UKR Journal of Medicine and Medical Research (UKRJMMR)
Homepage: https://ukrpublisher.com/ukrjmmr/
Email: submit.ukrpublisher@gmail.com
Volume 1, Issue 3, Sept-Oct 2025 **ISSN: 3107-5061 (Online)**

Perception of Prostate Cancer and Uptake of Screening of Prostate Cancer Among Men in Abuloma, Port Harcourt L.G.A. Of Rivers State

Iyeneomie Soberekon David-Iga[1*], Peter Nwakile[2]

[1,2] Department of Community Medicine, Faculty of Clinical Sciences, Niger Delta Universit, Wilberforce Island, Amassoma, Bayelsa State, Nigeria

***Corresponding Author**: Iyeneomie Soberekon David-Iga
DOI: *https://doi.org/10.5281/zenodo.17618062*

Article History
Original Research Article
Received: 03-11-2025
Accepted: 11-11-2025
Published: 15-11-2025

Citation: Iyeneomie Soberekon David-Iga, Peter Nwakile. (2025). Perception of Prostate Cancer and Uptake of Screening of Prostate Cancer Among Men in Abuloma, Port Harcourt L.G.A. Of Rivers State. UKR Journal of Medicine and Medical Research (UKRJMMR), Volume 1(3), 09-16.

Abstract

This study assessed perception of prostate cancer and uptake of screening of prostate cancer among men in Abuloma, Port Harcourt L.G.A. of Rivers State, Nigeria. The primary objectives were to evaluate the level of knowledge about prostate cancer, determine screening uptake prevalence, and investigate perceptions and attitudes toward screening. The study also explored the relationship between knowledge and screening uptake, identified barriers and facilitators to screening, and examined the influence of demographic factors. A cross-sectional research design was employed, with a sample size of 382 adult males aged 40 and above involved in lower cadre jobs. Data were collected via questionnaires and analyzed using descriptive statistics and chi-square tests, with logistic regression applied for multivariate analysis at a 0.05 alpha level. The findings revealed poor perception towards prostate cancer. Screening uptake was extremely low, with only 0.56% of men having undergone prostate cancer screening. Results showed that 121 (31.7%) respondents strongly agreed, and 187 (48.9%) agreed that a lack of awareness is a barrier to screening, while 19 (5.0%) disagreed, and 13 (3.4%) strongly disagreed. The study concluded that, there is a significant gap in the uptake of prostate cancer screening among men in Abuloma. It was recommended among others that, enhancement of access to screening services by establishing more screening centers, especially in underserved areas. Efforts should be made to reduce the cost of screening and provide free screening programs to alleviate financial barriers.

Keywords: *Abuloma, Cancer, Screening, Perception, Prostate.*

Introduction

Prostate cancer is a significant public health concern worldwide, with a rising global incidence and substantial morbidity and mortality rates. Prostate cancer has emerged to be the most common cancer among African-American men in the past few years. Prostate cancer screening is an essential strategy to prevent prostate cancer among men. Prostate cancer is one of the most common types of cancer affecting men worldwide. The development of prostate cancer typically involves the abnormal growth of cells within the prostate, which can eventually form tumors. If left untreated, these cancerous cells may metastasize to other parts of the body, such as the bones and lymph nodes, leading to more severe health complications (Siegel et al., 2020).

Prostate cancer screening is an effective tool to reduce the high mortality from the disease because, it enhances early detection which makes it easier to treat the disease successfully. Screening is very important, noting that in some cases, prostate cancers grow slowly and may initially cause no symptoms, making many victims to be presented at a late stage of the disease which makes survival difficult. The World Health Organization (2015) reported that, world-wide prostate cancer is ranked the fourth most common cancer and the second most common cancer among men. It is estimated that one-third of the cases of prostate cancer can be prevented and another third can be cured if detected early through screening (Barrett & Haider, 2019). There is also evidence that the recent decline in cancer mortality in several countries was as a result of

