

# Health Communication, Knowledge and Practice towards Prostate cancer in Kwara State, Nigeria

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**Abstract:** In response to the global call for strategic information to comprehend prostate cancer, this study evaluated the health communication on behavioral practice of prostate cancer in Kwara state, Nigeria. Existing studies in Nigeria on prostate cancer have mostly focused on health practitioners and their patients, ignoring specific empirical data on semi-urban and urban context. This study looks at health communication channels as predictors of knowledge, attitude, and behavioral practices, with a focus on Ilorin, Nigeria's Kwara state, which has the highest prostate cancer prevalence rate. A total of 336 respondents from Kwara State, Nigeria, were randomly selected using the multistage sample procedure for the survey. The findings show Knowledge of prostate cancer was highest amongst study participants who used the radio ( $4.00 \pm 1.06$ ) and television ( $3.64 \pm 0.51$ ) while it was low amongst those who relied on the internet ( $3.48 \pm 0.50$ ) and health professionals ( $3.16 \pm 0.66$ ) as their primary source of information. Contrastingly, practice was highest amongst persons who used the internet ( $3.60 \pm 0.20$ ) as their primary information source and lowest amongst those who used the television ( $2.50 \pm 1.52$ ) and Health Professionals ( $2.44 \pm 0.65$ ). Demographically, respondents in the 46-55 age group scored the highest ( $3.93 \pm 0.71$ ) as compared to those in the 26-35 ( $3.43 \pm 0.68$ ) who scored the lowest on the knowledge scale. The study concludes that health communication outlets such as television, the Internet, radio, newspapers, and health workers have a good impact on the people of Ilorin, Kwara State, Nigeria. The study suggests creating a nationwide prostate cancer communication system to improve the knowledge, attitude and

**practice of people, towards the attainment of Sustainable Development Goal 3.**

**Keywords:** Attitude, Knowledge and Practice, Information Sources, Health Communication, Prostate Cancer.

## I. INTRODUCTION

The value of communication in providing excellent healthcare is now well acknowledged. Poor communication affects both infectious and non-infectious diseases. As a result, communication is no longer an afterthought, but rather an essential component of patient care. As a result, scholars have established the notion of health communication, which, as Kreps [1] pointed out, is crucial in the development, collecting, and exchange of health data. It is a basic human capacity that allows individuals and organizations to adapt to a wide range of health threats (Kreps, 2003).

Due to the burdensome nature of prostate cancer, scholars such as Lorenzo, et al. [2], Lehto, et al. [3] have emphasized the importance of using health communication for prostate cancer management beyond biological and mechanical solutions. The purpose of health communication is to reduce and remove risk factors associated with unhealthy lifestyle choices. Communication scholars are becoming increasingly interested in how well-informed people use health information. Communication is important in all aspects of human health, including personal and public health, according to the The National Cancer Institute (1989), Duffy and Jackson [4], and Bath [5]

This is founded on the premise that effective communication can help people become more aware of their environment and change their behavior. Individual and community well-being are greatly influenced by health communication. The Centers for Disease Control and Prevention (CDC) defines health communication as "the use of communication approaches to educate and influence individual and community decisions for healthy lifestyle-related health behaviors" (CDC) [6]. As a result, the goal of health communication is to reduce and eliminate risk factors associated with lifestyle-related health behaviors. However, in order to achieve meaningful health behavioral change, relevant health information is required.

It has been demonstrated that delivering vital health messages influences people's knowledge, attitude, and belief regarding healthy behavioral choices [7, 8]. Non-viral diseases, such as cancer, diabetes, cardiovascular disease, and chronic respiratory disorders, have been shown to be influenced by communication. Adoption of health communication in the elimination of prostate cancer (PC) is so crucial because it revolves around establishing the proper techniques, recognizing health-related concerns, and boosting knowledge [9]. Prostate cancer is increasingly being recognized as a non-infectious disease with global consequence [10, 11].

