



Men's knowledge about prostate câncer

Conhecimento de homens sobre o câncer de próstata

El conocimiento de los hombres sobre el cáncer de próstata

Fabiana Rezer 

Faculdade do Norte de Mato Grosso - Guarantã do Norte, Mato Grosso, Brazil.

Wladimir Rodrigues Faustino 

Faculdade do Norte de Mato Grosso - Guarantã do Norte, Mato Grosso, Brazil.

ABSTRACT

Objective: To evaluate the knowledge of men over 40 years old about prostate cancer. **Methods:** Descriptive, exploratory and quantitative study, carried out with 100 men living in a municipality in the North of Mato Grosso. Men over 40 years of age and who did not have training in the health field were included. Data collection took place between January and July 2023 and was carried out in nine Basic Health Units with the application of a questionnaire with sociodemographic questions and about prostate cancer. Data were tabulated using Microsoft Excel with relative and absolute frequency analysis. **Results:** the age of 40-50 years prevailed 45% (n=45), with complete primary education 50% (n=50), married 60% (n=60) and with 1 to 2 children 53% (n=53). Regarding prostate cancer, no participant had the disease and some reported a family history, 30% (n=30). In terms of knowledge, the majority know what prostate cancer is 85% (n=85), know that it is fatal 80% (n=80), know that it has early detection and prevention 82% (n=82) and recognize signs and symptoms 70% (n=70). However, most of them never had prostate specific antigen tested, 79% (n=79) and none had a rectal exam. The main difficulties in preventing prostate cancer are transportation, time and fear. **Conclusion:** although men have knowledge about prostate cancer, there is still stigma regarding preventive measures and performing rectal exams. A deconstruction of prejudice is suggested to improve adherence to prevention and early detection.

Descriptors: Prostate; Prostatic Neoplasms; Knowledge; Prejudice.

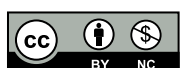
RESUMO

Objetivo: Avaliar o conhecimento de homens com mais de 40 anos sobre o câncer de próstata. **Métodos:** Estudo descritivo, exploratório e quantitativo, realizado com 100 homens residentes em um município da região Norte de Mato Grosso. Foram incluídos homens com mais de 40 anos e que não tinham formação na área da saúde. A coleta de dados ocorreu entre janeiro e julho de 2023 e foi realizada em nove Unidades Básicas de Saúde com a aplicação de um questionário com questões sociodemográficas e sobre o câncer de próstata. Os dados foram tabulados pelo Microsoft Excel com análise de frequência relativa e absoluta. **Resultados:** Prevaleceu a idade de 40-50 anos 45% (n=45), com ensino fundamental completo 50% (n=50), casados 60% (n=60) e com 1 a 2 filhos 53% (n=53). Sobre o câncer de próstata nenhum participante teve a doença e alguns referem histórico família 30% (n=30). No conhecimento, a maioria sabe o que é o câncer de próstata 85% (n=85), sabem que é fatal 80% (n=80), sabem que tem a detecção precoce e prevenção 82% (n=82) e reconhecem os sinais e sintomas 70% (n=70). Contudo, grande parte nunca fez o antígeno prostático específico 79% (n=79) e nenhum fez toque retal, apesar da maioria relatar que não veem dificuldades para realizar a prevenção (75% /n=75). As dificuldades para prevenção do câncer de próstata apontadas foram transporte (deslocamentos), tempo e medo. **Conclusão:** Apesar de os homens possuem conhecimento sobre o câncer de próstata, ainda existe estigma nas medidas preventivas e realização do toque retal. Sugere-se uma desconstrução do preconceito visando melhorar a adesão a prevenção e detecção precoce.

Descritores: Próstata; Neoplasias da Próstata; Conhecimento; Preconceito.

