst adult women. Scientifically correct information aids early screening and detection of cancers.

Breast cancer is one of the three most common neoplasia and is the leading worldwide cause of death among women (Torre et al., 2017; Andelkovic et al., 2021 & Bonfiglio & Di Pietro, 2021), although a recent study (Ferlay et al., 2021) documented the leading causes of cancer death as lung, liver and stomach cancers while worldwide, breast cancer, lung and prostate cancers are the most commonly diagnosed cancers. Breast cancer is responsible for 25% of all known cancer cases and responsible for 16% of all cancer deaths except skin cancer (Anibor et al., 2021).

According to epidemiological data, family history, gender, age, smoking, hormone therapy, oxidative status imbalance and exposure to endocrine disruptors are significant breast cancer risk factors (Kissne et al., 2021). Currently, potential breast cancer risk factors in older ages that lead to adverse outcomes in individuals diagnosed with the disease include alcohol consumption, high body mass index, smoking and high fasting plasma glucose (Mubari et al., 2021).

Prostate cancer is the number one cancer in males both in incidence and mortality in Africa, constituting 40,000 (13%) of all male cancer incidences and 28,000 (11.3%) of all male cancer-associated mortalities (Ferlay et al., 2010; Akinremi et al., 2011 & Adibe et al., 2017). Awareness of prostate cancer symptoms, treatment, and screening was found to be low with the existence of myths and misconceptions coupled with a low level of screening for prostate cancer in a study by Mbugua et al., (2021).

The multifactorial aetiology of limited prostate cancer primary prevention (physical activity and healthy eating) and screening (prostate specific antigen test; digital rectal exam [DRE]) knowledge and behaviours among African-American men include limited information and understanding of the pathology; confusion between prostate cancer screening and diagnostic tests, fear of cancer itself, concern with sexual functioning if diagnosed, perceived lack of access to health care services, mistrust of the health care system, poor communication with physicians, lack of health insurance and limited clinic hours during nonworking times (Clarke-Tasker & Wade, 2002; Sellers & Ross, 2003; Ford et al., 2006; Allen et al., 2007; Sanchez et al., 2007 & Talcott et al., 2007).

Culturally inappropriate prostate cancer information written in technical language (Hoffman-Goetz & Friedman, 2010; Friedman & Kao, 2008; Owens et al., 2018) may also

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discourage men from engaging in healthy lifestyles and screening practices. Notably, media messages have not consistently framed cancer in an age-appropriate or culturally tailored manner (Friedman & Hoffman-Goetz, 2003; Hoffman-Goetz & Friedman, 2010).

THEORETICAL FRAMEWORK

This study is anchored on the Health Belief Model (HBM). Developed by a group of social psychologists such as Hachbaum, Rosenstock and Kegels in the 1950s, it seeks to understand how individuals make decisions about their health behaviour (Udoudom et al., 2024). The model is used to explain health-oriented behaviours and argues that people are more likely to take action to prevent or control a health issue "if they believe that they are susceptible to it, believe it is severe, believe the benefits of taking action outweigh the costs, and feel confident in their ability to take action" (Udoudom et al., 2024, p. 70). The model is relevant to this research which sought to understand the extent to which strategic health communication is impacting breast and prostate cancer cases in Plateau State. In line with the argument of the theory, if information on these cancers is properly and strategically communicated to the population, including sufferers and non-sufferers, in a way to make them appreciate the importance of taking preventive and remedial actions, a lot could be achieved. As the model argued, if the people believe that taking measures such as checking their breast or prostate cancer status and other actions as contained in various communication from health managers, are beneficial, they are likely to respond positively to such messages.

METHODOLOGY

The study adopted the survey method which offered the opportunity for the researchers to interact with several communities across six Local Government Areas of the State (Jos-East, Jos-North, Langtang-North, Mangu, Pankshin and Shendam,) with the view of gauging their knowledge of the two kinds of cancer and find out the available options of reaching such communities.

The subjects of this study include male and female adults drawn from several communities in the six (6) selected Local Government Areas of the state mentioned above. The six LGAs serve as representatives of the entire population of the state and were systematically selected randomly by ballot using an independent party. The population involved both married and unmarried, between the ages of 20 and 65 for women and between the ages of 30 and 80 in men. These are the ages, according to Bowa (2010), where risk of contracting the disease is higher and initial symptoms begin. According to the Independent National Electoral Commission (INEC), Plateau state has a total of 2, 085, 725 registered voters in the 2023 General Election. In the six LGAs selected for this study, the population is 912, 182, amounting to 43.7% of the entire population. Amongst the LGAs selected, two represented each of the three political zones while villages and streets were also selected systematically, and the questionnaire was administered with the help of research assistants.

Using an online sample size calculator from calculator.net, a total sample size of 2,652 was drawn with a confidence level of 95% and a margin of error of 2% in a population of 2,789,528 registered voters as provided by the Independent National Electoral Commission (INEC) in the 2023 General Elections (https://www.inecnigeria.org/wp-content/uploads/2023/02/PVCs-Collected-Registered-Voters.pdf). The age bracket of registered voters corresponds with the criteria of samples for this study, hence the utilization of this population figure. Consequently, 1, 326 copies of the questionnaire were allocated to the men and women population each. Similarly, 221 copies of the questionnaire were distributed to each of the genders in all the six LGAs. At the end, a total of 2, 331 copies were retrieved, on which the analysis of this study is hinged – being 1132 for breast cancer (women) and 1199 for prostate cancer (men).

Results of the study were analysed in descriptive statistics of simple percentages and frequencies for easy understanding by readers and

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stakeholders as this will help to facilitate the policy-making process.

DATA PRESENTATION AND DISCUSSION OF FINDINGS

Data presented below is the result of field research conducted by the researchers where a total of 1132 and 1199 copies of the questionnaire were returned out of 1326 each for breast and prostate cancers respectively. The presentation for the two sets of questionnaire in the tables below are done separately but the discussion of findings is done collectively.