screeningand early detection, the recommended screening tests for prostate cancer are the measurement of serum prostate-specific antigen (PSA) (Moyer, 2012). Other screening tests such as digital rectal examination and ultrasonography are also essential in the diagnosis of prostate cancer. Furthermore, prostate-Specific Antigen (PSA) testing for prostate cancer has been reported to avert one prostate cancer death per 27 additional cases detected during 13 years (Mamawala et al., 2017). Several characteristics of these methods such aseasy to use, low price and availability, and extraordinary results in reducing the incidence of cancerand reducing the severity of cancer during the diagnosis phase show the importance of these examinations (Shafi et al., 2013).

In the context of Abuloma, as in many regions, cultural beliefs and socioeconomic factors significantly influence health-seeking behaviours and awareness levels, as demonstrated by Ezenwa et al. (2016). Understanding these factors is essential for the development of tailored interventions that can effectively address the unique needs and challenges of the Abuloma community. By assessing knowledge and awareness, this study has the potential to inform the creation of targeted educational campaigns and community-specific interventions, aligning with research by Odedina et al. (2008). These interventions are more likely to be successful in improving awareness levels and health outcomes in Abuloma.

Finally, while this study is community-specific, it holds broader implications for global health research. Prostate cancer awareness is a global concern, and the insights gained from this research can contribute to the broader body of knowledge on the topic, with potential benefits for communities facing similar challenges worldwide. In conclusion, the rationale for this study is deeply rooted in the urgent public health issue of prostate cancer in Nigeria, particularly within the Abuloma community. Through a comprehensive assessment of awareness levels, cultural dynamics, and socioeconomic factors, this study seeks to address the existing knowledge gaps and contribute to targeted interventions, improved health outcomes, and the advancement of global understanding in the realm of cancer awareness and prevention.

Statement of the Problem

Globally, cancer is a leading cause of death worldwide. According to the World Health Organization (World Health Organization, 2022), cancer is a leading cause of death worldwide, accounting for nearly 10 million deaths in 2020, or nearly one in six deaths. The American Cancer Society (2023) report showed that, prostate cancer is the second leading cause of cancer death among Black men, with approximately 4,450 deaths estimated to occur. Conversely, in low- and middle-income countries, such as those in Africa, Latin America, and parts of Asia, the incidence of prostate cancer is generally lower, but the mortality rates are higher. About 1 man in 6 will be diagnosed with prostate cancer during his lifetime (Kantoff et al., 2018). However, prostate cancer patients suffer several consequences such as erectile dysfunction, excruciating pain due to trouble urinating, blood in semen, discomfort in the pelvic area, and bone pain (Kaushik, 2016). This makes prostate cancer screening of utmost importance to avert its consequences.

Despite the awareness campaigns by healthcare professionals in several areas, men still present with prostate cancer at the late stage. Though, observation shows that some men complain prostate related problems but have never thought it wise to go for screening or visit the healthcare facility for diagnosis but, rather resort to native medications to help themselves. This not only worsen the situation but increases their risk of other health danger due to the substances they take. Thus, the need to investigate their perception towards prostate cancer and its screening. The following research questions were raised to be answered at the end of the study:

1. What is the prevalence of prostate cancer screening uptake among men in Abuloma?
2. What are the perceptions and attitudes towards prostate cancer screening among men in Abuloma?
3. What are the barriers and facilitators influencing the decision to undergo prostate cancer screening in Abuloma?

Hypothesis: There is no significant association between demographic factors and more proactive health-uptake of prostate cancer screening among men in the Abuloma communities.

