

Knowledge and Practice of Prostate Cancer Screening among Healthcare Workers in Tertiary and Mission Hospitals in Southeastern Nigeria

Emmanuel Ahuizechukwu Obiesie¹, Uchenna Victor Nwadi¹, Timothy Uzoma Mbaeri¹, Jideofor Okechukwu Ugwu¹, Chinonso Odo², Michael Echeta Aronu³, Anthony Ifeanyi Ugezu¹, Henry Chukwuka Nzeako¹ and Chiemelu Dickson Emegoakor¹.

¹Department of Surgery, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State, Nigeria. ²Department of Surgery, Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Ebonyi State, Nigeria. ³Department of Radiology, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State, Nigeria.

ABSTRACT

Background: Prostate cancer is the leading cause of cancer-related deaths in Nigerian men. Screening for prostate cancer is the cornerstone of early diagnosis of the disease and involves serum prostate-specific antigen assay and digital rectal examination. Healthcare workers remain a source of information to the general population on prostate cancer and its screening. **Objectives:** This study determined the knowledge and practice of screening for prostate cancer among healthcare workers. **Materials and Methods:** This was a cross-sectional, questionnaire-based study conducted among healthcare workers in two tertiary hospitals and two major mission hospitals in Anambra State. Data analysis was done by descriptive statistics. **Results:** The highest number of respondents was seen in the age group 20 -29 years. Medical doctors, nurses, pharmacists and medical laboratory scientists were each made up of 30(25%) respondents. One hundred and seventeen (97.5%) of the respondents had knowledge of prostate cancer. The most common source of information on prostate cancer among the respondents was school (75.8%). One hundred and five (87.5%) of the respondents had knowledge of prostate cancer screening. Sixty-six (55.0%) of the respondents would recommend PSA assay from age 40 years, and 54 (45.0%) would recommend yearly PSA screening. Twelve (54.5%) of respondents whose ages were above the recommended cut off age for screening has had prostate cancer screening using a PSA test. **Conclusion:** Despite the awareness and good knowledge of prostate cancer disease, the level of participation in prostate cancer screening by the respondents in the index study is quite low.

Keywords: Awareness; healthcare workers; prostate cancer; screening,.

INTRODUCTION

Prostate cancer (PCa) has continued to plague the ageing male. It is one of the most commonly diagnosed cancers worldwide with an increasing burden. It is the overall fourth most common cancer, and the second most common cancer in men.[1,2] Although the true prevalence in Nigeria is unknown, it is the most commonly diagnosed cancer in men.[3-5] It is the leading cause of cancer-related deaths among men in Nigeria while it ranks fifth, globally.[1,6] Early detection of PCa and timely intervention reduces cancer-specific morbidity

OPEN ACCESS

*Correspondence:

Nwadi Uchenna Victor. Division of Urology, Department of Surgery, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State, Nigeria.

Tel: +2348039580708.

Email:

nwadiuchennavictor@yahoo.com

Specialty Section:

This article was submitted to Clinical Medical, a section of TJMR.

Received: 17 March, 2022

Accepted: 24 June, 2022

Published: 30 July, 2022

Citation:

Obiesie EA, Nwadi UV, Mbaeri TU, Ugwu JO, Odo C, Aronu ME, et al., Knowledge and Practice of Prostate Cancer Screening among Healthcare Workers in Tertiary and Mission Hospitals in Southeastern Nigeria. Trop J Med Res 2022;21(1):129-134. DOI: 10.5281/zenodo.7107578

Access Code



<http://tjmr.org.ng>

and mortality. Prostate cancer screening is the cornerstone of early diagnosis and involves serum prostate-specific antigen (PSA) assay and digital rectal examination (DRE).[7] Considerable disagreements exist between the different clinical guidelines for PCa screening. However, they all have in common the individualised approach to screening and the use of prostate-specific antigen (PSA) testing at pre-determined intervals.[8] The American Urological Association recommends making shared decisions with adequate information on risks and benefits before a patient undergoes PSA determination.[8]

Healthcare workers who usually come into contact with patients are adjudged to be in the know on PCa and thus, are a source of information to the general population on PCa and PCa screening. Expectedly, these professionals' level of knowledge and practice of PCa screening will have a bearing on those of the general populace. Practice of screening for PCa and other cancers among healthcare professionals has been found to be poor.[9-12] Hence, that of the public may be worse. The index study aimed to determine the knowledge and practice of PCa screening among healthcare workers.

MATERIALS AND METHODS

Study Design: This was a cross-sectional, questionnaire-based study

Study Area: Two tertiary hospitals and two major mission hospitals in Anambra State, Nigeria.

Study Population: Healthcare workers (doctors, nurses, pharmacists and medical laboratory scientists) in the different institutions.