RESUMEN

Objetivo: Evaluar el conocimiento de hombres mayores de 40 años sobre el cáncer de próstata. **Métodos:** Estudio descriptivo, exploratorio y cuantitativo, realizado con 100 hombres residentes en un municipio del Norte de Mato Grosso. Se incluyeron hombres mayores de 40 años y que no tenían formación en el campo de la salud. La recolección de datos se realizó entre enero y julio de



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2023 y se realizó en nueve Unidades Básicas de Salud con la aplicación de un cuestionario con preguntas sociodemográficas y sobre próstata. cáncer. Los datos se tabularon utilizando Microsoft Excel con análisis de frecuencia relativa y absoluta. **Resultados:** predominó la edad de 40-50 años 45% (n=45), con educación primaria completa 50% (n=50), casada 60% (n=60) y con 1 a 2 hijos 53% (n=53). Respecto al cáncer de próstata, ningún participante presentó la enfermedad y algunos reportaron antecedentes familiares, 30% (n=30). En cuanto a conocimientos, la mayoría sabe qué es el cáncer de próstata 85% (n=85), sabe que es mortal 80% (n=80), sabe que tiene detección temprana y prevención 82% (n=82) y reconoce signos y síntomas 70% (n=70). Sin embargo, a la mayoría de ellos nunca se les realizó la prueba del antígeno prostático específico, el 79% (n=79) y ninguno se sometió a un examen rectal. Las principales dificultades para prevenir el cáncer de próstata son el transporte, el tiempo y el miedo. **Conclusión:** aunque los hombres tienen conocimientos sobre el cáncer de próstata, aún existe estigma en cuanto a las medidas preventivas y la realización de exámenes rectales. Se sugiere una deconstrucción de los prejuicios para mejorar la adherencia a la prevención y la detección temprana.

Descriptores: Próstata; Neoplasias de la Próstata; Conocimiento; Prejuicio.

INTRODUCTION

Cancer (CA) develops from a permanent cellular modification, and there are currently over 100 types of cancer. Among men, one of the most common is prostate cancer. This type develops in the prostate, a small gland located just below the bladder, which surrounds the initial portion of the urethra. Its function is to produce prostate fluid, which, along with seminal fluid, forms semen. Prostate cancer begins when the prostate cells change and become cancerous. The most common type is adenocarcinoma^(1,2).

Prostate neoplasia is a public health issue. Globally, it is estimated that 1.4 million new cases occur each year, representing 15.2% of male neoplasia cases. In Brazil, it is prevalent in all regions of the country, with about 72,000 new cases annually, representing 10.2% of all male cancers, second only to non-melanoma skin cancer, which accounts for 31.3% of cases. In terms of mortality, prostate cancer is the fifth most common cause of male deaths⁽³⁾.

This type of cancer primarily affects men over 45 years of age, many of whom are diagnosed late, which can make treatment less promising. The main risk factors associated with prostate cancer include age (over 50 years), family history, ethnicity (more common among Black men), and lifestyle (smoking and obesity)⁽⁴⁾. Due to its asymptomatic onset, men may have difficulty detecting it early without the aid of exams. Over time, symptoms such as dysuria, increased frequency of urination, reduced urinary flow, and hematuria may appear, leading to delayed diagnosis and reducing the five-year survival rate to 30%⁽⁵⁾.

The most effective detection methods include the Prostate-Specific Antigen (PSA) test, digital rectal exam, imaging tests, and biopsy. Routine screening with the digital rectal exam and PSA test in asymptomatic men leads to early diagnosis, which increases the chances of effective treatment and improved survival. Early diagnosis of prostate cancer allows up to a 90% chance of cure, in addition to less aggressive treatment, reduced costs, and improved quality of life^(6,7).

One of the objectives of non-communicable disease prevention and control is to reduce premature deaths by 25% by 2025 and to reduce cancer mortality by one-third by 2030. One of the strategies for achieving these goals is health promotion, disease prevention, and early treatment, while promoting mental health and well-being. There are many highly effective tactics against prostate cancer, and promoting men's health aims to encourage frequent diagnostic exams, such as the PSA test and digital rectal exam⁽⁸⁾.

