Prostate cancer in men treated at a high-complexity healthcare unit: epidemiological profile

Câncer de próstata em homens atendidos em uma unidade de alta complexidade em saúde: perfil epidemiológico

Cáncer de próstata en hombres atendidos en una unidad de salud de alta complejidad: perfil epidemiológico

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REVISA

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RESUMO

Objetivo: caracterizar o perfil epidemiológico do câncer de próstata em homens atendidos em uma unidade de alta complexidade em saúde na Bahia, Brasil. **Método:** Estudo descritivo, transversal, quantitativo, realizado em uma unidade de alta complexidade de referência em um município da Bahia, Brasil. Realizou-se busca exploratória de dados primários coletados em prontuários de pacientes com câncer que que estavam iniciando e/ou em tratamento, entre janeiro de 2013 a dezembro de 2015. A amostra foi composta de 662 registros, os quais foram submetidos à análise estatística. **Resultados:** Mais de 60% dos pacientes residiam na área urbana, cerca de 90% são atendidos pelo Sistema Único de Saúde (SUS). O câncer de próstata obteve maior prevalência em homens com idade acima de 60 anos, principalmente na faixa etária 70-79 anos. A análise histológica da biópsia indicou que a maioria dos pacientes já se encontravam na escala G2, classificado como médio risco, havendo a possibilidade de avançar para o escore G3 - alto risco. **Conclusão:** O perfil epidemiológico indicou prevalência elevada para o câncer de próstata, com recorte etário avançado, perfil histológico relevante para a vigilância dos pacientes e expressiva cobertura de atenção à saúde na esfera pública.
Descritores: Neoplasias do Homem; Câncer de Próstata; Saúde do Homem; Fatores de Risco.

ABSTRACT

Objective: to characterize the epidemiological profile of prostate cancer in men treated at a high-complexity healthcare unit in Bahia, Brazil. **Method:** Descriptive, cross-sectional, quantitative study, carried out in a high-complexity reference unit in a municipality in Bahia, Brazil. An exploratory search of primary data collected from medical records of cancer patients who were starting and/or undergoing treatment was carried out between January 2013 and December 2015. The sample consisted of 662 records, which were submitted to statistical analysis. **Results:** More than 60% of patients lived in urban areas, about 90% are assisted by the Unified Health System (SUS). Prostate cancer was more prevalent in men over 60 years of age, especially in the 70-79 age group. The histological analysis of the biopsy indicated that most patients were already in the G2 scale, classified as medium risk, with the possibility of advancing to the G3 score - high risk. **Conclusion:** The epidemiological profile indicated a high prevalence of prostate cancer, with an advanced age range, relevant histological profile for patient surveillance and significant coverage of health care in the public sphere.
Descriptors: Human Neoplasms; Prostate cancer; Men's Health; Risk factors

RESUMEN

Objetivo: caracterizar el perfil epidemiológico del cáncer de próstata en hombres atendidos en una unidad de salud de alta complejidad en Bahía, Brasil. **Método:** estudio descriptivo, transversal, cuantitativo, realizado en una unidad de referencia de alta complejidad en un municipio de Bahía, Brasil. Entre enero de 2013 y diciembre de 2015 se realizó una búsqueda exploratoria de datos primarios recolectados de historias clínicas de pacientes oncológicos que estaban iniciando y / o en tratamiento. La muestra estuvo conformada por 662 registros, que fueron sometidos a análisis estadístico. **Resultados:** Más del 60% de los pacientes vivían en áreas urbanas, alrededor del 90% son atendidos por el Sistema Único de Salud (SUS). El cáncer de próstata fue más prevalente en hombres mayores de 60 años, especialmente en el grupo de edad de 70 a 79 años. El análisis histológico de la biopsia indicó que la mayoría de los pacientes ya se encontraban en la escala G2, clasificada como riesgo medio, con posibilidad de avanzar a la puntuación G3 - riesgo alto. **Conclusión:** El perfil epidemiológico indicó una alta prevalencia de cáncer de próstata, con rango de edad avanzado, perfil histológico relevante para la vigilancia del paciente y cobertura significativa de atención de salud en la esfera pública.
Descritores: Neoplasias humanas; Cáncer de próstata; Salud de los hombres; Factores de riesgo.

