

KNOWLEDGE, ATTITUDES AND PERCEPTIONS OF PROSTATE CANCER AMONG MALE UNIVERSITY STUDENTS IN SOUTH AFRICA.

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Abstract

Background:

The aim of this study was to investigate the level of knowledge, attitudes, and practices regarding prostate cancer among male university students in South Africa. Prostate cancer is the most commonly diagnosed cancer among men worldwide, and early detection is key to successful treatment. However, knowledge gaps and misconceptions regarding prostate cancer can hinder early detection and treatment.

Methods: The study adopted a cross-sectional design and collected data using a structured questionnaire. The questionnaire covered the

Risk factors, symptoms, prevention, and screening of prostate cancer.

Results:

The results of the study revealed that while 92.3% of the participants had heard of prostate cancer, only 69.6% had acceptable knowledge of the symptoms of the disease, and 84.6% believed that prostate cancer could be prevented. This suggests that while there is a general awareness of prostate cancer among male university students in South Africa, there are significant knowledge gaps regarding the disease.

Additionally, family history, alcohol consumption, and smoking were identified as major risk factors for prostate cancer. However, there was a screening knowledge gap among the respondents, as only 32.3% were aware of prostate-specific antigen (PSA) testing, which is a common screening method for prostate cancer.

Conclusion:

In conclusion, this study highlights the need for increased education and awareness about prostate cancer among male university students in South Africa. The findings suggest that there are significant knowledge gaps regarding the disease, particularly regarding screening and family history. The study findings can be useful in developing targeted health interventions aimed at reducing the burden of prostate cancer among young men.

Recommendation:

The findings suggest that more attention should be given to educating young men on the symptoms, risk factors, and prevention of prostate cancer.

Keywords: Prostate cancer, University students, Knowledge, Attitude, Perceptions, South Africa,

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1. Background:

Prostate cancer is a significant public health issue, affecting millions of men worldwide, in fact, the cancer of the prostate is the most commonly occurring cancer in the world (Agalliu et al., 2022). In the United States alone, prostate cancer is the second leading cause of cancer death among men. Despite its prevalence, there is a lack of awareness and understanding of prostate cancer among many men. This lack of knowledge and awareness can lead to delays in diagnosis and treatment, which can have serious consequences for patient outcomes (Agalliu et al., 2022). In the year 2020, Prostate cancer accounted for 7.3% of cases of diagnoses in countries with established economies (Sung et al., 2021). Although the incidence of the disease is diversified, prostate cancer is found to be prevalent in Australia, New Zealand, the North American region, and Northern and Western Europe (Binka et al., 2019). Due to population growth and aging, the number of instances of prostate cancer is anticipated to rise to about 2,3 million by 2040, with 740 000 fatalities (Culp et al., 2020).

A moderate occurrence has been observed in the Caribbean, whereas South Africa leads Africa in prevalence numbers (Binka et al., 2019). Nevertheless, Asia has a comparatively low number compared to Eastern and South-Central Asia (Binka et al., 2019). The mortality rates have been seen in high numbers amongst patients of African descent, and intermediate in the other racial groups (Mofolo et al., 2015). According to current South African statistics, South Africa has one of the world's highest estimated mortality rates from prostate cancer (Mofolo et al., 2015).

A study found that while most students were aware of the existence of prostate cancer, their knowledge about the disease was limited. The study found that more interventions were required to educate young Black males on not only their prostate and prostate cancer but on their general health (Mincey et al., 2017). Another

study conducted at a university in Saudi Arabia found that male students had limited knowledge about prostate cancer symptoms, risk factors, and screening. The study also found that there were misconceptions about the disease, such as the belief that only older men are at risk of developing prostate cancer (Alothman et al., 2022). According to Maladze et al (2023), Inadequate knowledge and poor attitudes about prostate cancer negatively affect early screening practices among males. The limited knowledge and misconceptions about prostate cancer among university male students can have serious consequences.