Therefore, given the rising incidence of prostate cancer and the difficulties in implementing preventive measures, it is essential to understand what men know about prostate cancer and preventive measures, and to identify the main challenges in performing preventive exams and detecting signs and symptoms. The international literature acknowledges that men have some knowledge about prostate cancer; however, there are still challenges in carrying out preventive measures and early diagnostic exams. The aim of this research is to assess the knowledge of men over 40 years old regarding prostate cancer.

METHOD

This is a field research study, descriptive, exploratory, and quantitative in nature, based on the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines. The study was conducted at Primary Health Care Units (UBS) in a municipality in the Northern region of Mato Grosso. The location was chosen because it is an area with an interstate border (Mato Grosso/Pará), characterized by high traffic of people and difficult-to-access roads.

The guiding question was structured using the PICO strategy, and the following research question was raised: What is the knowledge of men about the prevention of prostate cancer?

Table I: Search Strategy PICO

Abbreviation	Description	Guiding questions
P	Population	Men Residing in a Municipality in the Northern Region of Mato Grosso
I	Intervention	Evaluation of Participation in Prostate Cancer Prevention
C	Comparison	Men Who Practice Prostate Cancer Prevention and Those Who Do Not
O	Outcome	Improving Men's Knowledge about the Importance of Prostate Cancer Prevention

Source: survey data, 2023

Initially, the inclusion and exclusion criteria for the research were defined in order to improve the accuracy of the results. The inclusion criteria established were men over 40 years old, residing in the Northern region of Mato Grosso, and who are not from the healthcare field. The exclusion criteria were men who have lived in the region for less than one year. The study population consisted of men residing in a municipality in the Northern region of Mato Grosso, and the sample was non-probabilistic and convenience-based.

The population of the studied municipality is 31,024 people, with a population density of 6.57 inhabitants/km², a Human Development Index (HDI) of 0.703, and an infant mortality rate of 14.29 deaths per thousand live births. Additionally, the municipality has a total of 14,399 (46%) men. To calculate the sample size, men over 40 years old registered in the two Primary Health Care Units (UBS) participating in the study were considered. The units reported a total of 520 men, out of a total of nine UBS in the municipality, eight urban and one rural.

Men over 40 years old were included with the aim of targeting the age group that should undergo prostate exams, and men working outside the healthcare field were chosen to avoid biases from greater knowledge on the topic.

The search for participants occurred randomly in the two Primary Health Care Units as they came in for routine consultations. Data collection took place within the UBS premises, in a reserved environment, free from noise, and lasted a maximum of 20 minutes, conducted in the morning. The choice of UBS was made because they are the primary access points to healthcare services.

Data collection occurred between January and July 2023 and was carried out using two questionnaires. After explaining the research process, clarifying any doubts, and obtaining signatures for the Informed Consent Form, the study was approved by the Ethics Committee of the Federal University of Mato Grosso – Araguaia Campus, under protocol number CAAE: 51041821.6.0000.5587, in accordance with Resolution No. 466, December 12, 2012.

The first questionnaire collected sociodemographic information (age, education level, occupation, marital status, race, income, number of children, children's sex, and length of residence in the municipality). The second questionnaire consisted of objective questions to assess the male population's knowledge of prostate cancer. The instrument was adapted from a previously validated⁽⁹⁾ questionnaire with 13 questions (e.g., What is prostate cancer? What are the symptoms? At what age should prostate cancer screening begin? Has a healthcare professional ever provided guidance on this issue? What prevents individuals from seeking public health services for prostate cancer prevention?).

The data were tabulated using the Statistical Package for Social Sciences (SPSS) version 19.0 for Windows and analyzed statistically in terms of absolute frequency, relative frequency, mean, and percentage. The results were presented in tables and graphs.

RESULTS

A total of 100 men (100%) participated in this study. Regarding their profile, the majority were aged between 40 and 50 years (45%), were White (50%), had completed elementary school (50%), were married (60%), had between 1 and 2 children (53%), and earned between 3 and 4 minimum wages (40%), as shown in Table II.

