PROSTATE CANCER KNOWLEDGE AND SCREENING PRACTICES AMONG PRIMARY SCHOOL TEACHERS IN ENUGU STATE, NIGERIA

Ugbelu, J. E. & Onunze, R. A.

Department of Human Kinetics and Health Education, Faculty of Education, University of Nigeria, Nsukka, Enugu State, Nigeria. Email- jacinta.ugbelu@unn.edu.ng

Abstract

The study determined the prostate cancer knowledge and screening practices among primary school teachers in Enugu State. Descriptive cross-sectional research design was adopted. The population for the study was 1715 primary school male teachers in Enugu State. Multi-stage sampling was used to draw a sample of 362 participants. Researcher designed questionnaire was used for data collection. Reliability of the instruments was tested using the split-half method and internal consistency were established with Cronbach Alpha test and Spearman's Brown correlation formula. Data analyses were performed with SPSS application, version 23. Frequency, percentages were used to analyze objectives 1 and 2. Chi-square analysis was used to test the hypotheses at .05 level of significance. The study found knowledge of prostate cancer was moderate (42.52%) but screening practice was poor (39.24%). The result also showed that there was no significant difference in the level of knowledge of prostate cancer among primary school teachers based on age ($x^2 = 2.639$, p = .451), but there was a significant difference in the level of knowledge based on level of education ($x^2 = 14.126$, p = .003) and marital status ($x^2 = 12.180$, p = .002). The result also showed that was no significant difference in the prostate cancer screening practices based on age ($x^2 = 3.517$, p = .513) but there was a significant difference in the prostate cancer screening practices based on level of education ($x^2 = 118.957$, p = .001) and marital status ($x^2 = 128.660$, p = .001). The study concluded that the teachers had moderate knowledge of prostate cancer but their screening practices were poor. It was recommended that it would be necessary to increase information on the benefits of prostate cancer screening practices.

Keywords: Prostate cancer, knowledge, screening practices, primary school teachers.

Introduction

Prostate cancer is a global public health problem affecting both developed and developing countries. It is the cancer of the prostate gland and affects only men. Prostate cancer is one of the most prevalent cancers around the world, which affects the prostate gland in males (Sung et al., 2021). Prostate cancer is one of the leading causes of cancer-related deaths among males globally (American Cancer Society, 2019). Prostate cancer is considered the fourth most common cancer globally and the second leading cause of cancer-related deaths in men (Ferlay et al., 2019). The American Cancer Society 2019 report showed that an estimated 174,650 new cases of prostate cancer was diagnosed in the USA during 2019 (American Cancer Society, 2019). The report further stated that an estimated 31,620 deaths from prostate cancer would occur in 2019. It further put the incidence of prostate cancer to about 60% higher in blacks than in whites suggesting a genetic predilection to the cancer. According to the American Cancer Society, one in 41 American men was diagnosed with prostate cancer (Hassanipour-Azomi et al., 2016). In Nigeria, prostate cancer is the leading cause of cancer death among men (Akinremi et al., 2014). Prostate cancer can be caused by some risk factors such as increased age, race, heredity or family predisposition, unhealthy diet and others. Although the causes of prostate cancer are not yet fully understood, it is thought that advanced age (above 50 years), positive family history of prostate cancer and an African-American ethnic background are risk factors (American Cancer Society, 2019). This indicates that prostate cancer is health problem without known causes both in the developed and developing countries. Prostate cancer can be asymptomatic but may presents with certain clinical manifestations at different stages of the illness. At the initial stage,

urinary frequency, straining on urination, urinary urgency, poor streaming of urine and urinary retention. At later stage if not detected, painful ejaculation, weight loss, bloody urine, anaemia, and metastasis of other organs.