Delayed diagnosis and treatment can lead to more advanced disease and poorer outcomes. Therefore, it is essential to improve knowledge and awareness of prostate cancer among this population. One approach to improving knowledge and awareness is through educational interventions. Rural community-based programmes and heightened awareness campaigns are needed to conscientize men about the risk factors, symptoms, diagnosis, and treatment of prostate cancer in rural areas of Limpopo (Maladze et al, 2023). The study also found that the intervention improved participants' attitudes towards screening. Other studies conducted in Africa on the knowledge, attitudes, and perceptions of prostate cancer among men in Nigeria found that men had limited knowledge about prostate cancer risk factors, and that ultimately affected their screening patterns (Onyeod et al., 2022). Another study among Afro-Caribbean men in Trinidad and Tobago also found that there were cultural and social barriers to seeking medical care for prostate cancer, with many men preferring to seek treatment from traditional healers rather than health-care providers (King-Okoye et al., 2019). The systematic review study found that many participants had negative attitudes towards prostate cancer screening, with concerns about the invasiveness of the screening procedure and fear of a cancer diagnosis (James et al., 2017). These studies highlight the need for increased awareness and education about prostate cancer in Africa. Efforts to improve knowledge and awareness could

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include public health campaigns, targeted educational interventions, and increasing access to healthcare services for prostate cancer screening and treatment. Evidence from a review Barriers to Prostate Cancer Screening by Men in Sub-Saharan Africa reported that lack of knowledge is a major barrier for prostate screening among men in many parts of sub-Saharan Africa (Baratedi et al., 2020).

Prostate cancer is a significant public health issue in Africa with limited knowledge of the disease, risk factors, and screening options among men. This leads to delays in diagnosis and treatment and poor outcomes. Cultural and social barriers can also prevent men from seeking medical care. Targeted educational interventions and improved healthcare access are essential to improve outcomes. Studies on knowledge, attitudes, and perceptions of prostate cancer among men in Africa can identify gaps in knowledge and inform the development of culturally appropriate interventions. This study aimed to gather empirical data on the subject among male university students at the University of Technology.

2. METHODOLOGY:

The study was conducted among male students in the Department of Biomedical Sciences at the University of Technology on the North Campus. Out of a total of 44 male students, 26 participated in the study by completing a well-structured online questionnaire consisting of four sections: family history, knowledge, attitudes, and perceptions toward prostate cancer. The study was conducted for a period of 6 months, from April to September 2021.

2.1. SELECTION OF PARTICIPANTS:

Participants were sampled from four different classes in the Department of biomedical science (first, second, third, and final year). It was strictly carried out with only male students who agreed to participate and were recruited by giving written consent. Participants were informed about the study's objectives, and their

written and informed consent was obtained, ensuring anonymity. The data collected were processed and analysed using Microsoft Excel, with the results presented in the form of frequencies and percentages based on the study objectives. The permission to conduct the study was sought and approved by the Mangosuthu University of Technology Institutional Research Ethics Committee (IREC) – Ethics approval reference number RD1/16/2021.

In order to get enough respondents, the survey questions were kept short and simple, the questionnaire was electronic and easy to access on any electronic device. A friendly reminder was also sent to class groups.

3. RESULTS AND DISCUSSION:

3.1. Demographic characteristics of participants.

Table 1. Presents the demographic characteristics of the respondents. From the table, the results revealed that out of a total of 26 male students who participated in the survey, the whole population of the students that participated in the current study were Black Africans.

3.2. Family history of prostate cancer

Table 2. Presents the family history of the respondents. From the 26 students who participated, 92.3% did not have any family member who was diagnosed with cancer and 7.7% had a family member who was diagnosed with cancer. One of the respondents indicated on the comment section that had lost a family member due to colon cancer.

4. KNOWLEDGE:

4.1. Knowledge of prostate cancer

Presents the amount of knowledge that the respondents had about prostate cancer. From the table, the results revealed that out of 26 people who participated, 24 (92.3%) have heard about prostate cancer and 2 (7.7%) have not heard about it. Out of the 24 students who have heard about prostate cancer, 70.8% read about it, 12.5%

Table 1: The demographic characteristics of the respondents.

Table 1 Variables	Frequency	Percentage
Race	26	100

Table 2: Family history of the respondents.

Table 2 Variables	Frequency	Percentage
Respondents with a family history of cancer	2	7.7%
Respondents who lost a family member due to cancer	1	3.8%
Respondents with a family no history of cancer	23	88.5%

heard about it on television (TV), 4.2% heard about it from a doctor 12.5% heard about it on the radio. 4.3% (1 participant) responded that prostate cancer affects both men and women. When it comes to risks, 100% of the respondents could identify the risk factors of prostate cancer. 92.3%; 23.1%; 61.5%; 7.7%; 23.1% and 34.6% identified the risk factors of prostate cancer as family history of the disease, alcohol consumption, age, exercise, diet, and smoking respectively.