Table II – Sociodemographic Data of Men Participating in the Study on Knowledge of Prostate Cancer. Northern Mato Grosso, Brazil, 2023. (N=100)

Description	Options	Nº	%
Age	40 to 50 years	45	45%
	51 to 60 years	40	40%
	61 to 70 years	10	10%
	71 to 80 years	05	05%
	Above 80 years old	00	00%
Race	White	50	50%
	Mixed race	20	20%
	Black	20	20%
	Indigenous	10	10%
Level of education	Incomplete elementary education	20	20%
	Completed elementary education	50	50%
	Incomplete high school education	10	10%
	Completed high school education	08	08%
	Incomplete higher education	05	05%
	Completed higher education	05	05%
	Postgraduate studies	02	02%
Marital Status	Single	20	20%
	Married	60	60%
	Widowed	05	05%
	Cohabitation	15	15%
Number of Children	Between 1 and 2	53	53%
	Between 2 and 3	40	40%
	Above 4	05	05%
	None	02	02%
Family Income	Up to 1 minimum wage	10	10%
	Between 1 and 2 minimum wages	30	30%
	Between 3 and 4 minimum wages	40	40%
	More than 5 minimum wages	20	20%

Source: survey data, 2023

In relation to men's knowledge, none reported having had cancer; however, 30% reported a family history, 85% said they know what prostate cancer is and are aware of preventive measures, 70% know the signs and symptoms, yet only 21% have ever had a PSA test, and none have undergone a digital rectal exam, despite being in the recommended age group. Table III presents the participants' knowledge in relation to family history and prostate cancer awareness.

Table III – Knowledge of men over 40 years old regarding specific issues about prostate cancer. Northern Mato Grosso, Brazil. 2023.

Description	Options	Nº	%
Do you have or have you ever had prostate cancer?	Yes	00	00%
	No	100	100%
Is there anyone in your family with prostate cancer?	Yes	30	30%
	No	65	65%
	Don't know	05	05%
Do you know what prostate cancer is?	Yes	85	85%
	No	15	15%
Do you know that prostate cancer can be fatal?	Yes	80	80%
	No	20	20%
Do you know that prostate cancer can be detected early?	Yes	82	82%
	No	18	18%
Do you know how to prevent prostate cancer?	Yes	85	85%
	No	15	15%
Do you know what the main symptoms of prostate cancer are?	Yes	70	70%
	No	30	30%
Have you ever had a PSA test for prevention?	Yes	21	21%
	No	79	79%
Would you have a digital rectal exam?	Yes	52	52%
	No	48	48%
Have you ever had a digital rectal exam?	Yes	00	00%
	No	100	100%
Have you ever received guidance from healthcare professionals about prostate cancer prevention?	Yes	74	74%
	No	26	26%

Source: survey data, 2023

Regarding the difficulties faced by men in prostate cancer prevention, about 75%⁽⁷⁵⁾ reported no difficulties in undergoing prevention, 10%⁽¹⁰⁾ have difficulties with transportation and mobility to access the service, 5%⁽⁵⁾ reported not having enough time, and 10%⁽¹⁰⁾ mentioned fear and insecurity in undergoing preventive exams.

DISCUSSION

This study allowed for the identification of the level of knowledge among men regarding prostate cancer, as well as the dissemination of information about the importance of research in this field. The study serves as an ally in promoting men's health and disease prevention. However, it is observed that cultural and social influences continue to pose obstacles in health practices among men, as they are associated with beliefs and stereotypes of masculinity that need to be overcome¹¹. The profile of the participants was an important factor analyzed. A large portion of the participants in this study were between 40 and 50 years old, half had completed elementary education, and identified as white. Most were married and had one or two children, and some participants were Indigenous. A study conducted with 88 medical records of prostate cancer patients revealed a profile of men aged 71-80, illiterate, and married⁽¹²⁾. In contrast, a cross-sectional study in Rio Grande do Sul with 181 elderly men found that most self-identified as white (65.2%) and literate (90.7%), with a prevention rate of 85.7%⁽¹³⁾. These data demonstrate that socioeconomic factors, such as higher education, influence the performance of preventive exams and promote the early diagnosis of prostate cancer.