Prostate cancer is sometimes referred to as a silent killer because carriers are often unaware of their conditions. According to Grossman, et al. [12] claim that people can be infected for up to ten years without realizing it. Archer, et al. [13], prostate cancer is one of the top ten killer diseases in the world, with a high mortality rate from both acute non-infectious and chronic illnesses. Prostate cancer affects around one out of every nine men at some point in their lives. Prostate cancer has become a global health issue due to growing morbidity and mortality rates in males. With 1.28 million cases and a 26.6 percent incidence rate, the World Health Organization (WHO) recognized it as one of the most common malignancies in Africa in 2021. More than 100,000 Nigerians are diagnosed with cancer each year [14, 15].

According to a survey released earlier this year, prostate cancer was the second most common cancer

diagnosis among men and the fifth leading cause of death worldwide. According to GLOBOCAN, a research conducted by the International Agency for Research on Cancer (IARC), over 1,276,106 new cases of prostate cancer were reported worldwide in 2018, accounting for 7.1 percent of all malignancies in males. Interestingly, it is expected that fatality rates will treble with 379,005 fatalities worldwide in a pattern of increasing prostate cancer prevalence up to 2040, with Africa having the highest incidence of prostate cancer.

Western Africa has the world's fifth-highest rate of prostate cancer mortality, with Nigeria having the region's largest population and economy. Prostate cancer is the most common and lethal cancer in Nigerian men, accounting for 32.8 cases and 16.3 deaths per 100,000 men. According to the survey, Nigeria's death rate is more than double that of North America, with an estimated 80 percent of Nigerians incurable at the time of diagnosis.

Soola (2021), have further revealed that 1 million premature deaths in low- and middle-income nations might be prevented by 2030. Nigeria's government has taken a more proactive approach to managing the country's prostate cancer burden. As a result, on June 11, Nigeria joined the rest of the globe in recognizing Prostate Cancer Day in an effort to lower morbidity and mortality rates.

The necessity to investigate the impact of health communication on prostate cancer care in Nigeria is critical now that the topic has acquired pace and is prominently covered in many developed and developing countries' policies. Health communication, according to Nutbeam [16], is an important technique for tackling public health challenges. Increasing the population's health literacy so that they can understand and use information about health issues, as well as having a significant impact on health behaviors, are crucial aspects of health communication [17, 18].

While numerous studies have been conducted to investigate people's knowledge, attitudes, and practices regarding prostate cancer, there is a lack of evidence on the extent to which health communication influences knowledge, attitudes, and practices, particularly in Kwara state, northwestern region of Nigeria. As a result, this study assesses the use of information sources for prostate cancer by a

male resident of Kwara state, Nigeria; determine the knowledge, attitude and practice of prostate cancer by a male resident of Kwara state, Nigeria . In addition, to determine the relationship between socio-demographic characteristics of the male respondent of Kwara state towards their knowledge , attitude, and practice on prostate cancer.

## II. METHODS

### A. Research design

A quantitative survey method was used to evaluate the role of health communication and behavioral practice in prostate cancer. Men's views and knowledge about prostate cancer were also examined in the study. The survey method is justified by its ability to elicit the opinions of a diverse community of males in Kwara. The study included men from the state's urban, semi-urban, and rural areas, providing each respondent an equal chance of being represented.

### B. Sample Size and Sampling Technique

The data for this survey study was gotten from 336 adults in Nigeria's north central region (Kwara state) who admitted to having poor prostate cancer behavioral patterns. The scores assigned to participant replies to questions measuring the research variables, knowledge, attitude, and practice were SD-1, D-2, U-3, A-4, and SA-5. This was done

for each item, and the scores for all items inside a build were averaged to obtain a final score for that construct. The best possible score was 5, while the lowest possible score was 1. Higher scores showed that the individuals had better knowledge, attitude, or practice. The data was summarized using frequency means and standard deviations. To determine if the computed scores for the research constructs were normal, the Shapiro-Wilk test was performed. A Mann-Whitney or Kruskal-Wallis test was used to examine the relationship between research constructs and study participants' demographics, and Spearman's correlation was utilized to evaluate the relationship between constructs. P0.05 was considered statistically significant for all tests.