Methodology

The study employed a cross-sectional survey design with a target population consisting of 718 adult males involved in lower cadre jobs, residing in Abuloma, Port Harcourt City LGA of Rivers State. This age group was selected because the risk of prostate cancer increases significantly after the age of 40 (Ntekim, Folasire, & Odukoya, 2023). A sample size of 397 was determined using single population proportion formula – $n = Z^2pq/d^2$. A Multi-stage sampling technique was used in this study to recruit adults aged 40 years old and above whose occupation lies within the lower cadre (Boat Drivers, Keke Drivers, Taxi/ Bus Drivers, Carpenter/ Furniture Makers and Welders etc.) living in Abuloma, Port Harcourt City LGA of Rivers State. In the first stage, the simple random sampling technique was used to select Igiatulo community out of 12 communities that made up Abuloma Town. Each motor park, tricycle loading point, jetty and waterside area in the community was

regarded as a cluster. In the second stage, the simple random sampling was also used to select 5 lower cadre occupations (Boat Drivers, Keke Drivers, Taxi/Bus Drivers, Carpenters/Furniture Makers, and Welders) from the selected community. Individuals who consented were then given the questionnaire and interviewed.

The inclusion criteria for the study were: male adults aged 40 years and above; individuals employed and involved in lower cadre jobs, including Boat Drivers, Keke Drivers, Taxi/Bus Drivers, Carpenters/Furniture Makers, and Welders; participant must reside in Abuloma, Port Harcourt City LGA of Rivers State for at least one year prior to the study; and adult males who met all criteria that are willing to provide informed consent to participate in the study and complete the questionnaire. The instrument for data collection was a questionnaire titled: Prostate Cancer Knowledge and Screening Uptake Questionnaire (PCKSUQ)". Data collected were counted and analyzed using descriptive statistics of mean, frequency and percentage, while the hypotheses were tested using bivariate anlysis Chi-square and multivariate using poison regression model at 0.05 alpha level.

Ethical Consideration: The ethical consideration for this research was obtained from the ethics committee of the Niger Delta University (NDU). A verbal consent was also obtained from the study participants prior to data collection by explaining the purpose and objectives of the study. The privacy and confidentiality of the information taken was also maintained.

Results

The results of the study are shown below:

Table 4.1: Knowledge of prostate cancer and prostate screening

SN	Statement	SA	A	N	D	SD	Mean	Decision
1	I have undergone prostate cancer screening in the past.	2 (0.52%)	3 (0.79%)	18 (4.71%)	181 (47.38%)	178 (46.60%)	1.61	Poor Uptake
2	I regularly participate in prostate cancer screening.	1 (0.26%)	4 (1.05%)	32 (8.38%)	177 (46.32%)	168 (44.99%)	1.71	Poor Routine Check-up
3	I believe prostate cancer screening is important for early detection.	40 (10.48%)	81 (21.18%)	45 (11.79%)	92 (24.05%)	122 (31.50%)	2.53	Moderate Positive Belief
4	I intend to undergo prostate cancer screening in the future.	21 (5.50%)	32 (8.38%)	81 (21.18%)	108 (28.26%)	140 (36.68%)	2.50	Moderate Intension for Uptake
5	I have been recommended by a healthcare provider to undergo screening.	0 (0.00%)	2 (0.52%)	93 (24.34%)	141 (36.91%)	146 (38.23%)	2.28	Low Recommendations

The Table 1 presented respondents responses on uptake of prostate cancer screening. Item 1 revealed that 2 (0.52%) respondents strongly agreed, and 3 (0.79%) agreed that they had undergone prostate cancer screening in the past, while 181 (47.38%) disagreed, and 178 (46.60%) strongly disagreed. The mean score of 1.61 indicated poor uptake of screening.

For Item 2, only 1 (0.26%) respondent strongly agreed, and 4 (1.05%) agreed to regularly participate in prostate cancer screening, while 177 (46.32%) disagreed, and 168 (44.99%) strongly disagreed. The mean score of 1.71 indicated poor routine check-up of respondents.

Item 3 showed that 40 (10.48%) respondents strongly agreed, and 81 (21.18%) agreed that prostate cancer

screening is important for early detection, while 92 (24.05%) disagreed, and 122 (31.50%) strongly disagreed. The mean score of 2.53 indicated a moderate positive belief on the importance of prostate cancer screening.