Inclusion Criteria: Doctors, nurses, pharmacists and medical laboratory scientists who were staff of the involved institutions, who were disposed to the study and gave their informed consent.

Exclusion Criteria: Doctors, nurses, pharmacists and medical laboratory scientists who were staff of other institutions other than the involved institutions. Healthcare workers who were not disposed to the study and did not give their consent. Other healthcare workers other than doctors, nurses, pharmacists and medical laboratory scientists.

Recruitment of Participants: All healthcare

workers who met the inclusion criteria.

Outcome Measures: Knowledge and practice of prostate cancer screening.

Sample Size Determination: Department-proportionate sampling technique ensuring that the different involved healthcare departments each had the same number of respondents.

Sampling Approach: Convenience sampling method was used.

Procedure: The healthcare workers who met the inclusion criteria were each issued with a structured questionnaire which was self-administered. The domains explored were demography, knowledge of PCa and its screening; practice of PCa screening; and post-screening actions. The questionnaires were retrieved immediately on completion.

Statistical Analysis: Simple descriptive statistics was used.

Ethical Consideration: Approvals were gotten from the Ethics and Research Committees of the different institutions involved. Informed consents were gotten from the subjects before recruitment. Confidentiality of information was ensured at all times.

RESULTS

One hundred and twenty questionnaires distributed among the different healthcare workers in the different institutions were analysed. Eighty five (70.8%) of the 120 respondents were males and 35 (29.2%) were females. The highest number of respondents was seen in the age group 20-29 years as shown on Table 1. Eighty two (68.3%) of the respondents were single and 38 (31.7%) were married. Doctors, nurses, pharmacists and medical laboratory scientists were each made up of 30(25%) respondents as shown on Table 2.

All the respondents had tertiary education as their highest level of education. One hundred and seventeen (97.5%) of the respondents had knowledge of PCa, while 3 (2.5%) did not. Forty-eight (40.0%) of the respondents had knowledge of the possible risk factors for PCa, 11 (9.2%) had no knowledge of risk factors, while 61 (50.8%) did not respond. The most common source of information on PCa among the respondents was school (75.8%) as shown on Table 3.

Thirteen (10.8%) of the respondents had a family history of PCa, of which 11 (9.2%) were in fathers (1st degree relatives), and 2 (1.7%) in uncles (2nd degree relatives). One hundred and five (87.5%) of the respondents had knowledge of PCa screening. Digital rectal examination and PSA were reported as screening procedures by 52(43.3%) and 104 (86.7%) of the respondents, respectively. Sixty-six (55.0%) of the respondents would recommend PSA assay from age 40 years and 54 (45.0%) would recommend yearly PSA screening. Sixty-nine (57.5%) of the respondents would want to see a urologist following a raised PSA level. The ages of 22 respondents were above the recommended age cut-off (≥ 40 years) for PSA screening, of which 12(54.5%) of them had had screening using a PSA test which was elevated in 4 (33.3%) and normal in 8 (66.7%). All the 4 respondents with elevated serum PSA were managed by a urologist.

Table 1. Age distribution of the respondents

Age Group (Years)	Frequency	Percentage (%)
<20	3	2.5
20 – 29	59	49.2
30 – 39	36	30.0
40 – 49	21	17.5
50 – 59	1	0.8
≥ 60	0	0

Table 2. Occupation of the respondents

Occupation	Frequency	Percentage (%)
Medical Doctors	30	25
Nurses	30	25
Pharmacists	30	25
Medical Laboratory Scientists	30	25

Table 3. Sources of information on prostate cancer

Source	Frequency	Percentage (%)
Taught In School	91	75.8
Medical Books	84	70.0
Media	64	53.3
Public Lecture	60	50.0
Hospital	84	70.0
Tradomedical Vendors	32	26.7
Conferences/Seminars	83	69.2
Friends	51	42.5
Family/Relatives	37	30.8

DISCUSSION

The most viable option to reduce the morbidity and mortality associated with PCa is routine screening in eligible individuals. This has become necessary, as the known preventive measures are not reliable and

“cure” for a metastatic disease is non-existent. Not many studies have been done as regards knowledge and practice of screening for PCa among healthcare workers, especially in our environment. Healthcare workers are expected to be more knowledgeable about PCa and its screening than other members of the public.

The age group 20-29 years had the highest number of respondents from the index study which is at variance with 40-49 years that was documented by Akbarizadeh *et al*[13] in Iran and by Bourne[10] in Jamaica. This observed difference could have arisen from the fact that these studies made use of age cut-off of 40 years. Majority (70.8%) of the respondents in this study were males which is in contrast with the 48.1% reported by Eze *et al*[14] in Nigeria. This could have resulted from the convenience sampling method used in the index study as against the gender-proportionate stratified sampling technique used by Eze *et al*. [14]

Less than one-third of the respondents in our study were married with majority [68.3%] being single. This contrasts with the observations from other studies.[9,13,14] Again, the age limit of 40 years and above adopted by these studies could have contributed to this, as the chance of being married increases with age. Education, no doubt, is very necessary in public health awareness campaigns. The respondents in the index study were all educated with their highest level of education being tertiary education similar to the observation by Akbarizadeh *et al*[13] in cross-sectional analysis of medical staff in Iran.