The high incidence and mortality rate due to prostate cancer may be related to the knowledge of prostate cancer among men. Previous studies by Musalli et al., (2021) Yunusa et al., (2017) Morrison et al., (2017) & Makado et al., (2015) reported 64%, 81%, 96% and 82% respectively indicating high knowledge of prostate cancer among the participants. However, other studies by Balogun and Odelola (2023) Gift et al., (2020) and Awosan et al., (2018) reported low level of knowledge of prostate cancer among the respondents. However, other studies found high levels of awareness (Muhammad et al., 2016; Kinyao et al., 2018). Hussani et al., (2022) indicated that majority of the men were aware of prostate cancer and had a good knowledge of the disease but a poor perception of prostate cancer screening. Adibe et al., (2017) reported 57.8% moderate level of knowledge of prostate cancer. Knowledge of prostate cancer may affect the prostate cancer screening practices among men.

Prostate cancer screening practice is one of the most important factors in preventing prostate cancer. Detection of cancer cells at early stage through have better prognosis than at the late stage when little or nothing can be done. There are two types of screening that are commonly used in clinical practice, which are digital rectal exam (DRE) and prostate-specific antigen (PSA) (Clark et al., 2017). DRE is highly recommended for men above the age of 40 years with previous family history or risk factors of prostate cancer and for men above the age of 50 years with no positive history (Digital rectal examination, 2020). Gift et al., (2020) stated that DRE was the most commonly used method of prostate cancer screening which is contrary to findings by similar studies done in Nigeria that found PSA to be the most commonly used method (Adibe et al., 2017). Other researchers, Yunusa et al., (2017]) and Makado et al., (2015) reported 68% and 71% of the participants had done prostate screening. Giftet al., (2020) indicated that, only (13%) had been screened in the last 2 years. Among participants who had screened, 20 (76.9%) pointed out DRE as the method used, while 3 (11.5%) pointed out PSA, 2 (7.69%) reported both DRE and PSA, and 1 (3.85%) did not know which screening method was used, 18 (69.2%) had a positive prostate cancer outcome, while 8 (30.8%) had a negative prostate cancer outcome. 199 (99.5%) of the participants expressed intentions to screen in future. Previous studies by Awosan et al., (2018) and Kinyao & Kishoyina, (2018) demonstrated low level of prostate cancer screening practice in their various findings. This suggests a possible cost barrier to utilization of the PSA screening method in our sample. Gift et al., (2020) and Makado et al., (2015) noted that (41.8% & 72.7%) of men had heard of prostate screening methods, primarily PSA test before. Musalli et al., (2021) indicated that about 23% of the participants had done some form of prostate screening test either prostate-specific antigen (PSA) or digital rectal exam (DRE); most of them were men older than 50 years. Knowledge of prostate cancer is expected to motivate men engage on regular screening for early detection and positive outcome. However, combined factors may interfere with the knowledge of prostate cancer.

Knowledge of prostate cancer. may be associated with some socio-demographic factors. Arafa et al., (2015) noted that all the studies conducted in Saudi Arabia showed a poor quality level of education and poor practice toward screening methods. This denotes that education is associated with prostate cancer screening. Musalliet al., (2021) noted that respondents with higher socioeconomic status demonstrated a higher level of knowledge about prostate cancer than the other groups. Previous studies by Awosan et al., (2018) and Kinyao et al., (2018) which did not found an association between education level and prostate cancer knowledge. This denotes that education is associated with prostate cancer screening. Giftet al., (2022) study showed that advanced age (p = 0.017), having secondary or tertiary education (p = 0.041), increased knowledge (p = 0.023) and family history of cancer (p = 0.003) increased prostate cancer screening practice and participants with increased knowledge (p=0.001) and family history of cancer (p=0.002) were more likely to practice prostate cancer screening. Other studies by Mofolo et al., (2015) and Adibe et al., (2017) revealed that participants with higher level of education were more knowledgeable about prostate cancer than those who had lower level of education or no formal education at all. Morlando et al., (2017) noted that knowledge of prostate cancer was higher: in men with older age, in those that had a higher level of education, in those who had a relative with prostrate problems or prostate cancer and in those with prostate problems. Previous studies indicated varied level of knowledge and screening practices of prostate cancer among men. None of these studies were conducted among the male primary school teachers in Enugu. Thus, the need for the study.