For Item 4, 21 (5.50%) respondents strongly agreed, and 32 (8.38%) agreed that they intended to undergo prostate cancer screening in the future, while 108 (28.26%) disagreed, and 140 (36.68%) strongly disagreed. The mean score of 2.50 indicated a moderate intention for prostate cancer screening uptake among respondents.

Item 5 results showed that no respondents strongly agreed, and 2 (0.52%) agreed that they had been recommended by a healthcare provider to undergo screening, while 141 (36.91%) disagreed, and 146 (38.23%) strongly disagreed. The mean score of 2.28 indicated low recommendation by healthcare providers for prostate cancer screening uptake to respondents.

Table 2: Perceptions and Attitudes towards Screening

S/No	Statement	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean	Decision
11	Prostate cancer screening is necessary for all men above a certain age.	100 (26.2%)	118 (30.9%)	21 (5.5%)	58 (15.2%)	85 (22.3%)	3.09	Positive perception
12	I feel anxious about the idea of undergoing prostate cancer screening.	75 (19.6%)	98 (25.7%)	81 (21.2%)	81 (21.2%)	47 (12.3%)	3.20	Negative Perception
13	Prostate cancer screening is an effective way to detect cancer early.	61 (16.0%)	119 (31.2%)	88 (23.0%)	81 (21.2%)	33 (8.6%)	3.10	Positive perception
14	I believe that the benefits of prostate cancer screening outweigh the risks.	71 (18.6%)	81 (21.2%)	62 (16.2%)	77 (20.2%)	91 (23.8%)	3.00	Positive perception
15	I would encourage other men to undergo prostate cancer screening.	70 (18.3%)	100 (26.2%)	101 (26.4%)	71 (18.6%)	40 (10.5%)	3.09	Positive perception

The Table 2 showed respondents perception towards prostate cancer screening uptake. Results revealed that 100 (26.2%) respondents strongly agreed and 118 (30.9%) respondents agreed that prostate cancer screening is necessary for all men above a certain age, while 58 (15.2%) disagreed, and 85 (22.3%) strongly disagreed. The mean score of 3.09 indicated a positive perception towards prostate cancer screening.

For Item 12, 75 (19.6%) respondents strongly agreed, and 98 (25.7%) agreed that they feel anxious about undergoing prostate cancer screening, while 81 (21.2%) disagreed, and 47 (12.3%) strongly disagreed. The mean score of 3.20 indicated a negative perception.

Item 13 showed that 61 (16.0%) respondents strongly agreed, and 119 (31.2%) agreed that prostate cancer screening is an effective way to detect cancer early, while

81 (21.2%) disagreed, and 33 (8.6%) strongly disagreed. The mean score of 3.10 indicated a positive perception.

For Item 14, 71 (18.6%) respondents strongly agreed, and 81 (21.2%) agreed that the benefits of prostate cancer screening outweigh the risks, while 77 (20.2%) disagreed, and 91 (23.8%) strongly disagreed. The mean score of 3.00 indicated a positive perception.

Item 15 results showed that 70 (18.3%) respondents strongly agreed, and 100 (26.2%) agreed that they would encourage other men to undergo prostate cancer screening, while 71 (18.6%) disagreed, and 40 (10.5%) strongly disagreed. The mean score of 3.09 indicated a positive perception.

Table 3 Barriers Prostate Cancer Screening

S/No	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Decision
16	Lack of awareness	121 (31.7%)	187 (48.9%)	42 (11.0%)	19 (5.0%)	13 (3.4%)	3.02	Agreed
17	Cost of screening	103 (27.0%)	151 (39.6%)	89 (23.3%)	27 (7.1%)	12 (3.1%)	3.03	Agreed
18	Lack of time	21 (5.5%)	87 (22.8%)	211 (55.2%)	48 (12.6%)	15 (3.9%)	2.57	Neutral
19	Fear of results	24 (6.3%)	81 (21.2%)	107 (28.0%)	97 (25.4%)	73 (19.1%)	2.71	Neutral
20	Inconvenient location of screening centre.	28 (7.3%)	56 (14.6%)	97 (25.4%)	118 (30.9%)	83 (21.7%)	2.43	Disagreed

Table 3 presented respondents responses regarding barriers to prostate cancer screening uptake. Results showed that 121 (31.7%) respondents strongly agreed, and 187 (48.9%) agreed that a lack of awareness is a barrier to screening, while 19 (5.0%) disagreed, and 13 (3.4%) strongly disagreed. The mean score of 3.02 indicated agreement.