According to a similar study by Nakandi (2013), acceptable knowledge about the symptoms of prostate cancer was only considered if the student knew 3 or more of the correct symptoms (Nakandi et al., 2013). Out of the 26 responses, only 16 (69.6%) had acceptable knowledge of the symptoms of prostate cancer. Only 3.8% identified cough as a symptom of prostate cancer.

The symptom that was identified the most was painful sexual intercourse (76.9%). Other symptoms that were Identified are excessive urination at night, blood in urine, loss of sex drive, and infertility, identified by 65.4%, 65.4%, 69.2%, and 61.5% respectively. Respondents also showed satisfactory knowledge of how prostate cancer can be prevented even though only 84.6% of respondents said it can be prevented and 15% said it cannot be prevented. 53.8%, 23.1%, 15.4%, and 7.7% re-

sponded that prostate cancer can be prevented by regular screening, genital hygiene, use of the right diet, and avoiding many sexual partners respectively. 26.9% responded that prostate cancer can be cured, 7.7% responded that it cannot be cured and 65.4% did not know whether it can be cured or not.

The given tables above present the results of a study on the demographic characteristics, family history, and knowledge of prostate cancer among 26 male African students. The study found that 92.3% of the respondents did not have a family history of cancer, and 7.7% had a family member who was diagnosed with cancer. This is consistent with the established risk factors for prostate cancer, which include a positive family history of the disease.

Additionally, Clement et al. (2022) report that finding high-grade prostate cancer is highly likely in men with a family history of prostate or breast cancer. The study also reported that 92.3% of the respondents had heard about prostate cancer, with most learning about it through reading or television. Such findings are similar to those reported where the main sources of information were the television for the awareness and knowledge about prostate cancer among males in Ghana (Asare and Ackumey, 2021). This is important since awareness of prostate cancer and its symp-

Table 3: Knowledge of prostate cancer

Variables	Frequency	Percentage
Respondents who have heard of prostate cancer	24	92,3%
Sources		
Read about it	17	70.8%
TV	3	12.5%
Radio	3	12.5%
Doctor	1	4.2%
Risk factors		
Family history of disease	24	92.3%
Drinking alcohol	6	23.1%
Age	16	16.5%
Exercise	2	7.7%
Diet	6	23.1%
Smoking	9	34.6%
Symptoms		
Excessive urination	17	65.4%
Headache	3	11.5%
Blood in urine	17	65.4%
High temperature	2	7.7%
Bone pain	6	23.1%
Painful sexual intercourse	20	76.9%
Loss of sex drive	18	69.2%
Infertility	16	61.5%
Cough	1	3.8%

Table 4: presents the amount of knowledge respondents had about prostate cancer prevention. Respondents showed satisfactory knowledge of how prostate cancer can be prevented even though only 84.6% of respondents said it can be prevented and 15% said it cannot be prevented. 53.8%, 23.1%, 15.4%, and 7.7% responded that prostate cancer can be prevented by regular screening, genital hygiene, use of the right diet, and avoiding many sexual partners respectively. 26.9% responded that prostate cancer can be cured, 7.7% responded that it cannot be cured and 65.4% did not know whether it can be cured or not.

Table 4

Ways in which prostate cancer can be prevented

Genital hygiene	6	23.1%
Regular screening	14	53.8%
Using a condom	-	-
Use of right diet	4	15.4%
Avoiding many sexual partners	2	7.7%

toms is associated with earlier detection and better outcomes (Van Poppel et al., 2021).

However, only 69.6% of the respondents had acceptable knowledge of the symptoms of prostate cancer. This is lower than the 88% acceptable knowledge level reported in a study in Ghana (Asare and Ackumey, 2021). Lack of knowledge of the symptoms of prostate cancer is a major barrier to early detection and treatment, especially in resource-limited settings where awareness-raising campaigns and screening programs are limited as reported by Baratedi et al. (2020).

Moreover, the study found that 84.6% of the respondents believed that prostate cancer could be prevented, with regular screening, genital hygiene, and diet being the most common prevention methods identified. This is consistent with the evidence that lifestyle modifications, including a healthy diet, regular physical activity, and avoiding smoking, can reduce the risk of prostate cancer (Bressi et al., 2022).