## III. RESULTS

### A. Summary of study participants

A total of 389 persons were recruited for the study however only 336 respondents completed the study questionnaire. Out of the 336 persons who completed the questionnaire, 41 stated that they had not heard of prostate cancer and were subsequently dropped from the study leaving a total of 294 study participants whose responses are presented here. A summary of the study respondents is presented in table 1. Most of the study respondents were students (52.22%) between the ages of 18-25 (40.00%) and possessed a bachelor's degree (53.66%).

**Table 1: Summary of study participants**

Selected Demographic Variables			%
Age of respondents	18-25	40.00	
	26-35	35.25	
	36-45	16.95	
	46-55	6.10	
	56 and above	1.69	
Highest Educational Qualification	NCE	9.41	
	ORDINARY DIPLOMA	NATIONAL	9.76
	HIGHER NATIONAL DIPLOMA	20.21	
	B.SC,B.ED,B.TECH.	53.66	
	M.A, M.SC, M.ED, M.PHIL, PH.D	6.97	
Occupation of Respondents	Trader	10.92	

Religion of Respondents	Artisan	7.85
	White Collar Job	22.18
	Student	52.22
	Unemployed	3.41
	Others	3.41
	Christianity	64.04
Marital Status	Islam	33.56
	Traditional	1.37
	Others	1.03
	Single	62.03
	Married	35.93
	Single Parent	0.68
	Others	1.36

### Relationship between information sources and the knowledge attitude and practices of prostate cancer amongst study respondents

Knowledge of prostate cancer was highest amongst study participants who used the radio ( $4.00 \pm 1.06$ ) and television ( $3.64 \pm 0.51$ ) while it was low amongst those who relied on the internet ( $3.48 \pm 0.50$ ) and health professionals ( $3.16 \pm 0.66$ ) as their primary source of information (Table 2). The difference in knowledge by information source was statistically significant ( $p=0.017$ ). In contrast, persons who relied on the newspaper ( $3.90 \pm 0.67$ ) and television ( $3.63 \pm$

$0.48$ ) had better attitude as compared with those who relied on friends ( $3.25 \pm 1.13$ ) and health professional ( $3.17 \pm 1.21$ ). The difference in attitude by information source was however not statistically significant ( $p=0.609$ ). Practice was highest amongst persons who used the internet ( $3.60 \pm 0.20$ ) as their primary information source and lowest amongst those who used the television ( $2.50 \pm 1.52$ ) and Health Professionals ( $2.44 \pm 0.65$ ).

**Table 2: Relationship between information sources and the knowledge attitude and practices of prostate cancer amongst study respondents**

	Knowledge		Attitude		Practice	
	Mean	SD	Mean	Mean	SD	Mean
Television	3.64	0.51	3.63	0.48	2.50	1.52
Radio	4.00	1.06	3.08	1.66	3.27	1.14
Newspaper	3.61	0.78	3.90	0.67	2.64	1.20
Friends	3.50	0.38	3.25	1.13	2.65	0.77
Internet	3.48	0.50	3.58	0.56	3.60	0.20
Health Professionals	3.16	0.66	3.17	1.21	2.44	0.65
P value	0.017		0.609		0.209	

**Table 3: Information sources used by study respondents**

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Television	12.1%
Radio	11.4%
Newspaper	15.2%
Friends	8.6%
Internet	49.0%
Health Professional	3.8%

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Table 3 indicates how men makes use of information sources as helped in the creating awareness on prostate cancer among men.it was found that most (49, 0%) of the respondents agree that they read/watch/hear about prostate cancer from the internet. Coming a close second is respondents who strongly agree that they read/watch/hear the information presented on prostate cancer from newspapers accounting for 15.2% of the responses. However 12.1% of the respondent indicated that the television is the most widely used information sources that they watch/hear and read about prostate cancer. This denotes that less than half of the respondent understand or claim to seek information on prostate cancer. This maybe because of their educational level.