Objectives of the Study

The main purpose of the study is to determine prostate cancer knowledge and screening practices among the male primary school teachers in Enugu. Specifically, the study determined the:

- level of knowledge of prostate cancer among primary school teachers in Enugu State.
- level of knowledge of prostate cancer screening practices among primary school teachers in Enugu State.

Hypotheses:

Two null hypotheses were postulated and tested at .05 level of significance.

- There is no significant difference in the level of knowledge of prostate cancer among primary school teachers in Enugu State based on socio-demographic variables (age, level of education and marital status).
- There is no significant difference in the prostate cancer screening practices among primary school teachers in Enugu State based on socio-demographic variables (age, level of education and marital status).

Materials/Methods

Study Design

This study adopted descriptive cross-sectional survey design. Descriptive cross-sectional survey design is aimed at collecting data and describing in a systematic manner the characteristics, features or facts about a given population in their natural settings, and determines relationship that exists between the specific variables. This design permits the collection of data about a larger population from a portion or segment of that population from where generalization can be inferred.

Study Setting

The study was conducted in Enugu State, Nigeria. Enugu State is one of the 36 States in Nigeria and is made up of 17 Local Government Areas (LGAs). The State is bounded on the North by Benue State, on the south by Abia State, on the west by Anambra and on the east by Ebonyi State. The State has many primary schools that admits pupils for learning. The State also employ some teachers to teach and guide the pupils. The teachers are of different age groups and different level of education (NCE, B.Sc/B.Ed, Ph.D.). There few health facilities that provide information/services on prostate cancer and the screening practices, which are located in urban areas. In addition to ignorance in health matters, there is also the problem of cultural belief about the causes and treatment of cancer. The ignorance in health matters and cultural belief may be affecting their ability to acquire knowledge about prostate cancer and access the screening practices. Hence the need for the study.

Study Population

The population of the study consisted of all primary school teachers in Enugu State, Nigeria. The total population was 1715 (Primary School Management Board Enugu State-PSMB, 2021).

Sample Size and Sampling Technique

The sample size for the study was 362 primary school teachers in Enugu State, Nigeria. The sample was based on the suggestion of Cohen, Manion and Morrison (2018) that when the population is 1500 and above at 95 percent confidence level (5% interval), the population can be 306 and above. The sample size was calculated using Yamane (1967) formula. A total of 329 was selected.

Multi-stage sampling procedures were used in the study. First, simple random sampling technique was used to select three education zones out of six education zones in the state. The selected zones are Nsukka, Awgu, Enugu and Agbani. The second stage involved the use of simple random sampling to select 14 schools (seven rural and seven urban schools) from each of the four education zones. This resulted in a total of 56 primary schools. Disproportionate sampling was used to draw six male primary school teachers from each of the selected schools. This produced a total of 350 teachers and additional 32.9 attrition rate (362) that were used for the study.

Data Collection Tool

Two instruments were used for data collection. The instrument is the researcher designed questionnaire titled Prostate Cancer Knowledge and Screening Practices Questionnaire among Primary School Teachers in Enugu State (PCKSPQ). The PCKSPQ was divided into two sections; A and B. Section A(PCKQ) consisted of 10 items on prostate cancer knowledge of polychotomous response options (multiple choice questions). The respondents were required to tick ($\sqrt{}$) only one

option as it applies in any of statement. Section B PCSPQ consisted of five items on prostate cancer screening practices with dichotomous response options of "Yes or No".

Data Reliability

In order to determine reliability of the instrument of the study, 20 copies of the instrument were administered to primary school teachers in Obollo-Afor education zone. The internal consistency of PCKQ and PCSPQ were determined using Cronbach Alpha test and Spearman's Brown correlation formula respectively. A reliability coefficient index of .78 and .75 respectively was obtained.