TABLE 1: Demographic Data of Respondents

			BREAST CANCER		PROSTATE CANCER	
S/No	**Items**		**Frequency**	**%**	**Frequency**	**%**
1	**Age**	20-29	491	43.4	Not App.	-
		30-39	329	29.1	519	43.3
		40-49	210	18.6	411	34.3
		50-59	78	6.9	177	14.8
		60-69	24	2.1	40	3.3
		70-80	Not App.	-	52	4.3
	TOTAL		1132	100	1199	100
2	**Religion**	Christianity	941	83.1	967	80.7
		Islam	171	15.1	225	18.8
		Traditional Worship	15	1.3	07	0.6
		Does not believe in God	05	0.4	00	00
	TOTAL		1132	100	1199	100
3	**Highest Educational Qualification**	Primary	209	18.5	111	9.3
		Secondary	385	34	518	43.2
		Diploma	309	27.3	278	23.2
		Degree	172	15.2	264	22
		No Formal Education	56	4.9	28	2.3
	TOTAL		1132	100	1199	100
4	**Residency**	Rural	838	74	875	73
		Urban	294	26	324	27
	TOTAL		1132	100	1199	100
5	**Enrolment in NHIS**	Yes	244	21.6	253	21.1
		No	888	78.4	946	78.9
	TOTAL		1132	100	1199	100
6	**Health Status**	Good	802	70.8	889	74.1
		Bad	39	3.4	63	5.3
		Not Sure	291	25.7	247	20.6
	TOTAL		1132	100	1199	100

Field Research (2022)

Table 1 above presents a summary of the basic demographic data of respondents for males and females on breast cancer and prostate cancer. On the table, data regarding age, religion, educational qualification, residency, enrolment in NHIS and health status were presented. The highest population in terms of age for the female respondents in breast cancer is ages 20-29 with 492(43.4%) while the lowest is ages 60-69 with 24 respondents and 2.1%. In contrast, the male respondents with ages between 30 and 39 were highest with 519 and 43.3% respectively while the lowest response rate came from those aged 70 to 80 with 52 amounting to 4.4%. For the two categories of respondents, invariably, the younger population had the highest respondents.

On religion, Christianity dominated the two categories of respondents with 941(83.1%) in women and 967(80.7%) among the male respondents.

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More male respondents were Christians but the percentage of women who were Christians was higher. The high number of Christians in the sample is because Plateau State has a predominantly Christian population. For both categories of respondents, the educational qualification variable that dominated was secondary and diploma which combined at 695(61.3%) for women and 796(66.4%) for men. Most of the respondents, therefore, are only averagely educated. From the data, it can be concluded that majority of the men and women respondents reside in rural settlements – 838(74%) in women and 875(73%) in men.

Enrolment in NHIS is very poor as can be seen from the statistics where only 21.6% (244) women and 21.1% (253) men are enrolled as against 888(78.4%) women and 946(78.9) men who are not. While 802(70.8%) of the women believe their health is good, 291(25.7%) of them said they are not sure of their health status; 39(3.4%) were categorical about how bad their health is. On the other hand, 889(74.1%) men were sure they have a good health status while 247 and 20.6% are not sure. 63(5.3%) men said their health is bad.

TABLE 2a: Respondents' (Women) Knowledge of Breast Cancer

	Items		Extremely Low	Low	Moderate	High	Extremely High	Total (%)
7a	Most common type of cancer among women in Nigeria as perceived	Cervical cancer	11	42	60	41	16	170 (15.0%)
		Ovarian cancer	17	31	23	51	19	141 (12.5%)
		Breast cancer	22	33	132	256	136	579 (51.1%)
		Endometrial cancer	14	71	21	12	07	125 (11.0%)
		Bowel/colorectal cancer	18	27	19	33	20	117 (10.3%)
8a	Are you aware of BREAST CANCER?		405 (35.8%)	114 (10%)	124 (10.9%)	91 (8%)	398 (35.2%)	1132 (100%)
9a	Breast Cancer relates to both males and females		873 (77.1%)	62 (5.5%)	54 (4.8%)	43 (3.8%)	100 (8.8%)	1132 (100%)
10a	Are you aware of the following symptoms of breast cancer: new lump in the breast or armpit; thickening or swelling of part of the breast; irritation or dimpling of the breast skin; redness or flaky skin in the nipple area or breast; nipple discharge other than breast milk, including blood; any change in the size of the breast?		207 (18.3%)	180 (15.9%)	191 (16.9%)	111 (9.8%)	443 (39.1)	1132 (100%)
11a	Have you personally encountered any of the symptoms mentioned in No. 10 above?		965 (85.2%)	33 (2.9%)	30 (2.7%)	27 (2.4%)	77 (6.8%)	1132 (100%)
12a	How did you get the information in No. 10 above?	A friend's story	19	31	36	40	43	169 (14.9%)
		Mainstream Media	22	23	29	45	70	189 (16.7%)
		Social Media	19	28	33	39	61	180 (15.9%)
		A Medical Personnel	22	26	18	42	91	199 (17.6%)
		The Place of Worship	25	23	25	21	43	137 (12.1%)
		A Community Leader	20	17	23	30	34	124 (11.0%)
		Personal Experience	12	27	21	19	55	134 (11.8%)

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Items			Extremely Low	Low	Moderate	High	Extremely High	Total (%)
13a	If you heard it through the media, kindly specify the most dominant media	Television	06	07	13	15	32	73 (19.8%)
		Radio	08	11	09	12	29	69 (18.4%)
		Newspaper	08	13	12	11	07	51 (13.8%)
		Film	15	01	07	23	07	53 (14.4%)
		WhatsApp	04	09	11	12	24	60 (16.3%)
		Facebook	06	04	21	09	23	63 (17.1%)

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Items 7a to 13a of Table 2a above describes women's extent of knowledge of breast cancer. In item 7a where their knowledge of the most common cancer among women was gauged, majority of them indicated breast cancer as most prevalent with 579 respondents which constitutes 51.1%. Cervical cancer comes next with 170(15%) reactions followed by Ovarian cancer with 141(12.5%) responses. Endometrial cancer and Bowel/colorectal cancers follow in that order with 125(11%) and 117(10.3%) respectively.