Moreover, age is closely related to the development of prostate cancer, which becomes more frequent as men age. Family support can also contribute to seeking health services. Therefore, married men with children are more likely to undergo preventive exams due to encouragement from family. Despite this, it is observed in this study that

patriarchal and macho cultural factors seem to prevail in the cultural formation of these men, despite the family support that could encourage seeking health services. However, even among married men with children, they do not seek preventive measures, maintaining the taboo that men do not need to see a doctor⁽¹⁴⁾.

Also related to the profile, low education and income levels are associated with lower levels of health care. A study conducted in Parnaíba identified that of 81 men with prostate cancer, about 31% had low education, which hindered the early diagnosis of the disease⁽¹⁵⁾. Another study, conducted in the state of Maranhão, analyzed deaths of men due to prostate neoplasms and found that men with incomplete elementary education or illiteracy accounted for 74.8% of the deaths, a factor that may be associated with the difficulty in accessing information about preventive measures, leading to late diagnosis. In this study, most men had not completed high school. Thus, it is important to highlight that greater access to information, health education initiatives, and active outreach to men who do not seek health services could be essential actions to change this scenario⁽¹⁶⁾.

Another interesting finding relates to family history. In this study, none of the men had prostate cancer, however, some reported a family history. The responsibility for transmitting hereditary prostate cancer is linked to an autosomal dominant gene, responsible for up to 45% of prostate neoplasms⁽¹⁷⁾. A study with 255 patients found that 75.2% of men had relatives affected by this pathology, which should serve as a warning⁽¹⁸⁾.

Hereditary risk among first-degree relatives doubles the chances of developing prostate cancer compared to the general population, and when combined with age, it accounts for 62% of cases in men over 65 years old. It is important to reinforce that, in this study, most participants were between 40 and 60 years old, which serves as a warning to these men, as well as an encouragement to seek preventive measures early, especially given the slow development of prostate cancer⁽¹⁹⁾. In line with these findings, a study in Pará, which borders the region of this study, found that of 2,680 prostate cancer cases, 2,345 (87%) were in patients over 60 years old⁽²⁰⁾.

Concerning men's knowledge, this study found that, in general, men had prior knowledge about prostate cancer. However, when it comes to taking preventive measures, few underwent preventive exams. PSA is an important test aimed at screening for prostate cancer, in addition to detecting early blood changes that direct biopsies and prostate ultrasounds^(21,22). Men face difficulties in undergoing the test, primarily due to representations about male virility. Among the obstacles are shame and fear. Nonetheless, it is still important to constantly encourage men to undergo the test. A study in Ceará found that 12.2% of 288 patients who underwent PSA had altered results, emphasizing the importance of early testing⁽²³⁾.

It was also observed in this study that the knowledge shown by men was not enough to make them adopt preventive measures. It was found that none of the men underwent the digital rectal exam (DRE), despite being of the recommended age for routine screening. A descriptive study conducted in Mato Grosso with seven participants revealed that all the men showed shame and prejudice about undergoing the DRE, and all reported mockery from friends and family, which hindered their willingness to undergo the exam⁽²⁴⁾.

Despite prostate cancer prevention being simple and quick, men exhibit stigmas and rejections that may hinder the implementation of these measures. Often, the cultural issue of masculinity prevents men from seeking health services. Men have historically been associated with virility and strength, so the digital rectal exam may feel like an embarrassment. This is reinforced in a qualitative study conducted in Bahia with 25 men, showing that men have difficulties discussing the topic, revealing mockery and resistance from friends, and a lack of encouragement from peers, many of whom had already undergone the exam. These data strengthen the importance of health promotion actions that empower men regarding their health status and address cultural issues and social expectations⁽²⁵⁾.

