Electronic Journal of Medical and Dental Studies
2022, 12(1), em0096
e-ISSN: 2753-2658
https://www.ejmds.com

MODESTUM

Original Article

OPEN ACCESS

Knowledge, Perception and Screening Practices Regarding Prostate Cancer Among Men in Oshodi Local Government Area, Lagos State, Nigeria

Titilayo Olaoye [1]*, Oyewole Oyerinde [1], Kehinde Baderinwa [1]

[1] Department of Public Health, Babcock University, Ilishan-Remo Ogun State, NIGERIA
***Corresponding Author:** olaoyet@babcock.edu.ng

Citation: Olaoye T, Baderinwa K, Oyerinde O. Knowledge, Perception and Screening Practices Regarding Prostate Cancer Among Men in Oshodi Local Government Area, Lagos State, Nigeria. ELECTR J MED DENT STUD. 2022;12(1):em0096. https://doi.org/10.29333/ejmds/11972

ARTICLE INFO

Received: 8 Feb. 2022

Accepted: 23 Mar. 2022

ABSTRACT

Background: It is vital to evaluate men's knowledge, perception, and screening practices regarding prostate cancer to facilitate the design of the appropriate intervention.

Methods: This study employed a descriptive cross-sectional design. A multi-stage sampling technique was utilized to select 380 participants. A validated semi-structured questionnaire with a Cronbach's alpha score of 0.62 was used to collect information about knowledge regarding prostate cancer, perceived susceptibility, and seriousness, perceived benefits, and barriers to prevention and prevention practices. Data were analyzed using SPSS version 23 to generate mean and standard deviation while Chi-square and Pearson's correlation was used to determine the relationship among variables at 0.05 level of significance.

Results: The mean age of participants was 43.46±11.73 years. The majority (73.2%) of the respondents had poor knowledge regarding prostate cancer. Less than half (34.5%) of the respondents perceived themselves to be susceptible to prostate cancer. Most (75.5%) of the respondents perceived prostate cancer to be serious. Less than half (34.5%) of the respondents perceived themselves to be susceptible to prostate cancer. Few (23.4%) of the respondents had performed a prostate examination. There was a significant relationship between respondents' level of knowledge and screening for prostate cancer (X^2=11.94, p=0.0039). There was a significant relationship between respondents' level of knowledge and their perception of prostate cancer (r=0.34, p=0.0001).

Conclusions: The participants had poor knowledge regarding prostate cancer, moderate perception, and low screening practices. To improve screening practice there is a need to design health education interventions to increase knowledge and correct perception among men.

Keywords: knowledge, perception, screening, prostate cancer

INTRODUCTION

Cancer has been established in public health discourses as one of the most dreaded diseases in modern society [1]. Cancer incidence and mortality are higher among men in comparison with women. The commonly diagnosed cancers in men are lung, prostate, colorectal, gastric, and liver cancer [2].

Globally, prostate cancer is the second most common cancer in men and represents the sixth leading cause of cancer death worldwide with 1,414,259 new cases of prostate cancer diagnosed and 375,05 deaths in 2020 [2]. Its incidence and prevalence in black men are in multiples of those from other races in several studies [3]. Even though the exact reason for this is not clear-cut, the increased mortality rate amongst this population is mainly attributed to the late presentation [4]. It has been postulated that poor perceptions and knowledge about prostate cancer and the availability of alternative therapies are the reasons for late presentation. It was also found that low levels of education, older age, and speaking a non-English language were directly related to poor knowledge about the disease [5]. Though the awareness of prostatic diseases has increased in recent times; this has not translated into an increased screening or earlier presentation amongst men in developing countries. It is not clear whether an increase in the utilization of prostate cancer screening services might be associated with actual or perceived knowledge of prostate cancer [4]; however, a good knowledge or understanding of diseases is generally associated with a better healthcare-seeking attitude and behavior [6]. Negative attitudes and perceptions toward prostate cancer may influence screening and treatment for prostate cancer in both developed and developing countries, in addition to the disparities in the availability of screening services for prostate cancer [7].