The results further indicate that 11.4% of respondents have watched and heard about prostate cancer from the radio programmes /adverts. Also, 8.6% of the total respondents indicated to have heard about prostate state through their friends while 3.8% have shown to have heard about prostate cancer from health professionals.

### **Knowledge of prostate cancer**

A larger proportion of the study respondents had good knowledge (64.07%) with only 35.93% of

respondents having poor knowledge based on the scale used in this study. There was a statistically significant association of age group with knowledge of prostate cancer with persons who are older scoring more on the knowledge scale as compared to those who are younger (table 3). Persons in the 46-55 age group scored the highest ( $3.93 \pm 0.71$ ) as compared to those in the 26-35 ( $3.43 \pm 0.68$ ) who scored the lowest on the knowledge scale. Similarly, persons with higher levels of education scored higher on the knowledge scale than those with lower levels of education. The differences in knowledge scores by educational qualification was statistically significant ( $p=0.001$ ). There was no statistically significant association between religion or marital status and knowledge of prostate cancer (table 3).

**Table 4: Relationship between knowledge of prostate cancer and study participant characteristics**

		Knowledge		P value
		Mean	Standard Deviation	
Age of respondents	18-25	3.77	0.57	0.001
	26-35	3.43	0.68	
	36-45	3.63	0.63	
	46-55	3.93	0.71	
	56 and above	3.80	0.58	
Highest Educational Qualification	NCE	3.24	0.75	0.001
	ORDINARY NATIONAL DIPLOMA	3.64	0.73	
	HIGHER NATIONAL DIPLOMA	3.44	0.59	
	B.SC, B. ED, B.TECH.	3.73	0.60	
	M.A, M.SC, M. ED, M. PHIL, PH.D	3.79	0.54	
Occupation of Respondents	Trader	3.32	0.66	0.004
	Artisan	3.43	0.73	
	White Collar Job	3.66	0.56	
	Student	3.68	0.65	
	Unemployed	3.62	0.42	
Religion of Respondents	Others	4.10	0.48	0.569
	Christianity	3.69	0.61	
	Islam	3.54	0.71	
	Traditional	3.64	0.32	
Marital Status	Others	3.81	0.65	0.789
	Single	3.63	0.64	
	Married	3.63	0.67	
	Single Parent	3.83	0.24	
	Others	3.92	0.57	

**Table 5: Relationship between attitude towards prostate cancer and study participant characteristics**

		Attitude		P value
		Mean	Standard Deviation	
Age of respondents	18-25	3.51	.85	0.364
	26-35	3.33	1.05	
	36-45	3.54	.79	
	46-55	3.75	.79	
	56 and above	3.65	.52	
Highest Educational Qualification	NCE	3.35	1.08	0.446
	ORDINARY NATIONAL DIPLOMA	3.29	.81	
	HIGHER NATIONAL DIPLOMA	3.36	.92	
	B.SC,B.ED,B.TECH.	3.53	.93	
	M.A,M.SC,M.ED,M.PHI L,PH.D	3.69	.54	
	Trader	3.23	.88	0.133

Occupation of Respondents	Artisan	3.24	1.08	
	White Collar Job	3.57	.84	
	Student	3.52	.90	
	Unemployed	3.55	.96	
	Others	2.95	.93	
Religion of Respondents	Christianity	3.51	.80	0.230
	Islam	3.44	1.07	
	Traditional	2.50	1.08	
	Others	3.92	1.01	
Marital Status	Single	3.42	.93	0.248
	Married	3.55	.89	
	Single Parent	2.75	.00	
	Others	3.88	.85	

**Table 5:** present the relationship between the respondent's characteristics and attitudes to prostate cancer. The age group is significantly associated with the attitude (p-value 0.364). Men between the ages of 18-25 and 36-45 have positive attitudes towards prostate than the men in other age groups. Also,

occupation is statistically significant to attitude towards prostate cancer (p-value 0.133).men who are white collar workers have a positive attitude towards prostate cancer than men that have a different occupation.