In Brazilian studies, it is clear that men have more knowledge and access to health units. However, social stigmas push them away from preventive measures. In contrast, a study in Africa with 389 men found that 53.2% had never undergone the digital rectal exam and 40.6% did not know what the exam was. Only 6.2% had done it, and 91.2% had poor knowledge about prostate cancer. It is understood that, in addition to prejudice, access and knowledge levels are worse, suggesting that the Brazilian Health System offers better access to information, health education, preventive measures, and early diagnosis⁽²⁶⁾.

In general, within the Brazilian Health System, primary care providers should be encouraged to continue promoting attitudes that increase preventive measures among men. Health education about prostate cancer should alleviate fear and barriers, promoting the benefits of screening and increasing awareness about prostate cancer among men over 40⁽²⁷⁾.

It is emphasized that the primary preventive measure is the digital rectal exam. In this study, most men said they would undergo the exam, yet none had done it. It is clear that embarrassment, fear, and prejudice in undergoing prostate cancer prevention exams still prevail among men, showing one of the main reasons hindering early detection

and prevention. Men often resist due to cultural factors, associating the DRE with a threat to their masculinity. These taboos must still be overcome, as they act as barriers that hinder the search for preventive measures⁽²⁸⁾.

Another relevant issue is the difficulty with prevention, which in this study was linked to transportation issues, time, and fear/insecurity. This is not only a Brazilian characteristic, as a cross-sectional study in Nigeria demonstrated that 68.5% of patients identified their disease at an advanced stage. This late presentation is common in the region due to the residents' location in hard-to-reach areas, where they often lack transportation and time to go to health units²⁹.

The difficulties faced by men in taking preventive measures in this study may be influenced by the region studied. The North of Mato Grosso state is part of the Amazon biome, with dense forests and savannas, consisting mainly of rural populations or those living in communities, which makes it difficult for men to access health services. Many seek health units only after symptoms appear. The region is far from the capital (709.8 km) and has intermunicipal borders with difficult-to-access roads⁽³⁰⁾.

Furthermore, many men have knowledge about the pathology and preventive measures. However, resistance is still visible, along with fear and insecurity, which impede early access to health services. It is crucial that men seek care at health units and undergo routine PSA and DRE tests to identify any alterations early. To make this happen, barriers and stigmas must be faced.

It is recognized that the limitations of the study include the fact that the data are restricted to the local reality, conducted in only one municipality, and the absence of more detailed statistical analysis. However, the results found could serve as a warning to men and be used by health professionals working in men's health to promote better health education strategies and prostate cancer prevention.

CONCLUSION

This study indicates that men have knowledge about prostate cancer; however, they do not adequately engage in preventive measures, despite age and family history being risk factors. This issue is related to the fear and prejudice surrounding masculinity, especially in relation to the digital rectal exam (DRE), which can keep men away from healthcare facilities and contribute to late diagnoses, increasing morbidity and mortality rates.

The evidence presented here supports the need for guidance and educational measures that emphasize the importance of preventive screenings for prostate cancer. It is crucial to demystify the DRE and PSA tests, raising awareness among the male population. It is believed that this study contributes to increasing men's awareness and aids in the promotion of health and disease prevention in the male population. Furthermore, there is a continued need for more studies on this topic to improve adherence to preventive exams.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest.

CONTRIBUTIONS

Fabiana Rezer contributed substantially to the conception and/or planning of the study; to the acquisition, analysis, and/or interpretation of the data; as well as to the writing and/or critical revision and final approval of the published version. **Wladimir Rodrigues Faustino** contributed substantially to the acquisition, analysis, and/or interpretation of the data; as well as to the writing and/or critical revision and final approval of the published version.

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First Author and Correspondence Address

Fabiana Rezer
Faculdade do Norte de Mato Grosso, Department of Nursing
Rua dos Oytis, 150
Neighborhood: Jardim Vitória
CEP: 78.520-000 / Guarantã do Norte (MT) - Brazil
Email: fabianarezer@hotmail.com

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