ORIGINAL

Introduction

A strategy was developed to reach the male population, known as the National Policy of Comprehensive Care for Men's Health (PNAISH), which aims to improve health and develop care that values the integrality of men.[1]

According to the Ministry of Health (2009)[1] for every three adult deaths, two are adult deaths, two are male deaths. They live on average seven years less than women. One of the causes of male mortality is prostate cancer, which is the fourth leading cause of death from neoplasms in Brazil, accounting for 6% of deaths in this group. Both incidence and mortality are high with increasing age, especially after age 50. Therefore, it is necessary to carry out specific tests aimed at preventing the disease, in order to make possible the possibility of cure.[2]

PNAISH was created in order to reach a population that only seeks health units when it is on the threshold of the disease, and with it, demanding specialized and high cost healthcare.[1] In this sense, one can also reflect on the prophylactic attitude of the vast majority of male population strains that is resistant to preventive health actions and does not seek basic health units for numerous reasons, including some of cultural order.[3-4]

One of the main problems related to men's health concerns the prevention of prostate cancer. As the man ages, the incidence of this disease increases. For all this, there is an insistence on the importance of preventive tests and early detection of prostate cancer, as a way to enable greater chances of cure.[5-6]

One of the main barriers to getting to early prostate diagnosis concerns men's prejudices in undergoing rectal examination and fear of finding that something is wrong.[7-8] Another major barrier is the absence of a solid knowledge about disease prevention. It is, however, a challenge, because men tend to assume unhealthy behaviors, generating risk factors for illness. Cultural factors, such as the hegemonic masculinity model, which associates expression of health needs with demonstration of weakness and feminization, should be considered.[9-10]

It can also be emphasized that in the reality in which we work in small municipalities, with low Human Development Index (HDI) in which they do not have large companies installed in their territory, which offer advantages to workers, such as health insurance. In general, in most small towns, the largest employer is the City Hall itself, leaving the Unified Health System (SUS) as a health care plan.

Therefore, it is necessary a differentiated look at the economically active population, because the development of a municipality depends directly on the labor force of its population, which is in line with the actions proposed above, which make access to basic health services more flexible for the population.[11]

Considering a theme of great relevance for public health, it was necessary to research and study related to prostate cancer due to the high mortality rate in the male population, in addition, the existence of prejudice regarding rectal examination, a fundamental test for an early diagnosis. It is important to emphasize to the population the care necessary for the early prevention of such pathology and to inform the sooner the discovery, the greater the chance of cure. This article aims to characterize the epidemiological profile of prostate cancer in men treated in a high complexity health unit in Bahia, Brazil.

Method

This is a described, exploratory, quantitative cross-sectional observational study, based on the collection of primary data.[12-13]

This study was developed in a High Complexity Oncology Unit in a municipality in Bahia, Brazil. The researched institution is part of the complementary health network, providing service in the area of health care for more than 100 years in the municipality of residence and in the microregion. Provides care for an articulated and integrated care profile with the service network of the Unified Health System (SUS), in compliance with its principles and guidelines, supported by the ministry ordinances in force in the country.

Also, about the institution in which the research was carried out, it has more than 12,000 patients enrolled in the service, of which they undergo chemotherapy or hormone therapy and radiotherapy treatment per month. The institution also performs more than 2,000 specialized consultations and more than 100 cancer surgery procedures monthly, offering definitive diagnosis and treatment of the most prevalent cancers in Brazil.

The medical records that were analyzed were filed with the Medical and Statistical Archive Service (SAME) of the institution. Regarding the temporal question, all medical records of users living in this municipality and region, who were starting and/or in treatment for prostate cancer and who were registered in this reference service, were selected for the research.

To make up the sample of this study, an exploratory search was conducted for secondary data collected from medical records of patients registered with the ICD (International Classification of Diseases) for prostate cancer (C61) who were admitted to the regional reference health unit for the diagnosis and treatment of cancer in the institution surveyed between January 1, 2013 and December 31, 2015. It is noteworthy that for this research the Database Use Consent Form (TCUD) was applied. And the list of patients enrolled in this unit was made available for this research by the Pharmacy team that searched the Medic Ware system of the medical records filled out with the ICD - Code C61.