Prevention of prostate cancer can take a different form from diet to lifestyle. Diet is one of the most important things to reduce prostate cancer risk. Men who are obese are more likely to develop prostate cancer. Furthermore, the majority of men with prostate cancer ultimately die of other causes, especially heart disease (e.g., heart attacks or strokes). Therefore, a healthy diet that prevents both obesity and heart disease will be beneficial in preventing prostate cancer. A diet

low in fat, red meat, charred meats, processed meats (sausages, bacon, and hot dogs) may reduce your risk of prostate cancer [8]. Stopping smoking will help prevent the development of prostate cancer. Eating a diet high in vegetables reduces the risk of prostate cancer. Sulfur-containing vegetables such as cabbage, broccoli, Brussels sprouts, and cauliflower contain antioxidants that may prevent cancer. Omega-3 fatty acids, which are found particularly in fish oils, are thought to be protective against prostate cancer. In the same context, physical activity/sports may also be beneficial [8]. Screening for prostate cancer at the asymptomatic stage and early detection has been reported to be responsible for the recent decline in prostate cancer recorded in some countries [9].

Currently, in Oshodi Local Government area there is a paucity of data on knowledge, perception, and screening practices of men regarding prostate cancer. This study determined the knowledge, perception, and screening practices of men regarding prostate cancer.

MATERIALS AND METHODS

This study was a descriptive cross-sectional design. The study population was men aged at least 20 years old residing in Oshodi Local Government area (LGA). A sample size of 380 was determined using the Leslie Kish formula, a prevalence of 13.5% [10], and a margin of error of 5%. Participants were selected using a multi-stage sampling technique. In the first stage, two LCDAs (Local Council Development area) were selected out of the 4 LCDAS in Oshodi Local Government by balloting. In the second stage, a proportionate sampling technique was utilized to select streets from the selected LCDAs. In the last stage, all selected households with eligible men were included in the study. A 36-item questionnaire with a Cronbach's alpha coefficient of 0.62 was used to collect data on knowledge, perception, and screening practices of men in Oshodi LGA.

The study measured the socio-demographic characteristics of the participants, their knowledge of prostate cancer, and their perceived susceptibility and seriousness of the diseases, and the perceived benefits of screening and screening practices. Measures for the study were conceptually derived from the health belief model construct [11]. The modifying factor variables were knowledge, perception variables and screening practices formed the sections of the instrument. The knowledge variables were measured on an 8-point scale. Scores from 0-3.5 show poor knowledge. Scores 3.6-6.5 show good knowledge, scores 6.6-8.0 show high knowledge regarding prostate cancer. The perception variables were measured on a 4-point Likert-type scale with responses such as strongly disagree, disagree, agree, and strongly agree coded so that a low value on the perception domain represented little or no perceived susceptibility, the seriousness of the disease, and benefits of screening. The perception items were combined to create a scale of a 48-point scale. Screening practices were measured on an 11-point scale consisting of items regarding screening within last two years, a low total score was assigned to little or no screening and maximum score was represented regular screening practices.

Data analysis was conducted using statistical package for social sciences (SPSS) version 23. Descriptive statistics such as frequency distributions and means were used to evaluate the socio-demographic characteristics, knowledge variables, perception, and screening practices. Descriptive statistics were used in presenting the socio-demographic data, level of knowledge, perception, and prevention practices. Pearson's correlation and Chi-square were to test the relationship among the variables at a 0.05 level of significance.

Table 1. Socio-demographic characteristics of the respondents

Variable	Ever performed prostate examination		X^2	p
	Yes	No		
Age (in years)				
20-29	10	25	2.65	0.757
30-39	29	90		
40-49	27	85		
50-59	15	60		
60-69	8	26		
70-79	0	5		
Marital status				
Married	41	135	16.73	0.001*
Divorced	34	145		
Single	9	7		
Separated	5	4		
Religion				
Christianit	55	228	9.86	0.007*
Islam	27	49		
Traditional	7	14		
Educational level				
Primary	0	5	6.39	0.094
Secondary	12	42		
Tertiary	59	212		
No formal education	18	32		
Occupation				
Student	4	7	15.09	0.020*
Civil servant	14	35		
Unemployed	25	62		
Self-employed	27	136		
Artisan	12	45		
Organized private sector	7	6		

Note. *Significant at p<0.05

Ethical Approval and Informed Consent

Ethical approval was obtained from the Babcock University Health Research Ethics Committee (BUHREC) with reference No BUHREC744/19 to conduct the study. Informed consent was obtained from the participants before the questionnaire was administered and participation was voluntary.