Consent Approval

The researcher presented a duly signed approval obtained from primary school management board to the headmaster/headmistress of each school selected for the study. The headmaster/headmistress introduced the researcher to the respondents. An informed consent was obtained from the teachers after a detailed explanation of the purpose and benefit of the study. The participants were promised that their responses would be treated with utmost confidentiality and that their consent was voluntary and they are free to withdraw from the study at any time.

Data Collection Procedure

The researcher used one research assistant (teacher) for each school who were briefed on modalities of data collection. Three hundred and sixty-two copies of the questionnaire were administered to the respondents by the researcher and research assistants. The completed copies of the questionnaire were collected on the spot to ensure high return rate. Out of the 362 copies of the questionnaire administered, 350 were properly completed which gave a return rate of 96.6 per cent used for data analysis.

Data Analysis

The completed copies of the instrument were used for data analysis. Data analysis was conducted using Statistical Package for Social Science (version 23). Research objectives 1 and 2 were analyzed using frequencies and percentages. Okafor (1997) criteria was used for determining knowledge criteria. The research question 1 was interpreted using Okafor (1997) criteria for determining knowledge. Thus, scores 0-19% was considered to be very low knowledge, 20-39% was interpreted as low, 40-59% was considered as moderate, 60-79% as high knowledge while 80% and above was considered as very high knowledge. Research question 2 was interpreted using Blooms (2000) criteria as used by Alan et al., (2021). Percentages below 50 were considered poor practice while percentages 50 and above were considered good practice The hypotheses were tested using Chisquare statistics at a 0.05 level of significance.

Results Table 1: Level of knowledge of prostate cancer among primary school teachers in Enugu State (350)

S/N	Knowledge statements	Correct	Respons	Decision	
		F	es (%)		
1.	Ever heard of prostate cancer	205	(58.57)	M	
2.	Correct definition of prostate as cancer of the prostate gland.	148	(42.2)	M	
3.	Identification of age at risk of prostate cancer.	168	(48.0)	M	
4.	Identifying the gender mostly affected by prostate cancer.	201	(57.4)	M	
	Identifying the major signs and symptoms of prostate cancer.	154	(44.0)	M	
6.	Ever heard of digital rectal examination?	122	(34.9)	L	
7.	Ever heard of prostate specific antigen (PSA).	97	(27.7)	L	
8.	Identification of old age as risk factor for development of prostate cancer.	196	(56.0)	M	
9.	Prostate cancer can be prevented	102	(29.1)	L	
10.	Prostate cancer can be treated if detected early.	96	(27.4)	L	
	Overall %		42.52	M	

Key: 0-19% =very low knowledge, 20-39% low knowledge, 40-59% = moderate knowledge, 60-79%=high knowledge while 80% and above =very high knowledge.

Result in Table 1 showed that the overall percentage of primary school teachers possessed moderate knowledge (42.52%) of prostate cancer. The table further indicates low knowledge for items 6,7,9 and 10 but moderate knowledge for items 1,2,3,4,5 and 8.

Table 2: Proportion of primary school teachers in Enugu State that practiced prostate cancer screening (n=350)

S/N	Screening practices	Yes f (%)	No f (%)
1.	Have you ever heard of prostate cancer screening test?	146 (41.7)	204 (58.28)
2.	Have you ever undergone prostate exam (digital rectal examination)?	138 (39.42)	212 (60.57)
3.	Have you ever undergone prostate specific antigen screening test (PSA)?	122(34.85)	228 (65.14)
4.	Would you like to undergo prostate specific antigen test to check for prostate cancer?	159 (45.42)	191 (54.57)
5.	Have you been advised to undergone prostate specific antigen screening test by a physician?	122 (34.85)	228 (65.14)
	Overall %	(39.24)	(60.74)

 $\mathbf{Key:}$ Scores below 50% is considered poor practice while scores from 50% and above is interpreted as good practice.