However, there is still a need for more education on the importance of screening and early detection to improve prostate cancer outcomes (Van Poppel et al., 2021). In sum, the study highlights the need for increased awareness and knowledge of prostate cancer, especially in resource-limited settings where access to screening and treatment may be limited. There is a need for more education and awareness-raising campaigns on the importance of early detection and screening for prostate cancer, especially among high-risk populations with a positive family history of the disease.

5. IMPLICATIONS OF THE STUDY:

Based on the findings of the study, the department of the university understudy may consider implementing education programs that focus on increasing knowledge and awareness of prostate cancer among its students. This could include providing information on the risk factors and symptoms of prostate cancer, as well as strategies for prevention and early detection. The study also identified a need for greater emphasis on the importance of regular prostate cancer screening, as

well as the need for increased access to screening services. Although this study was confined to one department, it may serve as a pilot for subsequent studies and programs. The university could work to facilitate access to screening services for its students, perhaps by partnering with local healthcare providers or offering on-campus screening events.

Furthermore, the study found that a small percentage of respondents had a family history of cancer, indicating that there may be a need for targeted support services for students with a family history of cancer. The university could consider offering counseling or other support services to help these students manage their concerns and risks. Finally, the study revealed a need for further research on the knowledge and attitudes toward prostate cancer among university students, particularly among students from different cultural and socioeconomic backgrounds. This could help to identify specific gaps in knowledge and awareness that need to be addressed and inform the development of more targeted educational interventions.

6. LIMITATIONS OF THE STUDY:

The study was conducted on a small sample size of 26 male students, which may not be representative of the larger population. A larger sample size would have provided more accurate results. The data collected in the study was based on self-reported responses, which may have introduced biases or inaccuracies in the results. Respondents may have provided socially desirable answers or may not have accurately recalled their knowledge or family history.

The study only focused on male students at one university and did not include female students or individuals from different demographic groups. This limits the generalizability of the findings. The study used a cross-sectional design, which means that data was only collected at one point in time. A longitudinal design, where data is collected over some time, would provide more insights into changes in knowledge and attitudes over time. The study only included Black African male students, which limits the diversity

of the sample. Including individuals from different racial and ethnic backgrounds would provide a more comprehensive understanding of knowledge and attitudes toward prostate cancer. Nevertheless, the study adds to the existing literature on knowledge and attitudes toward prostate cancer among university students, particularly in sub-Saharan Africa. The findings of the study may be useful in developing targeted interventions to improve knowledge and awareness of prostate cancer among university students.

7. SUGGESTIONS FOR FUTURE RESEARCH:

The study identified several areas for future research, including the need for longitudinal studies to track changes in knowledge and attitudes toward prostate cancer over time and the need for interventions to improve knowledge and awareness of prostate cancer among university students.

These suggestions may guide future research in this area. Furthermore, with comprehensive data collection, the studies may collect data using multiple methods, including surveys and focus group discussions. This allows for a more comprehensive understanding of the knowledge and attitudes toward prostate cancer among the study participants.

8. CONCLUSION:

In conclusion, this study reveals important insights into the level of knowledge, attitudes, and practices regarding prostate cancer among male university students in South Africa. Although the majority of participants had heard of prostate cancer, the study highlights a screening knowledge gap among male university students regarding this disease. This is concerning as early detection is critical for improving survival rates. The findings suggest that more attention should be given to educating young men on the symptoms, risk factors, and prevention of prostate cancer and that university health education programs should be tailored to meet the needs of this population.

9. RECOMMENDATION:

Furthermore, efforts should be made to increase awareness about prostate cancer among male university students, as this can contribute to improved health outcomes and a reduction in the burden of prostate cancer in South Africa. Overall, this study underscores the need for increased education and awareness about prostate cancer among young men, and provides a foundation for future research on this important public health issue.

10. LIST OF ABBREVIATIONS:

PSA : Prostate-specific Antigen
IREC : Institutional Research Ethics Committee

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13. CONFLICT OF INTEREST:

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Author biography

Nokukhanya Thembane background is a board-certified Medical Laboratory Scientist with expertise in Clinical Pathology (Microbiology, Haematology and Clinical Chemistry), has extensive experience in medical education and community engagement in the field of Medical Laboratory Science and Medical Technology. Her passion for education and educating the next generation of Medical Laboratory Scientists as well as researchers is her contribution to the advancement of the field. Her research and supervision of research projects are directed to the diagnostic medicine, pathogenesis, epidemiology, development of alternative treatment interventions, that can improve patient outcomes and advance our understanding of diseases.

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