RESULTS

Socio-Demographic Characteristics

The mean age of respondents was 43.46±11.73 years. Almost half (47.1%) of the respondents were divorced. Most (74.5%) of them were Christians. 71% of the respondents had tertiary education. Less than half (42.9%) of the respondents were self-employed. Also, the result showed that marital status (X^2=16.73, p=0.001), religion (X^2=9.86, p=0.007), occupation (X^2=15.09, p=0.020) varied significantly with respondents screening for prostate cancer. However, respondents age (X^2=2.65, p=0.75) and educational level (X^2=6.39, p=0.094) were not significant to their screening (see **Table 1**).

Table 2. Participants' knowledge level about prostate cancer

	Respondents (N=380, Mean score=2.72±1.83)	
	Frequency	Percentage (%)
Low	278	73.2
Moderate	86	22.6
High	16	4.2

Table 3. Relationship between respondents' level of knowledge & prostate cancer screening

Knowledge	Prostate cancer screening		X^2	p
	Yes	No		
Low level of knowledge	59	219	11.94	0.003
Moderate	30	56		
High level of knowledge	0	16		

Participants Knowledge Regarding Prostate Cancer

The participant's level of knowledge measured an 8-point rating showed a mean score of 2.72±1.83. This translates to 34% knowledge prevalence. The proportion of the respondents with a high level of knowledge was 4.2%. One can infer that the respondents had a low level of knowledge about prostate cancer (see **Table 2**).

A further result showed that less than half (41.8%) of the respondents had heard about prostate cancer. Few (16.8%) of the respondents knew where the prostate gland is located (under the bladder). More (68.2%) of the respondents knew that prostate cancer affects men. Only fifteen percent of the respondents knew the risk factors of prostate cancer. Less than half (33.2%) of the respondents knew the symptoms of prostate cancer. Of those who were familiar with the symptoms of prostate cancer, only (10.3%) could state the symptoms. Less than half (30.8%) of the respondents were aware of prostate cancer screening.

Also, the result of the Chi-square analysis showed that there is a significant relationship between respondents' level of knowledge and screening for prostate cancer (X^2=11.94, p=0.0039) (see **Table 3**).

Participant's Perception of Prostate Cancer

The result showed that the participants' aggregate perception variable measured on 48-point revealed a mean of 31.88±5.63. For perception sub-variable such as perceived susceptibility and perceived seriousness of prostate cancer measured on a 12-point and 12-point, respectively. The participants recorded a mean score of 7.03±2.13 and 8.22±1.76, respectively. Also, participants perceived benefits and perceived barriers measured on 9-point and 15-point, respectively showed a mean score of 6.08±2.00 and 10.6± 2.54, respectively. Some of the views expressed by the participants reflecting their perception of prostate cancer included men above age 50 are at higher risk of developing prostate cancer (56.5%), prostate cancer affects only white people (48%). For the perception of seriousness more (63.4%) agreed that prostate cancer is a deadly disease and less than half (32.1%) believe that prostate cancer has no cure. The following were the opinion of the participants on the benefits of prostate cancer screening it will aid early detection of prostate cancer (53.2%) and reduce the chance of dying from prostate cancer (59%). The perceived barriers to screening were afraid to screen (58.2%), feeling feels uncomfortable talking to my healthcare provider on prostate issues (26.8%), and cost of screening (29.2%) (see **Table 4**).

Table 4. Participants' perception of prostate cancer (N=380)

Variable	Perceived [F(%)]			
	Susceptibility	Seriousness	Barrier	Benefit
Low (negative)	13(3.4)	2(0.5)	11(2.9)	63(16.6)
Moderate	236(62.1)	91(23.9)	62(16.3)	115(30.3)
High (positive)	131(34.5)	287(75.5)	307(80.8)	202(53.2)
Mean±SD	7.03±2.13	8.22±1.76	10.6±2.54	6.08±2.00

Table 5. Relationship between participants' perception of prostate cancer & screening for prostate cancer

Variable	Screening (N=380)	
	R	p
Perception	0.340	0.000

Furthermore, the result of the correlation analysis showed that there is a significant relationship between participants' perception of prostate cancer and screening (r=0.34; p=0.000), as shown in **Table 5**.