**Table 6: Relationship between practice and study participant characteristics**

		Practice		P value
		Mean	Standard Deviation	
Age of respondents	18-25	3.05	0.60	0.386
	26-35	2.88	0.89	
	36-45	3.02	0.79	
	46-55	3.18	0.81	
	56 and above	3.08	0.39	
Highest Educational Qualification	NCE	3.07	0.87	0.386
	ORDINARY NATIONAL DIPLOMA	3.00	0.68	
	HIGHER NATIONAL DIPLOMA	2.80	0.80	
	B.SC,B.ED,B.TECH.	3.04	0.74	
	M.A,M.SC,M.ED,M.PHIL,PH.D	3.10	0.81	

Occupation Respondents	of Trader	2.61	0.87	0.024
	Artisan	3.22	1.02	
	White Collar Job	3.08	0.66	
	Student	3.00	0.71	
	Unemployed	3.16	0.56	
	Others	2.74	0.89	
Religion Respondents	of Christianity	3.06	0.74	0.142
	Islam	2.89	0.78	
	Traditional	2.40	0.78	
	Others	3.27	0.83	
Marital Status	Single	2.95	0.74	0.512
	Married	3.05	0.79	
	Single Parent	3.20	0.57	
	Others	3.10	0.93	

### Relationship between knowledge, attitude, and practice

There were weak but statistically significant correlations between knowledge, attitude, and

practice of study participants as seen in table 6. There were positive correlations between all three constructs which averaged at 0.23.

**Table 7: Correlation between knowledge, attitude and practice**

		Knowledge	Attitude	Practice
Knowledge	Correlation Coefficient	1.000	.234**	.231**
	Sig. (2-tailed)	.	.000	.000
	N	295	292	292
Attitude	Correlation Coefficient	.234**	1.000	.226**
	Sig. (2-tailed)	.000	.	.000
	N	292	292	291
Practice	Correlation Coefficient	.231**	.226**	1.000
	Sig. (2-tailed)	.000	.000	.
	N	292	291	292

### Attitudes towards prostate cancer

A larger proportion had good attitude (60.3%) towards prostate cancer with the average attitude score being  $3.47 \pm 0.911$  out of a maximum obtainable score of 5. None of the participant characteristics were significantly associated with

attitude (table 7). Persons in older age group categories had higher attitude scores than those in younger age group categories however the differences in attitude by age group was not statistically significant ( $p=0.364$ ). Attitude also increased with increasing level of educational qualification however the difference in attitude scores



by educational qualification was not statistically significant ( $p= 0.446$ ).

### Practice

Practice of towards prostate cancer prevention was poor amongst the study respondents with only 26.0% having good practice as adjudged by a threshold score of 3.6. Occupation was the only participant characteristic that was significantly associated with practice. None of the other participant characteristics were significantly associated with practice.

## IV. DISCUSSION

The importance of health communication in the fight against prostate cancer cannot be overstated. Knowledge of prostate cancer, according to Adesina, et al. [19], is crucial for men since it allows them to be more aware of preventative and treatment choices. Based on numerous available information sources, the majority of respondents in this survey were aware of prostate cancer. This is most likely due to the significance of health communication in aiding people in making healthier lifestyle choices. Albaugh, et al. [20] discovered that men read, understand, and believe the authenticity of information, are somewhat aware of prostate cancer, and correlate the effects of prostate cancer with their level of knowledge via various information sources. It was also revealed that, in comparison to other age groups, males between the ages of 25 and 35 use prostate cancer awareness information sources. According to this study, an increase in health communication channels per unit increases inhabitants' attitudes toward prostate cancer. Residents' views toward prostate cancer are influenced significantly by health communication channels for prostate cancer.