Item 8a sought to assess women's understanding of what breast cancer is using five variables. 405(35.8%) indicated that they have an extremely low knowledge of it while 398(35.2%) agreed to extremely high knowledge. In between, the figures prove that women's knowledge of breast cancer is slightly below average. As a follow-up to item 8a, respondents were asked about the gender of victims of breast cancer in item 9. Here, 873(71.1%) of women said breast cancer does not affect men while only 100(8.8%) believe strongly that breast cancer applies to both genders. Here, it is obvious that there is a gross dearth of knowledge on breast cancer. Item 10a probed awareness on the symptoms of cancer as outlined in the table above. 207(18.3%) of the respondents are extremely unaware of the symptoms, those who had low level of awareness were 180(15.9%) while those with fair knowledge were 191(16.9%). On the flip side, those with high level of awareness were 111(9.8%) and 443(39.1%) for high and extremely high respectively.

Consequently, in item 11a, respondents were asked about their personal experience of the symptoms and majority of the women claimed never to have experienced the symptoms, or better still, had very low experience. 965(85.2%) claimed extremely low experience, 33(2.9%) had low experience of the symptoms, 30(2.7%) experienced it fairly, 27(2.4%) had a high level of personal experience while 77(6.8%) had an extremely high encounter with the symptoms. A sum of 9% with a high level of personal experience on breast cancer symptoms is rather on the high side.

Item 12a sought to know how respondents got to know about the symptoms listed in item 10. Majority, (199 and 17.6%) indicated that they got it through medical personnel (interpersonal communication); mainstream media of radio and TV came second with 189(16.7%), followed by social media which polled 180 and 15.9%. The next source of information is a friend's story which has 169 responses and 14.9%. Place of worship is fifth source in ranking with 137(12.1%). Personal experience and community leaders come sixth and seventh respectively with 134(11.8%) and 124(11.0%).

Among all the media channels listed in item 12 above, their frequency is further sought in item 13a where television dominates with 73 respondents out of 369 (19.8%) women who got information from mainstream and social media. Radio is the second dominant medium for information among women with 69(18.4%) responses while Facebook comes third with 63(17.1%) of respondents opting for it. WhatsApp, film and newspapers follow in that order with 60(16.3%), 53(14.4%) and 51(13.8%) respectively

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TABLE 2b: Respondents' (Men) Knowledge of Prostate Cancer

	Items		Extremely Low	Low	Moderate	High	Extremely High	Total (%)
7b	Most common type of cancer among men in Nigeria as perceived	Bladder cancer	36	25	75	35	28	199 (16.6%)
		Prostate cancer	74	81	114	90	155	514 (42.9%)
		Breast cancer	43	32	61	38	44	218 (18.2%)
		Bone cancer	33	48	59	25	18	183 (15.3%)
		Bowel/colorectal cancer	32	12	15	13	13	85 (7.0%)
8b	Knowledge of the word 'PROSTATE'		305 (25.4%)	314 (26.2%)	245 (20.4%)	178 (14.8%)	157 (13.1%)	1199 (100%)
9b	Knowledge of the word 'CANCER'		69 (5.8%)	143 (11.9%)	102 (8.5%)	111 (9.3%)	774 (64.6%)	1199 (100%)
10b	Breast Cancer relates to both males and females		986 (82.2%)	66 (5.5%)	85 (7.1%)	29 (2.4%)	33 (2.6%)	1199 (100%)
11b	Are you aware of any ailment in men that causes any of the following symptoms: a painful or burning sensation during urination or ejaculation, frequent urination (particularly at night), difficulty starting or stopping urination, sudden erectile dysfunction and blood in the urine or semen?		74 (6.2%)	155 (12.9%)	393 (32.8%)	211 (17.6%)	367 (30.5%)	1199 (100%)
12b	Mention of the ailments that cause these symptoms (Top five mentions)				STDs			245 (20.4%)
					Prostate Cancer and Enlargement			77 (6.2%)
					Diabetes			65 (5.4%)
					UTIs			22 (1.8%)
					Bilharzia			09 (0.8%)
13b	How did you get the information in No. 11 above?	A friend's story	34	26	53	51	60	224 (18.7%)
		Mainstream Media	17	28	52	59	94	250 (20.9%)
		Social Media	17	20	56	53	55	201 (16.8%)
		A Medical Personnel	42	35	40	36	111	264 (22.0%)
		The Place of Worship	50	25	19	07	05	106 (8.8%)
		A Community Leader	27	14	21	09	11	82 (6.8%)
		Personal Experience	13	23	11	18	07	72 (6.0%)
14b	If you heard it through the media, kindly specify the most dominant media	Television	09	12	15	15	41	92 (20.5%)
		Radio	04	08	13	35	35	95 (21.0%)
		Newspaper	15	09	10	12	08	54 (12.0%)
		Film	05	11	11	12	18	57 (12.6%)
		WhatsApp	12	10	08	24	17	71 (15.8%)
		Facebook	04	07	15	22	33	81 (18.0%)

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Table 2b above investigates the knowledge of men on prostate cancer with 8 items numbered 7b – 14b. Item 7b presents men's perception of what kind of cancer is the most common among them where majority view held that prostate cancer with 514(42.9%) is the most prevalent. Breast cancer is second with 218(18.2%), bladder cancer is third with 199(16.6%) while bone cancer is next with 183(15.3%). The least prevalent, according to the respondents, is bowel/colorectal cancer with 85(7.0%).

Item 8b above sought responses from men on their level of knowledge of the word 'prostate'. Majority of them had extremely low, low and moderate knowledge of the meaning of prostate with 305(25.4%), 314(26.2%) and 245(20.4%) respectively, while a cumulative 335(27.9%) out of 1199 respondents had high (178/14.8%) and extremely high (157/13.1%) knowledge of the word. In item 9b, a further probe into their knowledge of the word 'cancer' is made and there is a great disparity between the two. Knowledge of the word cancer was significantly higher with a cumulation of 895(73.9%) having a high knowledge while a cumulative 212(17.7%) have low level of knowledge.

On whether respondents think breast cancer affects both gender, item 10b provides a staggering 82.2% (986 respondents) who said it does not apply while only a cumulative 5% (62 respondents) believed both genders have occurrences of breast cancer. Item 11b asks the respondents their level of awareness on the ailments that produce certain symptoms related to prostate issues and the following results were collated: moderate awareness was highest with 393(32.8%), closely followed by extremely high awareness level with 367(30.5%), then high awareness with 211(17.6%). Low and extremely low awareness rounded off the statistics with 155(12.9%) and 74(6.2%) respectively, indicating that awareness of these symptoms is high among men.