Table 2 indicated that overall the prostate cancer screening practice among primary school teachers in Enugu State was poor (39.24%). The table also shows that the primary school teachers had poor practice for only item 4 and poor practice for the remaining four items.

Table 3: Summary of Chi-square Analysis Testing the Null Hypothesis of No Significant Difference in the Level of Knowledge of Prostate Cancer among Primary School Teachers based on socio-demographic Variables of (age, level of education and marital status).

Variables	N	True	False	x^2	df	p-	Decision
		O(E)	O(E)			value	
Age(years)							
30-40	13	7(8.0)	6(5.0)				
41-50	124	68(73.0)	56(51.1)	2.639	3	.451	Not
							rejected
50-60	139	78(73.4)	61(65.6)				
60 and above	74	42(43.0)	32(30.0)				
Level of							
Education							
NCE	130	106(104.0)	24(26.0)				
B.Sc/M.Ed	153	123(121.1)	30(29.0.)	14.126	3	.003	Rejected
M.Sc/M.Ed	59	50(44.2)	9(15.0)				-
Ph.D	8	6(5.8)	2(2.2)				
Marital status							
Married	236	199(201.0)	37(35.0)	12.180	3	.002	Rejected
Single	10	8(7.4)	2(2.6)				,
Divorced/	60	50(51.2)	10(8.8)				
Separated							
Widowed	44	38(40.5)	6(3.5)				

Result in Table 3 showed no significant difference in the level of knowledge of prostate cancer among primary school teachers based on age ($x^2 = 2.639$, p = .451) since the p-value is greater than .05 level of significance. This implies that the primary school teachers' level of knowledge of prostate cancer are the same irrespective of age. The Table further showed significant difference in the level of knowledge based on level of education ($x^2 = 14.126$, p = .003) and marital status ($x^2 = 12.180$, p = .002) since their p-values are less than .05 level of significance. This implies that primary school teachers' level of knowledge of prostate cancer varied based on their level of education and marital status

Table 4: Summary of Chi-square Analysis Testing the Null Hypothesis of No Significant Difference in the Prostate Cancer Screening Practices among Primary School Teachers based on socio-demographic Variables of (age, level of education and marital status).

Variables	N	True O(E)	False O(E)	x^2	df	p- value	Decision
Age(years)							
30-40	13	6(5.0)	7(8.0)				
41-50	124	73(77.0)	51(47.0)	3.517	3	.513	Not rejected
51-60	139	73(73.4)	66(65.8)				rejected
60 and above	74	40(42.0)	34(32.0)				
Level of							
Education							
NCE	130	104(102.1)	26(27.9)				
B. Sc/B.Ed	153	111(119.4)	42(33.1)	118.952	3	.001	Rejected
M.Ed/M.Sc	50	48(43.7)	10(6.3)				
Ph.D	8	5(5.2)	3(2.8)				
Marital							
status							
Married	236	185(194.3)	51(41.7)				
Single	10	7(6.9)	3(3.1)	128.660	3	.001	Rejected
Divorced/	60	49(50.1)	11(9.9)				-
Separated							
Widowed	44	40(41.0)	4(3.0)				

Result in Table 4 showed no significant difference in the prostate cancer screening practices among primary school teachers based on age ($x^2 = 3.517$, p = .513) since the p-value is greater than .05 level of significance. This implies that the primary school teachers' prostate cancer screening practices are the same irrespective of age. The Table further showed significant difference in the prostate cancer screening practices based on level of education ($x^2 = 118.957$, p = .001) and marital status ($x^2 = 128.660$, p = .001) since their p-values are less than .05 level of significance. This implies that primary school teachers' level of knowledge on prostate cancer screening practices varied based on their level of education and marital status.