For Item 17, 103 (27.0%) respondents strongly agreed, and 151 (39.6%) agreed that the cost of screening is a barrier, while 27 (7.1%) disagreed, and 12 (3.1%) strongly disagreed. The mean score of 3.03 indicated agreement.

Item 18 showed that 21 (5.5%) respondents strongly agreed, and 87 (22.8%) agreed that a lack of time is a barrier, while 48 (12.6%) disagreed, and 15 (3.9%) strongly disagreed. The mean score of 2.57 indicated neutrality.

For Item 19, 24 (6.3%) respondents strongly agreed, and 81 (21.2%) agreed that fear of results is a barrier, while 97 (25.4%) disagreed, and 73 (19.1%) strongly disagreed. The mean score of 2.71 indicated neutrality.

Item 20 results showed that 28 (7.3%) respondents strongly agreed, and 56 (14.6%) agreed that the inconvenient location of screening centres is a barrier, while 118 (30.9%) disagreed, and 83 (21.7%) strongly disagreed. The mean score of 2.43 indicated disagreement.

Table 4: Cross tabulation of perceptions, attitudes and uptake

	Value	df	p-value	Odds Ratio (OR)	95% Confidence Interval (CI)
Pearson Chi-Square	3.204	1	0.073	1.022	1.003 – 1.041
Likelihood Ratio	4.943	1	0.026		
Linear-by-Linear Association	3.196	1	0.074		
N of Valid Cases	382				

A chi-square test of independence was performed to examine the association between perceptions, attitudes, and prostate cancer screening uptake among men in lower cadre jobs in Abuloma communities. The results are presented as shown in Table 4.8. The Pearson Chi-Square test yielded a value of $\chi^2(1, N = 382) = 3.204$, $p = 0.073$, which is not statistically significant at the conventional 0.05 level of significance. This suggested no strong association between

perceptions, attitudes, and prostate cancer screening uptake among the study participants. The odds ratio (OR) was calculated as 1.022, with a 95% confidence interval ranging from 1.003 to 1.041, indicating a slight but non-significant increase in the likelihood of screening uptake based on perceptions and attitudes. The likelihood ratio test provided a significant result, $\chi^2(1, N = 382) = 4.943$, $p = 0.026$, but the linear-by-linear association was not significant, $\chi^2(1, N = 382) = 3.196$, $p = 0.074$. Thus, while the odds ratio suggested a small increase in prostate cancer screening uptake based on perceptions and attitudes, the lack of a significant chi-square value indicated a weak association.

Discussion

The data demonstrated an extremely low uptake of prostate cancer screening, with only 5 respondents (0.52%) having undergone screening. Among these, only 2 (0.26%) participated annually, and none reported screening at longer intervals. These figures showed a stark contrast to the uptake levels in high-income countries, where screening rates are much higher due to better healthcare systems, stronger public health campaigns, and more accessible healthcare services. This low uptake is consistent with research indicating that inadequate screening rates often stem from a lack of awareness and access barriers (American Cancer Society, 2020). The majority of respondents (98.7%) had either never undergone screening or considered it irrelevant, reflecting a significant gap in screening practices and the need for enhanced outreach and education.