In item 12b, a further mention of the top five ailments causing the symptoms above is presented with STDs, prostate cancer/enlargement, diabetes, UTIs and bilharzia polling the highest mention in that other – 245(20.4%), 77(6.2%), 65(5.4%), 22(1.8%) and 9(0.8%). Item 13b reveals the sources of information on the ailments and symptoms mentioned in items 11b and 12b above. Here, majority of men got information through medical personnel (264 and 22%), the second in frequency is mainstream media with 250(20.9%) while the third is through a friend's story with 224(18.7%). Social media, place of worship, community leaders and personal experience came followed in that order with the following respective aggregates – 201(16.8%), 106(8.8%), 82(6.8%) and 72(6%).

For the 451 respondents who heard the information through the media, a further specification of the kind of media was sought in item 14b, with radio 95(21%), television 92(20.5%) and Facebook 81(18%) considered the most used platforms. WhatsApp, film and newspapers are considered fourth, fifth and sixth respectively.

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TABLE 3a: Extent to which communication has reduced the spread of breast cancer among women in Plateau State

	Items		Extremely Low Extent	Low Extent	Moderate Extent	High Extent	Extremely High Extent	Total (%)
14a	Nature of information you have heard on breast cancer in the media (frames)	Encouragement on Screening	46	47	59	59	239	450 (21.3%)
		Information on Breast Cancer	45	43	52	82	196	417 (19.8%)
		How to detect symptoms	36	40	53	71	183	383 (18.2%)
		Preventive measures	35	28	36	67	148	314 (14.9%)
		Management of the breast	35	31	33	51	74	224 (10.6%)
		How to do Breast Self-Examination	33	31	46	53	157	320 (15.2%)
15a	Do you like how messages on breast cancer (in No. 14 above) are being framed in the different media platforms?		182 (16.1%)	146 (12.9%)	209 (18.4%)	199 (17.6%)	396 (35.0%)	1132 (100%)
16a	Do you think you have been getting the right information on breast cancer?		161 (14.2%)	164 (14.5%)	208 (18.4%)	185 (16.3%)	414 (36.6%)	1132 (100%)
17a	Healthy lifestyles you have heard in the media	Healthy eating and dieting	26	41	68	106	237	478 (16.1%)
		Maintaining a healthy weight	25	40	68	83	155	371 (12.5%)
		Regular exercise	20	38	54	86	205	403 (13.6%)
		Stop smoking or drink less	26	30	53	60	196	365 (12.3%)
		Ask the doctor about contraceptives	25	37	51	59	149	321 (10.8%)
		Breastfeed your children	34	68	67	84	214	467 (15.7%)
		Regular check-ups & screening	30	42	57	98	340	567 (19.1%)
18a	Are you aware that any of the above mentioned life style is connected to the prevention of Breast cancer?		481 (42.5%)	172 (15.2%)	103 (9.1%)	131 (11.6%)	245 (21.6%)	1132 (100%)
19a	Do you think that the available medical information on breast cancer has decreased the prevalence rate of the disease in the state?		285 (25.2%)	160 (14.1%)	198 (17.5%)	178 (15.7%)	311 (27.5%)	1132 (100%)
20a	Do you think that the various media channels/platforms in the state have contributed to the prevention and management of the disease?		260 (23.0%)	149 (13.2%)	185 (16.3%)	163 (14.4%)	375 (33.1%)	1132 (100%)

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In table 3a above, items 14a – 20a are a probe on the extent to which information has reduced breast cancer spread among women in the state. Item 14a inquired into the nature of breast cancer-related information women have been exposed to in the media. with a range of six items, the women are to choose the extent of their exposure. Of the six variables, 'encouragement on screening' (BCS) was the most heard of with 450 respondents and 21.3%; it is followed by information on breast cancer with 417(19.8%); information on 'how to detect symptoms' is next with 383 respondents and 18.2%. The fourth most prevalent information is 'how to do Breast Self-Examination' with 320(15.2%) while the fifth and sixth are 'preventive measures' (314/14.9%) and 'management of the cancer' with 224(10.6%).

On whether the information heard as presented in item 14a was framed appropriately, a slightly higher percentage affirmed that, in item 15a. A total of 595 respondents amounting to 52.6% affirmed highly while a total of 328(29%) indicated low extent; 209 responses (18.4%) shows moderate acceptance of how information is framed.

Item 16a sought women's opinion on whether they have been getting the right information. The cumulation in responses show that 52.9% of respondents highly believe they get the right information in the media while 28.7% think the information may be misleading; 18.4% think the information is just moderately convincing.

On healthy lifestyles adopted from the media in item 17a, seven variables were on display and the most frequently displayed by media, according the women is 'regular check-ups and screening' with 19.1%; the second is 'healthy eating and dieting' with 16.1%; the third is 'breastfeed your children' with 15.7%. Fourth on the listing is 'regular exercise' with 13.6% while the last three include 'maintaining a healthy weight', 'stop smoking or drink less' and 'ask the doctor about contraceptives' with 12.5%, 12.3% and 10.8% respectively.

Item 18a further probes the relationship between the level of awareness of the lifestyles above and the prevention of breast cancer. As result shows, there is a low level of awareness with 57.7% indicating extremely low and low extent while 33.3% indicated a high and extremely high extent of awareness that lifestyles are related to the prevention of breast cancer. Only 9.1% of respondents had a moderate level of awareness.

In item 19a, result presented shows a slight equilibrium in respondents' opinion of whether medical information available has decreased the prevalence of breast cancer disease in the state. While 43.2% (489 respondents) affirmed highly and extremely highly, 39.3% (445 respondents) affirmed extremely lowly and lowly. Those who had a moderate rating on medical information aiding the decrease of breast cancer information were 198(17.5%).

Similarly, in item 20a, respondents were asked about their disposition on how media in the state have contributed to the prevention and management of the disease and results also showed a slight improvement from item 19a. 538(44.5%) respondents indicated that media performance is high and extremely high in this regard while 445(36.2%) rated the media extremely low and low respectively; 16.3% or 185 respondents said media performance was on average.