Discussion

The finding of the study in Table 1 showed that primary school teachers possessed moderate (42.52%) knowledge of prostate cancer. This might be due to the knowledge the teachers acquired through their course of training. Their moderate knowledge may be associated with the fact that teachers are public servants who were educated and had good access to health information through internet services, radio, television or other printed media. The finding is at variance with previous studies by Musalli et al., (2021), Yunusa et al., (2017), Morrison et al., (2017) & Makado et al., (2015) reported 64%, 81%, 96% and 82% respectively indicating high knowledge of prostate cancer among the participants. The finding also disagrees with other studies by Balogun and Odelola (2023) Giftet al., (2020)and Awosan et al., (2018) that reported low level of knowledge of prostate cancer among the respondents. The result of the study corroborates with the finding of Adibe et al., (2017) which reported moderate (57.8%) level of knowledge of prostate cancer. The differences and similarities in the studies may be related to area of study, sensitization on the topic and the respondents. Result in Table 1 also indicated that (58.57%)have heard of prostate cancer, (44.0%) identified the signs and symptoms of prostate cancer, (29.1%) knew that the problem is preventable while only (27.4%) knew that the problem can cured if detected early. This disagrees with the result of Wachira et al., (2018) which reported that knowledge on various domains was low as 87% of the respondents were not aware of the symptoms of prostate cancer, 52% did not know that the disease is preventable while 71% did not know the disease is curable.

The findings in Table 2 indicated that the prostate cancer screening practice among the primary school teachers was poor (39.24%). This calls for increased sensitization to motivate the teachers to undergo prostate cancer screening test to promote early detection and positive outcome. This is in disagreement with the result of Yunusa et al., (2017]) and Makado et al., (2015) which reported that 68% and 71% of the participants had done prostate screening, which denotes good practice. Makado et al., further reported that the respondents have heard about PSA from their doctors, and 29% of those have done the PSA test. The finding of study disagrees with the result of Gift et al., (2020) which indicated that, only (13%) had been screened in the last 2 years. Among participants who had screened, 20 (76.9%) pointed out DRE as the method used, while 3 (11.5%) pointed out PSA, 2 (7.69%) reported both DRE and PSA, and 1 (3.85%) did not know which screening method was

used. However, the finding of the study is similar with the results of previous researchers by Awosan et al., (2018) and Kinyao & Kishoyina, (2018) that demonstrated low level of prostate cancer screening practices in their different findings among the participants. The finding of the study contradicts with the result of *Hussani et al.*, (2022) who reported that the majority of the men had a good knowledge of the disease but a poor perception of prostate cancer screening and that approximately 81% of the respondents indicated that they did not screen for prostate cancer due to fear of the procedure (55%) or fear the doctor might find prostate cancer (56%). The similarities and differences might be attributed to differences in the method of data collection, area of the study and statistical tools used.

The result of the of the study in Table 2 further indicated that (41.7%) have heard of prostate cancer, (39.22%) have undergone digital rectal examination while (45.42%) are willing to do PSA to screen for prostate cancer. This concurs with the findings the Gift et al., (2020) stated that DRE was the most commonly used method of prostate cancer screening but contrary to findings by similar studies done in Nigeria that found PSA to be the most commonly used method (Adibe et al., 2017). The finding of the study disagrees with the result of Gift et al, (2020) which indicated that, only (13%) had been screened in the last 2 years and among participants who had screened, (76.9%) pointed out DRE as the method used, while (11.5%) pointed out PSA, (7.69%) reported both DRE and PSA, and (3.85%) did not know which screening method was used, (99.5%) of the participants expressed intentions to screen in future. The finding disagrees with Morlando et al., (2017) study which reported that 72.7% of respondents had heard about the PSA-test, 51.1% of those had heard about it through their physicians, only 29.6% of men had undergone a PSA-test and 59.4% were willing to do so in the future