Exclusion criteria included medical records that were registered in the health service outside the years of the researchand also with other CiDs that did not correspond to prostate cancer. It is noteworthy that among the list available some medical records were discarded because there are insufficient data, because there are not really the C61 ICD (being verified other CIDs), because they had female patients included in this list, by the medical records that were not in the same sector, being in the institution researched for consultations, medical reports and also in the Audit and the medical records that were without flow in the SAME.

In the data collection that occurred between July 2015 and June of this year, the following variables were used based on the objectives of the study to obtain risk factors, sociodemographic profile of patients, treatment methods related to prostate cancer: smoking, alcohol consumption, chemotherapy, radiotherapy, hormone therapy, surgery, children, metastasis, city, histology, age group, agreement and ethnicity. This collected information was recorded in spreadsheets in the Microsoft Excel 2013 version program.

For the complementary analysis of the data and as a way to provide a theoretical support to the findings, a review of available articles was performed using the following databases: Scielo, Medline, Lilacs, Bireme, Virtual Health Library and articles available in the CAPES Journal Portal (Coordination for the Improvement of Higher Education Personnel) in the last 15 years, as well as the use of information available in the classical literature for the definition and characterization of the term cancer.

The data from the field research were submitted to statistical analysis of the simple frequency type as percentages, tables, descriptive characterization of the sample and interpretive analysis of the same. The statistical and comparative method was used, using the Microsoft Excel 2013 version program. We sought to comply with the STROBE criteria.

The analytical variables were: smoking, alcohol consumption, chemotherapy, radiotherapy, hormone therapy, children, surgery (total or partial prostatectomy) and metastasis were classified as Yes, No or Uninformed (NI). While ethnicity was classified as: brown, black, white or uninformed. The variable City was grouped in Feira de Santana or Region. Regarding Histology, it was specified as: G1 (Gleason Adenocarcinoma from 1 to 4); G2 (Gleason Adenocarcinoma from 5 to 7); G3 (Gleason Adenocarcinoma from 8 to 10). Finally, the age group was subdivided into: 40 to 49 years; 50 to 59 years; 60 to 69 years; 70 to 79 years; or ≥ 80 years.

Regarding the ethical aspects of this study, the present study complied with the rules on research involving human beings, following the determinations set out in the Declaration of Resolution 466/2012 – Research Ethics Committee, where the responsible researchers committed themselves to observe this Resolution in all phases of the research, including sending a final report of the project by the researched institution.

Thus, the project was filed with the Ethics and Research Committee and obtained a favorable opinion for the beginning of the activities (CAAE number: 44745515.9.0000.5654 and n: 1,053,628 and the TCUD was involved).

Initially, the reference service was authorized to consent to the access of the researchers to the unit to carry out the research, thus informing the objectives of the study and the guarantee regarding the confidentiality and anonymity of the patients included in the sample during the research, after the dissemination of the results or any other moment.

Results

Since 1999, the mortality rate from prostate cancer in Brazil ranks second among all cancers, because this predominance has been necessary to raise the profile of men affected by this type of cancer, treated at the institution under study. Thus, an organization was used that provided a retrospective search, in order to make it feasible to report and associate epidemiological and demographic issues in this population. A total of 662 patients were selected for the research during the three years surveyed, and in 2013 it was a total of 254 individuals, in 2014 the number of 211 individuals was obtained and in 2015 197 medical records were found that met the prerequisites for this study.

The exploration of the 662 medical records allowed to better evidence the characterization of these men in the search for risk factors related to prostate cancer. In this essence, the profile of patients treated revealed the age group above 60 years, mainly between 70 and 79 years, with the highest number of cases (Table 1).

Table 1 - Composition by age group of the sample studied. Bahia, 2015.

Age Range (years)	Sample(%)
40-49	3 (0,4)
50-59	62 (9,37)
60-69	194 (29,3)
70-79	287 (43,3)
> 80	116 (17,5)
Total	**662 (100)**

Regarding tobacco use, the research included 177 individuals (26.7%) were smokers and 326 (49.3%) were nonsmokers. However, 159 (24%) did not provide this information, a fact that caused surprise because they were collected in an oncology unit and the smoking habit associated with early death in an annual estimate of 80,000 people, a number that has been growing every year.[14]

In this study, the following results were found: 194 (29.3%) were etilists, 306 (46.2%) were not and 162 (24.5%) did not report on this habit, which did not allow a conclusive analysis, due to the large number of uninformed. The biopsy histology of the various patients was verified, revealing that the vast majority (77% - 510 individuals) of the patients had adenocarcinoma with gleason score between 5 and 7 (better known as the G2 scale).