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TABLE 3b: Extent to which communication has reduced the spread of prostate cancer among men in Plateau State

	Items		Extremely Low Extent	Low Extent	Moderate Extent	High Extent	Extremely High Extent	Total (%)
15b	Nature of information you have heard on breast cancer in the media (frames)	Encouragement to go for testing	**41**	**32**	**70**	**41**	**129**	**313 (23.9%)**
		Information on Prostate Cancer	**47**	**27**	**71**	**53**	**81**	**279 (21.3%)**
		How to detect symptoms	**33**	**33**	**60**	**46**	**84**	**256 (19.6%)**
		Preventive measures	**23**	**31**	**59**	**49**	**105**	**267 (20.4%)**
		Management of Prostate	**19**	**26**	**30**	**67**	**51**	**193 (14.8%)**
16b	Do you like how messages on prostate cancer (in No. 15 above) are being framed in the different media platforms?		**92 (7.7%)**	**143 (11.9%)**	**308 (25.7%)**	**272 (22.7%)**	**384 (32.0%)**	**1199 (100%)**
17b	Do you think you have been getting the right information on prostate cancer?		**161 (13.4%)**	**151 (12.6%)**	**384 (32.0%)**	**283 (23.6%)**	**220 (18.4%)**	**1199 (100%)**
18b	Healthy lifestyles you have heard in the media	Healthy eating and dieting	**21**	**63**	**161**	**113**	**204**	**562 (19.5%)**
		Maintaining a healthy weight	**13**	**41**	**100**	**85**	**100**	**339 (11.8%)**
		Regular exercise	**28**	**75**	**133**	**113**	**175**	**524 (18.2%)**
		Stop smoking or drink less	**17**	**55**	**99**	**66**	**166**	**403 (14.0%)**
		Increase Vitamin D and E intake	**13**	**34**	**100**	**42**	**61**	**250 (8.7%)**
		Sexually active with one partner	**23**	**45**	**69**	**89**	**154**	**380 (13.2%)**
		Regular check-ups & screening	**14**	**30**	**63**	**86**	**233**	**426 (14.8%)**
19b	Are you aware that any of the above mentioned life style is connected to the prevention of prostate cancer?		**173 (14.4%)**	**196 (16.3%)**	**228 (19.0%)**	**247 (20.6%)**	**355 (29.6%)**	**1199 (100%)**
20b	Do you think that the available medical information on prostate cancer has decreased the prevalence rate of the disease in the state?		**192 (16.0%)**	**205 (17.1%)**	**354 (29.5%)**	**254 (21.2%)**	**194 (16.2%)**	**1199 (100%)**
21b	Do you think that the various media channels/platforms in the state have contributed to the prevention and management of the disease?		**129 (10.8%)**	**231 (19.3%)**	**300 (25.0%)**	**222 (18.5%)**	**317 (26.4%)**	**1199 (100%)**

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Table 3b is a section for prostate cancer where men's disposition is sought on how communication has reduced the spread of the disease in the state. In item 15b, which examines the nature of information men have heard in the media, five variables were rated as follows in descending order of importance: 'encouragement to go for testing' with 313 respondents and 23.9%; 'information on prostate cancer' – 279(21.3%); 'preventive measures' – 267(20.4%); 'how to detect symptoms' – 256(19.6%) and 'management of prostate' – 193(14.8%). While all frames are often presented in the media, some are often heard more than others.

As a follow-up to the above, item 16b demanded respondents' disposition to how the information is framed. The respondents overwhelmingly showed favourable disposition with 656(54.7%) of them showing high and extremely high extents while 308(25.7%) have an average disposition. Those with extremely low and low extents amounted to cumulatively 235(19.6%).

On whether respondents get the right information on prostate cancer as represented in item 17b, there was a mixed feeling with a little tilt toward affirmation as majority of responses chose moderate extent with 384(32%). However, those who affirmed with high and extremely high extents accounted for 503(42%) as against those who indicated extremely low and low extends with 312(26%). Item 18b sought respondents' knowledge on seven prostate-related healthy lifestyles they have heard in the media. Top on the rung is 'healthy eating and dieting' with a 19.5% response rate, followed by 'regular exercise' with 18.2%, while the third and fourth were 'regular check-up and screening' and 'stop smoking and drink less' with 14.8% and 14 % respectively. The last three on the ranking are 'sexually active with one partner' (13.2%), 'maintaining a healthy weight' (11.8%) and increasing Vitamin D and E intake' (8.7%).

Furthermore, item 19b interrogated on the respondents' level of awareness on the connection of these lifestyles with prostate cancer. 602(50.2%) of the respondents highly and extremely highly affirmed that they are aware of the relationship between the lifestyles listed in item 18b and the prevention of prostate cancer. Those who indicated extremely low and low extents of awareness summed up to 369(20.7%) while those with moderate awareness were 228 and 19%.

In item 20b, there is an average perception among men that available medical information on prostate cancer has decreased the spread of the disease. This is evident from the moderate extent being the highest chosen variable (354 respondents and 29.5%). High extent is next with 254(21.2%), followed by low extent with 205(17.1%); extremely high extent is next with 194(16.2) and lastly, extremely low extent with 192(16%).

Item 21b is a further exploration of respondents' opinions on how the various media channels have aided the prevention and management of prostate cancer. Here, 539(44.9%) respondents opined that the media has contributed significantly as they chose both high and extremely high extents; those who negated this with extremely low and low options polled 360(30.1%) while others 300(25%) opted for an average rating (moderate extent).