The result in Table 3 shows no significant difference in the level of knowledge of prostate cancer among primary school teachers based on age ($x^2 = 2.639$, p = .451) since the p-value is greater than .05 level of significance. This may be attributed to the level of education of the participants. This disagrees with Morlando et al., (2017) who reported that knowledge of prostate cancer was higher: in men with older age, in those that had a higher level of education, in those who had a relative with prostrate problems or prostate cancer and in those with prostate problems. This disagrees with the study of Gift et al., (2022) which showed that advanced age (p=0.017) is associated with level of knowledge of prostate cancer. The Table further shows significant difference in the level of knowledge based on level of education ($x^2 = 14.126$, p = .003) and marital status ($x^2 = 12.180$, p = .002). This is at variance with the results of some studies done in Nigeria and Kenya in 2018 which did not found an association between education level and prostate cancer knowledge (Awosan et al., 2018 & Kinyao et al., 2018). This contradicts with the findings of Arafa et al., (2015) which noted that all the studies conducted in Saudi Arabia showed a poor quality level of education and poor practice toward screening methods. This denotes that education is associated with prostate cancer screening. This agrees with the findings of Musalli et al., (2021) that noted that respondents with higher socioeconomic status (level of education) demonstrated a higher level of knowledge about prostate cancer and screening practices than the other groups. The finding disagrees with the study of Gift et al, (2022) which showed that having secondary or tertiary education (p = 0.041), increased knowledge (p = 0.023), increased prostate cancer screening practice and participants with increased knowledge (p=0.001) and family history of cancer (p=0.002) were more likely to practice prostate cancer screening. The findings were consistent with findings by similar studies done in other countries by (Mofolo et al., 2015 & Adibe et al., 2017) which revealed that participants with higher level of education were more knowledgeable about prostate cancer and screening practices than those who had lower level of education or no formal education at all. This is in consonant with Morlando et al., (2017) study which noted that knowledge of prostate cancer and the screening practices was higher in those that had a higher level of education. This is because education empowers the teachers to access information on radio, television and even through internet services about prostate cancer and the screening practices.

Conclusion

From the finding of the study, it was concluded that knowledge of prostate cancer was moderate while the prostate cancer screening practices were poor among the primary school teachers. The findings of the study also indicated that there was no significant difference in the knowledge of prostate cancer and screening practices based on age while there was a significant difference in the level of knowledge and screening practices based on level of education and marital status.

Recommendations

- Based on the findings of the study, the following recommendations were made:
- Health educators should embark on sensitization campaign to sensitize men on the importance of prostate cancer screening practices for detection and intervention.
- State Ministry of Health and State Ministry of Education should collaborate to organize seminars for primary school teachers in their schools to ensure active participation and also motivate them to screen for prostate cancer.
- The state government can subsidize the cost of prostate cancer screening cost to reduce the financial burden as well encourage the teachers to avail themselves for screening and also to maintain clinic appointments.
- 4. There is need for health educators and other stake holders to scale up health education to the community regarding prostate cancer to enhance knowledge, eliminate fears and increase their screening. Practices.

References

- Adibe, M. O., Oyine, D, A., Abdulmuminu, I., & Chibueze, A. (2017). Knowledge, attitudes and perceptions of prostate cancer among male staff of the University of Nigeria. Asian Pacific Journal of Cancer Preview, 18(7): 1961–1966.
- Akinremi, T. O., Adeniyi, A., Olutunde, A., Oduniyi, A. & Ogo, C. N. (2014). Need for and Relevance of Prostate Cancer Screening in Nigeria. *Ecancer*, 8, 457.
- American Cancer Society. Cancer facts and figures, 2019. American Cancer Society, Atlanta
- Arafa, M.A., Farhat, K.H. & Rabah, D.M. (2015). Knowledge and attitude of the population towards cancer prostrate Riyadh, Saudi Arabia. Urology Annalsis. 7. 154 – 158.
- Awosan, K. J., Yunusa, E.U., Agwu, N. P. & Taofiq, S. (2018). Knowledge of prostate cancer and screening practices among men in Sokoto, Nigeria. Asian Journal of Medical Sciences, 9(6):51–56.
- Clark, M. L., Kumar, P. & Amsterdam, N. L. (2017). Elsevier, Kumar and Clark's Clinial Medicine.
- Cohen, L., Manion, L. & Morrison, K. (2018). Research methods in education, 7th Edition. USA: Routledge.
- Ferlay, J., Colombet, M., Soerjomataram, I. ... et al (2019). Estimating the global cancer incidence and mortality in 2018: GLOBOCAN sources and methods. *International Journal of Cancer*. 144: 1941 – 1953
- Gift, S., Nancy, K. & Victor, M. (2020). Assessment of knowledge, practice and attitude towards prostate cancer screening among male patients aged 40 years and above at Kitwe Teaching Hospital, Zambia. <u>African Journal of Urology</u>, 26:70.
- Hassanipour-Azgomi, S., Mohammadian-Hafshejani, A., Ghoncheh, M., Towhidi, F., Jamehshorani,
 S. & Salehiniya, H. (2016). Incidence and mortality of prostate cancer and their relationship with the Human Development Index Worldwide. *Prostate International*. 4: 118 124.
- Hussaini, D. C., Thurton, L. H., Brown, N. T. & Humes, A. (2022). <u>Prostate cancer awareness, knowledge, and perception of screening among men aged 40–70 in the Belize district.</u>