The findings showed positive perceptions and attitudes towards prostate cancer screening. While 57.1% of respondents believed screening was important, 31.6% were unsure, and 11.3% did not see the need for it. The main barrier to screening was a lack of information, cited by 63.6% of respondents, with financial constraints and inconvenient locations also being factors. Despite these barriers, a significant majority (83.2%) were willing to participate in a free screening program, suggesting that removing cost barriers could increase participation. In testing whether perceptions and attitudes toward prostate cancer influenced screening uptake, the Pearson Chi-Square test ($\chi^2 = 3.204$, $p = 0.073$) showed no statistically significant association at the conventional 0.05 level. The odds ratio (OR = 1.022) and its 95% CI (1.003–1.041) suggested a minor increase in screening uptake, but this was not substantial. The likelihood ratio test did yield a significant result ($\chi^2 = 4.943$, $p = 0.026$), but the lack of a significant linear-by-linear association indicated weak overall support for the role of perceptions and attitudes. This is in line with the study of Enemugwem et al. (2019) who found that only slightly more than half of their respondents expressed an intention to undergo prostate cancer screening. This figure is in the same range compared to other studies conducted in Nigeria by Ajape et al. (2010), Morlando et al. (2017), and Oladimeji et al. (2010), who also reported higher screening intentions among respondents. The lower intention observed in Enemugwem et al.'s (2019) study was primarily attributed to a lack of awareness about the availability of screening tests, highlighting the need for increased public education and accessibility to screening facilities.

While there may be a slight increase in the intentions for prostate cancer screening uptake based on perceptions and attitudes, the data does not provide strong evidence that these factors are the primary drivers of behavior in this community. This finding contrasts with some studies where attitudes toward health services, fear of diagnosis, and stigma are significant barriers to screening behavior. It suggested that in Abuloma, other factors, such as knowledge, economic barriers, or healthcare access, might play a more substantial role than perceptions or attitudes. However, these weak associations point to the need for nuanced public health interventions. For example, even if perceptions and attitudes do not strongly predict screening uptake in the current study, efforts to address fears, myths, and misconceptions about prostate cancer and its treatment remain important. Public health campaigns could involve trusted community figures or healthcare providers to convey messages that reduce fear and promote a positive attitude towards early screening.

The findings from the study in Abuloma reveal that a significant barrier to prostate cancer screening is a lack of information, cited by 66.5% of respondents, with financial constraints and inconvenient locations also playing roles. Similarly, the study by Mwebembezi et al. (2023) in Kazo Town Council, Uganda, identified a lack of information, access to screening centers, and distance to health facilities as major barriers to screening. Both studies highlight that increasing information, reducing costs, and improving access could facilitate better screening practices. In Abuloma, despite the barriers, 83.2% of respondents expressed willingness to participate in free screening programs, aligning with the potential for increased screening identified by Mwebembezi et al. (2023). These findings underscore the need for targeted interventions to address these barriers and enhance prostate cancer screening uptake across different contexts.

Conclusion

The study concludes that there is a significant gap in the uptake of prostate cancer screening among men in Abuloma. Improving public awareness and addressing barriers such as cost and accessibility are essential steps in enhancing prostate cancer screening rates and outcomes.

Recommendations

Based on the findings, the following recommendations are made:

1. Enhancement of access to screening services by establishing more screening centers, especially in underserved areas. Efforts should be made to reduce the cost of screening and provide free screening programs to alleviate financial barriers.
2. Development of workplace-based interventions to promote prostate cancer screening. Given that occupation was a significant predictor of screening behavior, integrating health education and screening programs within workplaces could improve uptake.
3. Engagement of community leaders and health workers to advocate for prostate cancer awareness and screening. Community-based initiatives can help address cultural and informational barriers to screening.