DISCUSSION

This study examined the knowledge, perception, and screening practices regarding prostate cancer among men in Oshodi Local Government area, Lagos State. The participants were within the ages of 30-39 years. This is similar to the findings in [12] conducted in Ondo, where it was reported that the respondents' age to be within 35-44 and a study conducted in Ghana reported 30-39 years [13]. The similarities in results maybe because of the age of work productivity. More of the respondents were divorced, this is at variance with the study conducted in a south-eastern State, Nigeria, where they reported that the majority of the respondent were single [14]. The differences in findings may be because of the latest trend in the divorce rate. The majority of the respondents were Christians. This is in line with the findings of a study in Ekiti state [15]. However, the result was at variance with the finding of a study conducted in Sokoto and where most of the respondents were Muslims [16]. The difference in findings maybe because of the study location where Christianity is more prevalent unlike in the north where Islam is more prevalent.

The result showed that there was no significant relationship between respondents' educational level (X^2=6.39, p=0.094) and their screening for prostate cancer. This is in variance with the findings in [15] where they reported that there was a significant relationship between educational level (p=0.008) and willingness to screen for prostate cancer. The result also showed that the Age (X^2=6.39, p=0.094) was not significant in their screening of prostate cancer. This is at variance with a study conducted in Uganda where they reported that there was a statistically significant association between the age of respondents (p=0.010) and the practice of prostate cancer screening [17].

This study showed that the participants had a low level of knowledge regarding prostate cancer. This study is in line with the findings of [10] conducted among outpatients attending tertiary health center in Lagos, Nigeria, where they reported that the majority of their participants had low knowledge regarding prostate cancer and a study in Ekiti, Nigeria reported a higher percentage of the participant had low knowledge regarding prostate cancer [15]. The results are similar because the states are within the same southwest region in Nigeria and their level of education may affect their knowledge. However,

this study is at variance with the findings of a study conducted in Italy where it was reported that the respondent had moderate knowledge of prostate cancer in Italy [18]. It was also reported that the majority of the respondent had good knowledge regarding prostate cancer [3]. This may be attributed to higher education levels and greater access to health information among these men. Also, the finding of this study showed a significant relationship between participants' level of knowledge and prostate cancer screening. This is in line with the study [10]. This finding is in line with the conceptual framework (health belief model) that participants' knowledge of the disease can affect their perception of the disease [11]. However, this study finding is at variance with the finding of [19] that no significant relationship between knowledge and prostate cancer screening, and it was reported that participants who had poor knowledge about prostate cancer were more likely to screen for prostate cancer compared with those who had good knowledge of prostate cancer [9].

This study finding revealed that the participants had a moderate perception of prostate cancer. This finding is at variance with the findings of [3] that most of the participants had a high perception of prostate cancer. The majority of the respondents reported a high perceived benefit of prostate cancer. This is consistent with the findings of studies conducted in Ghana and Iran [7,20]. The similarities in findings may be because of their level of knowledge of prostate cancer which enables them to know the benefit of prostate cancer screening. These participants showed high perceived seriousness towards prostate cancer. However, this study is at variance with the findings of [20], where the majority of the respondents showed moderate perceived seriousness towards prostate cancer.

More than half of the participants reported that they are afraid to screen for prostate cancer because the examination might be uncomfortable, this is consistent with the study [7]. The majority of the participants disagree with their unwillingness to be checked for prostate cancer because the examination might cost too much. This is in variance with the finding of a study in Oyo state, where the majority of the participants agree to an unwillingness to be screened for prostate cancer because the examination might be costly [21]. This may be because of their occupation which determines their source of income as most of the participants were self-employed. The majority of the participants agree to participate in prostate cancer screening because the examination will take too much time this finding is similar to the finding of a study in Oyo state, Nigeria [21].