 <u>Journal of Public Health, 5(1):25-35</u>
- Kinyao, M., & Kishoyina, G. (2018). Attitude, perceived risk and intention to screen for prostate cancer by adult men in Kasikeu sub location, Makueni County, Kenya. Ann Medical Health Science Resources, 8(3):125–132
- Makado, E., Makado, R. K. & Rusere, M. T. (2015). An assessment of knowledge of and attitudes towards prostate cancer screening among men aged 40 to 60 years at Chitungwiza Central Hospital in Zimbabwe. *International Journal of Humanities and Social Studies*, 3(4):45–55.
- Mofolo, N., Betshu, O., Kenna, O., Koroma, S., Lebeko, T., Claassen, F. M. & Joubert, G. (2015). Knowledge of prostate cancer among males attending a Urology clinic, a South African study. Springer Plus, 4:67.

- Mofolo, N., Betshu, O., Kenna, O., Koroma, S., Lebeko, T., Claassen, F.M. & Joubert, G. (2015). Knowledge of prostate cancer among males attending a urology clinic, a South African study. Springe plus, 4: 67
- Morlando, M., Pelullo, C.P. & Di Giuseppe, G. (2017). Prostate cancer screening knowledge, attitudes and practices in a sample of men in Italy. A survey. PLoS One. 12:20.
- Muhammad, F. H. M. S., Soon, L. K., & Azlina, Y. (2016). Knowledge, awareness and perception towards prostate cancer among male public staffs in Kelantan. *International Journal of Public Health Clinical Sciences*, 3(6):105–115
- Musalli, F.Z., Alobaid, M.M., Aljahani, A. M., Alqahtani, M. A., Alshehri, S.S. & Altulaihi, B. A. (2021). Knowledge, Attitude and Practice Toward Prostate Cancer and Its Screening Methods Among Primary Care Patients in King Abdulaziz Medical City, Riyadh, Saudi Arabia.
- National Cancer Control Strategic Plan 2016-2021. Ministry of Health Zambia.
- Sung, H., Ferlay, J., Siegel, R.L., Laversanne, M., Soerjormataram, I., Jemal, A. & Bray, F. (2021). CA Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *Cancer journal of Clinical Psychology.* 4: 1 18
- Wuchari, B. W., Meng'anyi. W., & Mbugua, R. G. (2018). Knowledge, Perception and Uptake of Prostate Cancer Screening: A Cross Sectional Study at a Level III Hospital in Kenya. Public Health Research, 8(4): 81-87.
- Yunusa, B., Abdullahi, M., Mashi, S.A., Aji, S. A. & Alhassan, S. U. (2017). Determination of the sensitivity and specificity of serum prostate-specific antigen in the diagnosis of prostate cancer in Kano, Northwestern Nigeria. Niger Journal of Basic Clinical Sciences.