The initial research purpose was to examine if health communication channels for prostate cancer care had any effect on the awareness of residents in Nigeria's Kwara state. The  $f$  value is 0.001 based on the standardized regression weights value, according to the data; the internet has aided in providing effective prostate cancer information. This implies that, of all the health communication channels mentioned, the internet contributes the most to explaining residents' knowledge about prostate cancer than the other variables. The second purpose is to see if health

communication channels for prostate cancer management have a significant impact on male people of Kwara State, Nigeria, as shown by the  $f$  value of 0.364. A unit increase in health communication channels, according to the study, will result in a shift in residents' attitudes around prostate cancer. Health communication channels for prostate cancer care alter residents' attitudes toward prostate cancer. The ultimate purpose was to discover if prostate cancer health communication channels had any effect on prostate cancer prevention practices among the people of Kwara, Nigeria. Only television, the internet, colleagues, and seminars have a significant influence on respondents' preventive activities, with a  $f$  value of 0.386 in the prediction of respondents' preventive attitudes out of all communication channels.

The survey also discovered that inhabitants of Nigeria's Kwara state had a high level of knowledge and a favorable attitude as a result of the Internet as a medium of communication. People's motivations to learn more about prostate health and engage in behavioral therapies may have been affected by the shift in disease burdens from non-infectious to chronic diseases. Access to internet health information can improve people's knowledge, proficiency, and involvement in health decision-making procedures.

The Internet has been identified as an important component of the global health information system [21, 22]. This mode of communication, like traditional media, is said to be effective in delivering health messages to a diverse audience. This is suggested by Michael and Chevront's contribution [21, 23]. According to them, the Internet has the potential to reach a big number of individuals both economically and geographically. Social media platforms such as Facebook, Instagram, Twitter, WhatsApp, and Snapchat have exacerbated this, with the Nigerian Ministry of Communication estimating that 75 percent of online users in Nigeria use various social media sites [24, 25]. Furthermore, the Nigeria Communication Commission's quarterly report indicates that the country's Internet subscription rate will reach 196,379,542 in June 2020 [19].

Television, radio, newspapers, and magazines have also been demonstrated to improve health communication and promote behavioral changes in

numerous diseases [26, 27]. However, it is not possible to say that conventional media has been ineffectual in conveying health information to the general population. It could be a case of media convergence, as defined by Nelson, et al. [28], Oyero [29], in which traditional modes of communication are combined on the Internet platform.

Oyero, et al. [30]. "the Internet has removed the discrepancies across communication channels, therefore unifying them into one" . Indeed, we now live in an era in which all traditional modes of communication have converged to reach the vast majority of people. Several print and broadcast media outlets have websites, YouTube, Facebook, and Instagram where users can obtain real-time updates and information.

## V. CONCLUSION

SDG 3 of preventing prostate cancer will be impossible to achieve without effective use of health communication tools. When looking for information regarding prostate cancer behavioral habits, the majority of male residents in this poll chose the Internet as a source of information. As a result, it is safe to say that Internet technology is rapidly gaining acceptance among Nigerians. This study supports a report from Nigeria's Statistic Bureau Agency, which discovered that Kwara State has one of the highest Internet subscriber rates in the country when compared to other regions. Despite an improvement in health communication practice in the region, the development of a nationwide prostate communication policy focused at stopping this disease is required. Furthermore, health regulatory bodies such as the Nigeria Centre for Disease Control, the Federal Ministry of Health, and non-governmental groups involved in prostate concerns should use the Internet to expand their expertise.

## VI. CONFLICTS OF INTEREST

The authors declare no conflict of interest regarding the publication of this article

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