The study showed that more than half of the participants perceived that they are susceptible to prostate cancer. This study is consistent with the findings of studies conducted in Kumasi Ghana and Kenyan, where they reported that more than half of the participants were susceptible to prostate cancer [13,22] However, this finding is at variance with the finding in [23], where they reported that less than half of the respondents perceived themselves as not susceptible to prostate cancer. The majority of the participants strongly agreed to men above age 50 are at higher risk of developing prostate cancer. This is consistent with the finding of a study in Italy [18]. The study showed a significant relationship between participants' perception and screening practices of prostate cancer ($r=0.34$, $p= 0.000$). This is similar to the findings of a study in Ghana [7]. This showed that perception influences the likelihood to perform screening. This is also in support of the health belief model which is the conceptual framework for this study [11].

This study showed that the majority of the participants had not performed a prostate examination. This finding corroborates the finding of [23] in Kenya, where they reported that the majority of their participants had never performed a prostate cancer screening. This can be due to the existing barriers which hinder the uptake of the examination as many reported the cost of screening as a barrier. Half of the respondents reported that they have intentions of getting screened in the nearest future. This is at variance with the finding of a study in Italy where they reported that more than half of the participants were willing to get screened in the future [18].

CONCLUSIONS

Men in Oshodi Local Government area had a low level of knowledge of prostate cancer, they had moderate perception perceived susceptibility, high perceived seriousness, barrier, benefit. The utilization of prostate cancer screening services among the population is also low as there are misconceptions about prostate cancer screening. It is recommended that there should be mass sensitization, awareness creation, and education of men in Oshodi Local Government area on prostate cancer in the media to increase their level of knowledge of prostate cancer and to change some of the misconceptions they had. Also, health outreach programs on prostate cancer screening can be organized to encourage the utilization of the screening service.

Author contributions: All authors were involved in the conceptualization of the work. **TO**, **OO**, and **KB**: carried out data collection and literature review; **TO**: did the data analysis; and **OO** and **BK**: did the literature review and prepared the manuscript for publication. All authors have agreed with the results and conclusions.

Funding: No funding source is reported for this study.

Acknowledgements: The authors would like to thank to the all participants of this study.

Declaration of interest: No conflict of interest is declared by authors.

REFERENCES

1. Kirkegaard P, Edwards A, Nielsen TLO, et al. Perceptions about screening for prostate cancer using genetic lifetime risk assessment: A qualitative study. BMC Fam Pract. 2018;19(1):32. doi:10.1186/s12875-018-0717-6 PMid: 29454309 PMCid:PMC5816534
2. Sung H, Ferlay J, Siegel RL, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209-49. doi:10.3322/caac.21660 PMid:33538338
3. Adibe MO, Aluh DO, Isah A, Anosike C. Knowledge, attitudes and perceptions of prostate cancer among male staff of the University of Nigeria. Asian Pac J Cancer Prev. 2017;18(7):1961-6. doi:10.22034/APJCP.2017.18.7.1961 PMid:28749629 PMCid:PMC5648405
4. Ojewola RW, Oridota ES, Balogun OS, et al. Knowledge, attitudes and screening practices regarding prostatic diseases among men older than 40 years: A population-based study in Southwest Nigeria. Pan Afr Med J. 2017;27:151. doi:10.11604/pamj.2017.27.151.10605 PMid: 28904679 PMCid:PMC5567951