TABLE 4a: Available and effective channels for adoption in creating awareness on breast cancer among women in Plateau State

Items				Total (%)
21a	First Three Media channels women are mostly exposed to? **(Arranged according to prominence**	Radio, Television, Film, Newspaper, Magazine, Books, Posters, Billboards, WhatsApp, Twitter, Facebook, Tiktok, Snapchat, Instagram, Traditional Media Channels such as Town Crier and Announcements in Places of Worship, etc.	**Radio**	280 (42.7%)
			Television	189 (28.8%)
			Place of Worship	187 (28.5%)

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Items			Total (%)
22a	Channels respondents consider the most effective for communicating information on breast cancer in their communities?	Medical Outreach	477
		Door to door campaigns	428
		Radio	426
		People (Family, friends, patients)	419
		Social Media	370
		Community engagements (Drama, Town hall meetings)	350
		Television	335
		Posters	306
		Internet	293
		Billboards	272
		Newspapers	256
		Seminars/Workshops	248
		Road shows	237
		SMS	222
		Magazines	213
		Pamphlets	183
23a	Which location/ place do you consider most effective for communicating information on breast cancer in your community?	Hospitals and Clinics	482
		Worship Places	475
		Homes	425
		Market Places	419
		Schools	361
		City centre/ Village square	345
		Social gatherings	319
		Workplace (Offices)	298
		Chief/King's Palace	299
		Streets	260
		Sporting centres	242
		Farms	205

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The three items in table 4a present a probe on the effective means of communication to be adopted for awareness campaigns by media strategists on breast cancer among women in Plateau state. Item 21a reveals the top three kinds of media women are exposed to. Accordingly, radio is the most available channel with 280(42.7%) respondents mentioning it as their first medium of interest. The second is television with 189(28.8%) while the third is place of worship with 187(28.5%).

Item 22a listed 16 potential channels and requested respondents to indicate those they consider most effective in reaching them with information on breast cancer. As arranged in the table in descending order, medical outreach was the most effective channel among women with 477 of them choosing this form of communication. The second and third are door to door campaigns and radio while the least most effective for women include SMS, magazines and pamphlets with 222, 231 and 183 respondents choosing those respectively.

In item 23b, the most effective location for information dissemination of breast cancer was investigated. Majority of respondents consider hospitals/clinics, worship places and homes as the three most effective places with 482, 474 and 425 respondents respectively opting for those while the street, sports centres and farms are considered the least likely places to share information on breast cancer for women.

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TABLE 4b: Available and effective channels for adoption in creating awareness on prostate cancer among men in Plateau State

		Items		Total (%)
22b	First Three Media channels men are mostly exposed to? **(Arranged according to prominence**	Radio, Television, Film, Newspaper, Magazine, Books, Posters, Billboards, WhatsApp, Twitter, Facebook, Tiktok, Snapchat, Instagram, Traditional Media Channels such as Town Crier and Announcements in Places of Worship, etc.	**Radio**	433 (49.6%)
			Place of Worship	229 (26.2%)
			Television	211 (24.2%)
23b	Channels respondents consider the most effective for communicating information on prostate cancer in their communities?	Radio		514
		Door to door campaigns		385
		Television		366
		Community engagements (Drama, Town hall meetings)		358
		People (Family, friends, patients)		309
		Posters		306
		Social Media		305
		Medical Outreaches		284
		Billboards		245
		Internet		236
		Seminars/Workshops		222
		Road shows		221
		Newspapers		216
		Magazines		177
		SMS		175
		Pamphlets		163
24b	Which location/ place do you consider most effective for communicating information on prostate cancer in your community?	Worship Places		680
		Homes		539
		Hospitals and Clinics		368
		Schools		344
		Social gatherings		303
		City centre/ Village square		296
		Market Places		283
		Workplace (Offices)		264
		Chief/King's Palace		247
		Sporting centres		230
		Streets		238
		Farms		174

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Table 4b addresses effective channels for prostate cancer awareness among men in Plateau state. Item 22b provides information on the three most used media channels among men where radio, place of worship and television polled 433(49.6%), 229(26.2%) and 211(24.2%) respectively.

A further probe into the channel(s) men consider most effective for communicating information on prostate cancer in their communities is presented in item 23b. Topping the list here is radio with 514 respondents choosing it over all other channels while door to door campaigns and television follow in that order with a distant 385 and 366 respondents respectively. Magazines (177), SMS (175) and pamphlets (163) still remain the bottom three as it is with the women respondents.

In terms of favourable location for information dissemination on prostate cancer, men chose worship places as the best location with 680 responses while homes and hospitals/clinics came second and third with 539 and 368 respondents respectively. Sporting centres (230), streets (238) and farms (174) were in the bottom three as was the case with breast cancer.

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Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

TABLE 5a: Degree of emphasis to be placed on media messages on breast cancer in the media

		Items	Extremely Low Emphasis	Low Emphasis	Moderate Emphasis	High Emphasis	Extremely High Emphasis	Total (%)
24a	Nature or frames of information on breast cancer will you like to be given greater emphasis?	Guidance on how to seek authentic information on breast cancer	41	132	82	103	209	567 (19.0%)
		Awareness on risk factors, signs and symptoms of breast cancer	41	89	81	127	401	739 (24.7%)
		Awareness on screening methods of breast cancer	36	116	76	82	216	526 (17.6%)
		Prevention and detection of the disease among vulnerable women	40	95	67	96	378	676 (22.6%)
		How to manage breast cancer	29	108	58	86	200	481 (16.1%)
25a	I would like to see more enlightenment/awareness programmes on breast cancer in the media		69 (6.1%)	87 (7.7%)	119 (10.5%)	170 (15%)	687 (60.7%)	1132 (100%)
26a	There should be testimonies of survivors in the information disseminated		72 (6.4%)	76 (6.7%)	123 (10.9%)	186 (16.4%)	675 (59.6%)	1132 (100%)
27a	Experts on breast cancer should be in the campaigns to increase believability		70 (6.2%)	89 (7.9%)	108 (9.5%)	172 (15.2%)	693 (61.2%)	1132 (100%)
28a	Statistics on prevalence and mortality rates of breast cancer in the campaigns will increase awareness		69 (6.1%)	92 (8.1%)	92 (8.1%)	178 (15.7%)	701 (61.9%)	1132 (100%)

Field Research (2022)

Table 5a above describes the kinds of messages that could be contained in a typical media campaign on breast cancer and seeks the opinion of women regarding the level of emphasis they will want on each of them. Beginning with Item 24a, five framing patterns are explained with the view to seek responses on which should receive the greatest emphasis. It is deduced that respondents want all the frames to be given emphasis. However, 'awareness on risk factors, signs and symptoms of breast cancer' with the highest response rate of 739(24.7%) is considered the most prioritized by the respondents. It is followed by 'Prevention and detection of the disease among vulnerable women, with 676(22.6%) while 'Guidance on how to seek authentic information on breast cancer' comes as third most prioritized with 567(19%). The fourth on the table is 'Awareness on screening methods of breast cancer' with 526(17.6%) and the fifth is 'How to manage breast cancer' with 481(16.1%).