Healthcare workers are usually perceived by the general public as embodiments of health information. This was evident in the study by Livingston *et al*[15] which documented a marked difference in the level of knowledge of PCa between male doctors and their community counterparts in Australia. There was a high level (97.5%) of knowledge of PCa among the respondents in the index study. This may be attributed to the high level of education and greater access to health information among these individuals. Similar high levels of knowledge among health workers were observed from the studies by Bourne[10], in an analysis of rural male health workers in Jamaica, and Ezenwa *et al*[16] in an analysis of a discrete group of

Nigerian male doctors. Less than half (40%) of the respondents in the index study knew about the possible risk factors for PCa, although majority (50.8%) of the respondents gave no response in the domain that assessed for the knowledge of the risk factors. This contrasts with what was inferred from the study by Firzara et al[17] in Malaysia where majority (97.4%) of the respondents who were general practitioners knew about the risk factors. The fact that only general practitioners participated in the study by Firzara et al[17] could also have led to this difference. History of PCa in a family member confers an increased risk of having the disease on an individual. This risk is higher when the involved family member is a first degree relative of the individual. Thirteen (10.8%) of the respondents in our study admitted to having a family history of PCa. Akbarizadeh et al[13] in Iran documented 17.5% of their respondents as having a family history of PCa. There were different sources of information on PCa reported by the respondents in this study with the most common being school, which differs from media which was reported as the most common source by Bourne[10] in Jamaica. In an earlier study by Oranusi et al[18] involving public servants in the same region as the index study, books were among the most commonly reported sources of information on PCa. Hospital sources of information included fellow healthcare workers. More than half of the respondents in our study reported hospital as one of the sources through which they got informed on PCa which very much differs from the 3% documented by Bourne.[10] Perhaps these observed differences in the sources of information on PCa are reflective of the levels of public enlightenment and education on this disease in the different climes.

Among our respondents, there was a high level of knowledge of PCa screening with 86.7% of the respondents demonstrating knowledge of PSA as a screening tool similar to the findings by other studies.[9,16,17] Despite this high level of knowledge of PSA as a screening tool, only about half (45.0%) of these respondents knew about the recommended age cut-off and interval for screening. Despite the high level of knowledge of PCa and its screening observed in the index study, only 54.5% of

the participants with their ages above the recommended age cut-off (≥ 40 years) had had a PSA screening. Far lower levels of indulgence in PSA screening was observed in the studies by Bourne[10] and Ezenwa et al[16] where only 17.8% and 27.1%, respectively, had had a PSA screening. Knowledge alone has been shown not to be a predictor of participation in PCa screening.[13,18,19] In the index study, all the respondents with elevated PSA were managed by a urologist although a little above half the total number of respondents (57.5%) would seek urological attention following an elevated PSA level. This reflects the health-seeking behaviours among the health workers and underscores the need for a pre-screening counselling.

A limitation of this study is the, relatively, small sample size which might not be a true representative of the general population of health workers. The strength of the study lies in the fact that the different healthcare departments that were involved in this study each had the same number of participants.

CONCLUSION

The level of participation in prostate cancer screening by the respondents in the index study is quite lower than one would expect from a cohort of health professionals who have good knowledge of the disease and are also role models of health to other members of the public. There is need to fill the gap in screening practice among these healthcare providers. This might require active educational programmes as well as regular update courses specifically directed at healthcare workers with an aim to improve their level of interest and participation. Motivational health policies like free prostate cancer screening programmes, if instituted by the government, will increase involvement in screening practices by these professionals and the public at large. Further multi-centre studies are necessary as these will be more representative of the picture.

Acknowledgement

We sincerely appreciate the assistance of these medical students in this research: Emmanuel Odiba, Osmond Anokwulu, Paul-Alex Ifeagwazi, and

Agozie Nworah. We also appreciate all the healthcare workers who participated in this research.

Author Contributions

Conceptualization and Design of Study: Obiesie EA, Nwadi UV, Mbaeri TU, Ugwu JO, Odo C, Aronu ME, Ugezu AI, Nzeako HC, Emegoakor CD
Implementaion of the Project: Obiesie EA, Nwadi UV, Ugwu JO, Odo C. Writing and Revision of Manuscript: Obiesie EA, Nwadi UV, Mbaeri TU, Ugwu JO, Odo C, Aronu ME, Ugezu AI, Nzeako HC, Emegoakor CD. The authors read, approved the final manuscript and agree to be accountable for all aspects of the work.