REFERENCES

1. Ajape, A. A., Babata, A., & Abiola, O. O. (2010). Knowledge of prostate cancer screening among native African urban population in Nigeria. *Nigerian Quarterly Journal of Hospital Medicine, 20*(2), 94-96.
2. American Cancer Society. (2013). *Treatment of Prostate Cancer. 155-160.*
3. Barrett, T. & Haider, M.A. (2017). The emerging role of MRI in prostate cancer active surveillance and ongoing challenges. American journal of Roentgenology, 208, 131-139.
4. Enemugwem, R.A., Eze, B.A., Ejike, U., Asuquo, E.O., & Tobin, A. (2019). Prostate cancer screening: assessment of knowledge and willingness to screen among men in Obio Akpor LGA, Rivers State, Nigeria. *African Journal of Urology, 25*, 1-4.
5. Ezenwa, C., Ugochukwu, A. & Fadeyi, M. (2023). Provision and utilization of safety equipment in Nigerian ports. *African Journal of Maritime Operations, 18*(2), 78–92.
6. Kantoff, P., Tapli, E. & Smith, J. (2018). Clinical presentation and diagnosis of prostate cancer. https://www.uptodate.com/contents/clinical-presentation-and-diagnosis.
7. Kaushik, D. (2016). Oncological outcomes following radical prostatectomy for patients with pT4 prostate cancer. *International Brazilian Journal of Urology, 42, 1091*.
8. Mamawala, M. M., Rao, K., Landis, P., Epstein, J. I., Trock, B. J., Tosoian, J. J., Pienta, K. J., & Carter, H. B. (2017). Risk prediction tool for grade re-classification in men with favourable- risk prostate cancer on active surveillance. *Bob Jones University International*, *120*(1), 25–31.
9. Morlando M, Pelullo CP, Di Giuseppe G (2017) Prostate cancer screening: Knowledge, attitudes and practices in a sample of men in Italy. A survey. *PLoS ONE 12(10): e0186332*.
10. 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(10), e0186332.
11. Moyer, V. A. (2012). Screening for prostate cancer: U.S. Preventive Services Task Force recommendation statement. *Annals of Internal Medicine, 157, 120-134*.
12. Mwebembezi, S., Alege, J. B., Nakaggwa, F., & Nanyonga, R. C. (2023). Factors influencing uptake of prostate cancer screening among men aged 40 years and above in Kazo Town Council, Kazo District, Uganda: A cross-sectional study. *Biomedical Research International, 2023*, 7770943. https://doi.org/10.1155/2023/7770943
13. Ntekim, A., Folasire, A., & Odukoya, O. A. (2023). The Prevalence of Prostate Cancer among Young Men below 55 Years of Age in Nigeria. *Cancer control: journal of the Moffitt Cancer Center, 30*, 10732748231175255. https://doi.org/10.1177/10732748231175255
14. Odedina, F.T., Dagne, G., Pressey, S., Odedina, O., Emanuel, F., Scrivens, J., Reams, R.R., Adams, A., & LaRose-Pierre, M. (2011). Prostate cancer health and cultural beliefs of black men: The Florida prostate cancer disparity project. *Proceedings of the First Biennial Conference on Science of Global Prostate Cancer Disparities in Black Men*, *6*(2), 1-7.
15. Oladimeji, O., Bidemi, Y. O., Olufisayo, J.-AY., & Sola, A. O. (2010). Prostate cancer awareness, knowledge, and screening practices among older men in Oyo State, Nigeria. International Quarterly of Community Health Education, 30(3), 271–286.
16. Shafi, H., Mooudi, E., Abolfazli, M., Zarghami,

A., Mohamadpoumr, M., Firoozjai, A. R., & Rahimi, M. (2013). Screening of prostate cancer in individuals older than 40 years of age with positive heredity. *Journal of Mazandaran University of Medical Sciences*, *22*(97), 159-164.

17. Siegel, R. L., Miller, K. D., & Jemal, A. (2020). Cancer statistics. *A Cancer Journal for Clinicians*, *70*(1), 7–30.

18. WHO (2015). Estimated cancer incidence, mortality, and prevalence worldwide in 2012, in: World Health Organization; International Agency for Cancer Research.

19. WHO (2022). Estimated cancer incidence, mortality, and prevalence worldwide in 2012, in: World Health Organization; International Agency for Cancer Research.