Items 25a to 28a show great affirmation with all statements receiving over 60% of 'extremely high emphasis' except for item 26a (There should be testimonies of survivors in the information disseminated) with a lower percentage of 59.6

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TABLE 5b: Degree of emphasis to be placed on media messages on prostate cancer in the media

		Items	Extremely Low Emphasis	Low Emphasis	Moderate Emphasis	High Emphasis	Extremely High Emphasis	Total (%)
25b	Nature or frames of information on prostate cancer will you like to be given greater emphasis?	Guidance on how to seek authentic information on prostate cancer	16	108	107	112	299	642 (19.5%)
		Awareness on risk factors, signs and symptoms of prostate cancer	05	66	113	109	366	659 (20.0%)
		Awareness on screening methods of prostate cancer	05	119	108	99	204	535 (16.3%)
		Prevention and detection of the disease among men	07	96	72	106	642	923 (28.1%)
		How to manage prostate cancer	04	100	74	110	243	530 (16.1%)
26b	I would like to see more enlightenment/awareness programmes on prostate cancer in the media		21 (1.8%)	33 (2.8%)	83 (6.9%)	137 (11.4%)	925 (77.1%)	1199 (100%)
27b	There should be testimonies of survivors in the information disseminated		36 (3.0%)	37 (3.1%)	112 (9.3%)	125 (10.4%)	889 (74.1%)	1199 (100%)
28b	Experts on prostate cancer should be in the campaigns to increase believability		16 (1.3%)	27 (2.3%)	85 (7.1%)	156 (13.0%)	915 (76.3%)	1199 (100%)
29b	Statistics on prevalence and mortality rates of prostate cancer in the campaigns will increase awareness		21 (1.8%)	32 (2.7%)	97 (8.1%)	134 (11.2%)	915 (76.3%)	1199 (100%)

Field Research (2022)

Table 5b also presents prostate cancer analysis of men's opinion on the kind of media messages that should receive greater attention and emphasis. Item 25b noted five message frames where respondents unanimously agreed that all frames deserve very high mention. However, in order of priority based on the response rate, 'Prevention and detection of the disease among men' is opined to receive the greatest emphasis with 923(28.1%) responses. It is followed by 'Awareness on risk factors, signs and symptoms of prostate cancer' with 659(20%) while the third in the list is 'Guidance on how to seek authentic information on prostate cancer' with 642(19.5%). The fourth and fifth frames in the ranking are 'Awareness on screening methods of prostate cancer' with 535(16.3%) and 'How to manage prostate cancer' with 530(16.1%).

Similarly, further probe in respect of the kind of messages men would like to hear in awareness campaigns on prostate cancer, items 26b to 29b reflect an overwhelming poll pattern affirming all statements at extremely high level with over 70% of respondents. In clear terms, men seem to favour more enlightenment programmes in the media, as well as, expert opinions in awareness campaigns on prostate cancer over statistics on prostate cancer and testimonies by survivors.

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DISCUSSION OF FINDINGS

Having established the fact that effective deployment of communication strategies that would lead to successful media campaigns for the mitigation of breast and prostate cancers is still lacking based on the evidence that these cancers are still the most prevalent among men and women (Ugwuegede et al., 2021; Jedy-Agba et al., Oga, et al, 2012) – and that awareness of the two kinds of cancer is relatively low – this study sought answers to four basic questions with an attempt to establish better strategies for reaching out to vulnerable persons with the needed information.

Findings from research question one show that while men and women claimed to have significant knowledge of breast and prostate cancers, further analyses show some level of ignorance. When quizzed on some symptoms of the two cancers, only a few of both male and female respondents clearly attributed these symptoms to breast and prostate cancers. For example, when men where asked the ailments that cause the symptoms, only 6.2% of them mentioned prostate while more 20% of them mentioned STDs while others mentioned diabetes, UTIs and bilharzia. The finding above presents an improved record compared to Adetifa and Ojikutu (2009) who reported women's ignorance of symptoms of breast cancer as they thought those symptoms were going to manifest like malaria and other diseases, since there were no glaring symptoms, they were unaware the high risks involved.

It was further deduced that medical personnel play a crucial role in disseminating information on breast and prostate cancer as the trusted and most prevalent means of obtaining information about diseases for both men and women. However, the mainstream media and social media, as well as, experiences from friends are other sources of information on breast and prostate cancer information for them. Without dispute, in referring to the media, knowledge about the two cancers were predominantly obtained from radio, television and Facebook in that order of importance.

On the extent to which communication has reduced the spread of breast and prostate cancer in the state, data from the tables 3a and 3b succinctly provide answers to RQ2. In the first instance, it was revealed that media frames on breast and prostate cancer information come in six different forms and the most heard frames among men differ slightly from those among women. There is a consensus among both genders that screening and testing dominates the media space and that general information sharing about these two cancers is the second most prevalent. However, there is a change in the third variable for both. While men prioritize information on preventive measures as third, women have heard more on how to detect symptoms. The exposure to these frames may not necessarily be due to the deficiencies if the genders but a function of the kind of media platforms they are exposed to at a given time.

Both male and female respondents alluded to the fact that messages on breast cancer and prostate cancer have been favorably crafted in the media and that they contain adequate information to galvanize a change in behavior. This is further reinforced by their perception that medical information and media in the state have contributed immensely to a decrease in the prevalence rate and also the management of the diseases. Interestingly, as at 2022, breast and prostate cancers have become the second most occurring cancers for females and males respectively, in the global disease burden ranking (WHO, 2024). That communication has helped to achieve behavioral change as affirmed by data corroborates the proposition of the Health Belief Model, that effective communication that births a realization by members of the public of susceptibility to a potentially severe disease will cause them to take preventive action (Udoudom et al., 2024). Since the respondents agreed that they have access to good information on the diseases and are aware of its dangers, they are likely to accept information on prevention and management. This strengthens the role of communication as vital part of a holistic strategy in the prevention and management of breast and

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prostate cancers. It also supports the position that communication is not an option in planning health advocacy. Rather, it is an ethical obligation that must be done with diligence to arrive at healthier individuals, stronger communities and a more robust global society, as Ugwuegede et al., (2021) have argued. However, the finding of this study that many women and men have heard about the importance of healthy lifestyles such as regular check-ups/screening and healthy eating, but are unaware that these lifestyles contribute to the prevention of breast and prostate cancer calls for better clarity in designing enlightenment messages.