Data Availability

The data used to support the findings of this study are available

Funding

No funding sources

Conflict of Interest

The authors declare no conflict of interest

Ethical Approval

This study was approved by the Ethics and Research committees of the different institutions involved.

REFERENCES

1. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, 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):209-249.
2. CANCER FACT SHEETS: PROSTATE CANCER. [cited 2022 Jan 31]; Available from: <http://gco.iarc.fr/today>
3. Ogunbiyi JO, Shittu OB. Increased incidence of prostate cancer in Nigerians. *J Natl Med Assoc.* 1999; 91(3):159 - 164.
4. Mohammed AZ, Edino ST, Ochicha O, Gwarzo AK, Samaila AA. Cancer in Nigeria: a 10-year analysis of the Kano cancer registry. *Niger J Med.* 2008; 17(3):280-284.
5. Ikuerowo SO, Omisanjo OA, Bioku MJ, Ajala MO, Mordi VP, Esho JO. Prevalence and characteristics of prostate cancer among participants of a community-based screening in Nigeria using serum prostate specific antigen and digital rectal examination. *Pan Afr Med J.* 2013; 15:129.
6. The Global Cancer Observatory 2021: Nigeria. [cited 2022 Jan 31]; Available from: <https://gco.iarc.fr/today/data/factsheets/populations/566-nigeria-fact-sheets.pdf>
7. Smith RA, Manassaram-Baptiste D, Brooks D, Cokkinides V, Doroshenk M, Saslow D, et al. Cancer screening in the United States, 2014: A review of current American Cancer Society guidelines and current issues in cancer screening. *CA Cancer J Clin.* 2014; 64(1):30-51.
8. Pérez-Ardavin J, Sánchez-González J V, Sáez-Moreno I, Bernal Gómez A, Gómez-Palomo F, Colet Guitert JO, et al. Comparison of three guidelines for screening, diagnosis and staging of prostate cancer in the USA and Europe. [cited 2022 Feb 27]; Available from: <http://medcraveonline.com>
9. McNaughton D, Aiken W, McGrowder D. Factors affecting prostate cancer screening behaviour in a discrete population of doctors at the university hospital of the West Indies, Jamaica. *Asian Pacific J Cancer Prev.* 2011; 12:1201-1205.
10. Bourne PA. Rural male health workers in Western Jamaica: Knowledge, attitudes and practices toward prostate cancer screening. *N Am J Med Sci.* 2010; 2(1):11-17.
11. Heena H, Durrani S, Riaz M, Alfayyad I, Tabasim R, Parvez G, et al. Knowledge, attitudes, and practices related to breast cancer screening among female health care professionals: A cross sectional study. *BMC Womens Health.* 2019; 19(1):1-11.
12. Mohamed ML, Tawfik AM, Mohammed GF, Elotla SF. Knowledge, Attitude, and Practice of Cervical Cancer Screening, and HPV Vaccination: A Cross-Sectional Study Among Obstetricians and Gynecologists in Egypt. *Matern Child Heal J* 2021. 2022;1-10.

- 13 Akbarizadeh J, Gheibizadeh M, Fereidoonimoghadam M, Jahani S, Malehi AS. A Survey of Knowledge About and Perceived Barriers to Prostate Cancer Screening Among Medical Staff. *Jundishapur J Chronic Dis Care*. 2016; 5(3):e31744.
14. Eze GU, Obiebi IP. Perspectives and practices of cancer screening among workers at a tertiary health facility in Nigeria: indications for adaptation and integration of best practices. *Ghana Med J*. 2019; 53(3):226-236.
15. Livingston P, Cohen P, Frydenberg M, Borland R, Reading D, Clarke V, *et al.* Knowledge, attitudes and experience associated with testing for prostate cancer: a comparison between male doctors and men in the community. *Intern Med J*. 2002; 32(56):215-223.
16. Ezenwa E V., Adam VY. Attitude of a Discrete Group of Nigerian Male Doctors Towards Prostate Cancer Screening. *Sudan J Med Sci*. 2018; 13(2):114-124.
17. Firzara AMT, Ng CJ. Knowledge and practice of prostate cancer screening among general practitioners in Malaysia: a cross-sectional study. *BMJ Open*. 2016; 6(9):e011467.
18. Oranusi CK, Mbaeri UT, Oranusi IO, Nwofor AME. Prostate cancer awareness and screening among male public servants in Anambra State, Nigeria. *African J Urol*. 2012; 18(2):72-74.
19. Pendleton J, Curry RW, Kaserian A, Chang M, Anai S, Nakamura K, *et al.* Knowledge and Attitudes of Primary Care Physicians Regarding Prostate Cancer Screening. *J Natl Med Assoc*. 2008; 100(6):666-673.