5. Deibert CM, Maliski S, Kwan L, Fink A, Connor SE, Litwin MS. Prostate cancer knowledge among low income minority men. J Urol. 2007;177(5):1851-5. doi:10.1016/j.juro.2007.01.062 PMid:17437834
6. Kanungo S, Bhowmik K, Mahapatra T, Mahapatra S, Bhadra UK, Sarkar K. Perceived morbidity, healthcare-seeking behavior and their determinants in a poor-resource setting: Observation from India. PLoS One. 2015;10(5):e0125865. doi:10.1371/journal.pone.0125865 PMid:25965382 PMCid: PMC4428703
7. Yeboah-Asiamah B, Yirenya-Tawiah D, Baafi D, Ackumey M. Perceptions and knowledge about prostate cancer and attitudes towards prostate cancer screening among male teachers in the Sunyani Municipality, Ghana. Afr J Urol. 2017;23(3):184-91. doi:10.1016/j.afju.2016.12.003
8. Morrison BF, Aiken WD, Mayhew R, Gordon Y, Odedina FT. Prostate cancer knowledge, prevention, and screening behaviors in Jamaican men. J Cancer Educ. 2017;32(2):352-6. doi:10.1007/s13187-016-0991-8 PMid:26842816 PMCid: PMC5553046
9. Enemugwem RA, Eze BA, Ejike U, Asuquo EO, Tobin A. Prostate cancer screening: Assessment of knowledge and willingness to screen among men in Obio Akpor LGA, Rivers State, Nigeria. Afr J Urol. 2019;25:11. doi:10.1186/s12301-019-0010-5
10. Ogundele SO, Ikuerowo SO. A survey of the awareness of prostate cancer and its screening among men attending the outpatient clinics of a tertiary health center in Lagos, Nigeria. Niger J Surg. 2015;21(2):115-8. doi:10.4103/1117-6806.162589 PMid:26425064 PMCid:PMC4566316
11. Rosenstock IM. Historic origins of the health belief model. Health Educ Monogr. 1974;2(4):328-33. doi:10.1177/109019817400200403
12. Adebimpe WO, Fashina D. Predictors of knowledge and practice of prostate cancer screening among commercial motorcyclists in Ilesa Town in Southwestern Nigeria. Med J Babylon. 2018;15(4):385-90. doi:10.4103/MJBL.MJBL_103_18
13. Amoah G, Acheampong DO, Kofi Christian G-S, et al. Knowledge, attitude and perception of prostate cancer among male adults in the Kumasi Metropolis: A descriptive cross-sectional study. J Urol Res. 2018;5(2):1099.
14. Aluh DO, Anyachebelu OC, Azubuike EA, Abdulmuminu I. Knowledge, attitudes and perception of prostate cancer among male outpatients of a tertiary hospital in south-east Nigeria. J App Pharm Sci. 2018;8(11):064-8. doi:10.7324/JAPS.2018.81109
15. Ogundele SB, Omofade OT, Ayorinde M. Knowledge of prostate cancer and attitude towards screening among male patients in Federal Teaching Hospital, Ado-Ekiti. Sch J Appl Med Sci. 2017;5(10B):3935-9.
16. Awosan KJ, Yunusa EU, Agwu NP, Taofiq S. Knowledge of prostate cancer and screening practices among men in Sokoto, Nigeria. Asian J Med Sci. 2018;9(6):51-6. doi:10.3126/ajms.v9i6.20751
17. Nakandi H, Kirabo M, Semugabo C, et al. Knowledge, attitudes and practices of Ugandan men regarding prostate cancer. Afr J Urol. 2013;19(4):165-70. doi:10.1016/j.afju.2013.08.001 PMid:25221428 PMCid:PMC4162513
18. Morlando M, Pelullo CP, Di Giuseppe G. Prostate cancer screening: Knowledge, attitudes and practices in a sample of men in Italy. A survey. PLoS One. 2017;12(10):e0186332. doi:10.1371/journal.pone.0186332 PMid:29023514 PMCid: PMC5638517
19. Akbarizadeh J, Gheibizadeh M, Fereidoonimoghadam M, Jahani S, Saki Malehi A. A survey of knowledge about and perceived barriers to prostate cancer screening among medical staff. Jundishapur J Chronic Dis Care. 2016;5(3):e31744. doi:10.17795/jjcdc-31744
20. Ghodsbin F, Zare M, Jahanbin I, Ariafar A, Keshavarzi S. A survey of the knowledge and beliefs of retired men about prostate cancer screening based on health belief model. Int J Community Based Nurs Midwifery. 2014;2(4):279-85. PMid:25349871 PMCid:PMC4201208
21. Kolade OA. Knowledge and utilization of prostate cancer screening services among male civil servants in Iseyin Local Government area, Oyo State, Nigeria. Eur J Biol Med Sci Res. 2017;5(3):38-45.
22. Mutua K, Pertet AM, Otieno C. Cultural factors associated with the intent to be screened for prostate cancer among adult men in a rural Kenyan community. BMC Public Health. 2017;17:894. doi:10.1186/s12889-017-4897-0 PMid: 29169333 PMCid:PMC5701294
23. Wachira BW, Meng'anyi LW, Ruth MG. Knowledge, perception and uptake of prostate cancer screening: A cross sectional study at a level III hospital in Kenya. Public Health Res. 2018;8(4):81-7. doi:10.5923/j.phr.20180804.01