On RQ 3, statistics show that Radio, Television and Place of worship are the communication channels both males and females are exposed to more frequently than others. Other frequent channels among men include Facebook, WhatsApp and town crier while other frequent channels among women, Facebook and WhatsApp came up most prominently. It is noteworthy that social media handles received more mention among men than women. This is because to women, social media is considered more like a tool for social interactions than for information acquisition as perceived by their male counterparts.

While radio and television were found most available to women, they did not consider them the most effective in communicating information on breast cancer. The most effective according to women is medical outreach, followed by door to door campaigns while radio is considered as third. Other channels that are considered effective by women are using people, social media and community engagement through drama and town hall meetings. Television, for women sits at a distant seventh in ranking. Amongst men however, radio maintains its place as most available and most effective while television is third. Other channels in common with the women include door to door campaigns, community engagements and people. Medical outreach which is considered the most effective for women is distant eighth for men. This is largely because women are used to clinic sessions such as antenatal. More so, women are generally more patient than men when it comes to long periods of waiting which is very typical of medical outreaches.

In choosing favorable location for the dissemination of breast and prostate cancer information, women prioritized hospitals/clinics, worship centers, homes, market place and schools. To them, the worst places to convey such messages include farms, sporting centers and streets. Men have all first five locations (worship places, homes, hospitals/clinics, schools and social gatherings) as their female counterparts except one: market places. While for men, social gathering is more convenient to them, women prefer markets because these two locations are very peculiar to the activities of the gender.

It was also observed that apart from mainstream of radio and TV, worship places have received overwhelming mention by both genders. Although it was an unpopular source for which respondents received information about the cancers in the past (see tables 2a, item 12a and 2b, item 13b above), it is adjudged to be one of the effective places for disseminating information on prostate and breast cancer. This could be attributed to the fact that majority of respondents are from rural settlements of the state. More so, it was observed that most urban respondents chose social media platforms as against rural dwellers who opted for mainstream media forms. Within this context, Udoudom, et. al, (2024) point out that health communication packages must combine contemporary and traditional channels as a way of ensuring everyone identifies with his or her own fields of experiences.

It was however observed that this option was not very popular with respondents who are Muslims; their preferences centered around hospitals/clinics and homes. By implication, while worship places may be an effective location for Christians, it is not so for the Muslims. The Community Guide (2017) opine that health communication effectiveness hinge on the inclusion of all unreached and minorities in the population.

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Findings relating to RQ4 reveal that awareness on risk factors, signs and symptoms of breast cancer is the frame that deserves the greatest emphasis in formulating media campaigns on breast cancer. However, men differ in their thoughts as the mostly chose prevention and detection of the disease. Ultimately, issues that pertain to awareness of risk factors and prevention are very similar in nature. While other items on the list demand commensurate emphasis, it is envisaged that preventive messages will go a long way in reducing the prevalence of the disease.

Health communication messages are expected to be rich in content and not lacking in its attempt to provide holistic information (Hoffman-Goetz & Friedman, 2010). The findings of this research corroborate this stand point as majority respondents (male and female) emphasize that media should engage in more awareness programs, campaigns should include testimonies of survivors as encouragement and make-believe strategies, invite and feature experts on the program and campaigns to speak about the diseases from professional perspective and then provide statistics to the public on prevalence and mortality. A robust media campaign is expected to have all four major components to achieve desired results (Sørensen et al., 2020).

IMPLICATIONS OF THE STUDY

The study findings provide for strategists in health communication the needed tools and motivations for advocacy engagements among urban and rural dwellers on very sensitive health issues. Since the study was able to identify suitable media channels for use among different category of people, stakeholders can capitalize of this to tailor contents specifically designed to meet the needs of the people and to communicate most effectively and more elaborately as well. Using the findings in this study, strategic communication contents and programs can be designed by communication consultants on any form of health-related issues – from disease outbreaks to simple awareness campaigns of basic hygienic practices.

It is also important to point out that the study samples in this research came from one state out of 36 in the country. A better and more robust generalization of findings will be achieved with the broader scope of study which will include samples from other states to represent the entire country. Perhaps, the diverse cultures of the country could lead to differences in the choices of communication channels, media experiences and interaction of the disease. However, it is the candid opinion of this research that the sample size adequately reflects the general trend and character of the state where the population of the study was drawn.

CONCLUSION

The findings of this study, though delimited to two kinds of cancers – breast and prostate – can apply to health communication strategies in general and any other awareness campaigns. The data represents information on how men and women behave and their preferences for the different media channels available. As data showed, it would be a huge error to assume that media behavior of men is the same with women as the findings in the study show that there is a significant difference in their acceptance or rejection of certain kinds of media despite their common likeness for some.

Further studies on other cancers and disease could complement the findings of this study and guide policies in the planning and execution of health awareness campaigns across the state.

RECOMMENDATIONS

- Since this study showed that medical personnel are the most prevalent source of breast and prostate cancer related information ahead of the media, medical workers should view themselves as the first point of legitimacy for all forms of communication on health-related matters.
- Health institutions should partner with media organizations for the production of holistic communication packages to enhance

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knowledge-based information among both rural and urban settlers.

- Media organizations and health communicators should develop communication templates for adoption of awareness campaigns that involve both rural and urban dwellers. In these campaigns, both new and old media forms will be utilized for the purpose of education and impact.
- Communication strategists who formulate awareness campaigns for breast and prostate cancer must seriously consider using places of worship and homes as key outlets for information dissemination. This is based on the finding that both men and women consider these locations as highly effective channels for information dissemination.

ACKNOWLEDGEMENTS

This research work was sponsored by the Tertiary Education Trust Fund (TET Fund) through the Institution Based Research grant. Special thanks also go to the Office of Research and Development, University of Jos for the guidance and provision of platform to acquire the intervention. The researchers also thank the management of JUTH for the opportunity to access patients and to all research assistants who helped in the data collection in all six LGAs of the state, we say a big thank you. Finally, we appreciate the respondents for their time in patiently answering our questionnaire.

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Article DOI: https://doi.org/10.37284/eajhs.7.1.2094

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