Regarding treatments for prostate cancer, satisfactory results were obtained, because after data collection, it was noticed that a large part of the population performs in a greater amount the treatment of Radiotherapy (57.7%) along with hormone therapy (56.8%), and the minority undergoes Chemotherapy (39.9%). It is important to highlight that within the treatment, radical prostatectomy surgery has an influence on the direction of the patient's conduct, in this case, it was observed that more than half of the population (53.5%) was not necessary for this procedure. Being that the earlier detection and necessary therapy is performed, the lower the chance of promoting the metastasis process of prostate cancer, which, because it is multifocal and heterogeneous, has affinity for bone tissue and lymph nodes, and later can pass to other organs, such as: liver, lung and brain.

In relation to the variable called number of children, the assessment could not be properly evaluated, due to the high number of individuals (47.9%) who did not report this characteristic.

When analyzing medical records, it was found that the majority of the participants of this research are resident in Feira de Santana (64.7%) and use as an agreement the SUS for their care (94.1%), in addition, there was a scarcity of accurate and relevant information about the confirmed diagnosis. In the case of prostate cancer, information on the number of children, presence of metastases, alcohol consumption and smoking were missing. Such incomplete data impaired

a conclusive analysis. These records indicate that most patients seek the service when there was already symptoms. Comparing the type of referral received by patients for prostate cancer treatment, it has been verified that men referred by the SUS have a higher risk of late-stage diagnosis of the tumor compared to those referred by private services or health plans.

Discussion

This study was able to present the evaluation of factors associated with prostate cancer in men treated in a unit of high complexity in health. The limitations of this study are concentrated in the fact that no associations were made between the variables.

This corroborates the literature data that report that prostate cancers have occurred in one third of the male population over 45 years of age in Western nations.[14] It is worth noting that the growth in the incidence in the population is also a result of the increase in the life perspective of Brazilians surveyed during this century, whose propensity is to exceed 70 years in 2020.[15]

As in other carcinomas, age is a significant risk record, since both incidence and mortality increase considerably after 50 years. This is a well-determined risk element for prostate cancer,[16] and is often diagnosed from the sixth to eighth decade of life, with infrequent cases below 40 years of age, with a decreasing mortality trend, although in a discrete manner.[17] It is important to emphasize that age is used in standardized screening programs as a reference, although it is not an interference risk factor, thus being a target for prevention campaigns.[18]

The family context of a father or sibling affected by this pathology before 60 years of age is another relevant condition, and may amplify the risk of 3 to 10 times in relation to individuals in general, portraying both inherited characteristics and lifestyles shared among family members.[19]

Another interference in an extemporeanous diagnosis would be the fact that in prostate cancer unusual cells tend to present a slow development, with tumor duplication time ranging from three to four years, significantly more extensive compared to the duration of duplication of cancers affecting the breast or colon. This factor certainly contributes to prolonged latency up to ten times of the clinical incidence.[20]

The development of prostate cancer may be associated with ethnicity and geographical differences in the population. This type of neoplasia is about 1.6 times more common in black American men than in white Americans, evidencing that they are disproportionately affected.[21] Differently, in the present study there was no statistically significant predominance of a given ethnicity, and it is important to highlight that many patients treated (n=277) did not report on this variable.

Smoking is no longer usually associated with prostate cancer incidence and, however, there are indications that smoking may be relatively associated with mortality.[23]

Cigarette smoke is a source of exposure to caryomy and tobacco tends to complement the levels of androgens circulating in man. Several case-control studies have been verified about cigarette consumption, however, the lack of consistent conclusions and the clear dose-response relationship does not allow

us to affirm that there is an association with the incidence of this carcinoma. The results of investigations remain inconsistent and some have shown that tobacco has a substantial influence on the occurrence of cases, including fatal cases.[23]

Alcohol drinks, while one of the parts of the diet, have often been proven as a threat factor for colorectal and breast cancers, but without sufficient evidence for prostate cancer.[24]

Most countries around the world since 1990 have widely applied rectal touch and prostate antigen specific antigen (PSA) dosage to prostate cancer screening. Rectal touch is used to analyze the size, shape and consistency of the prostate in understanding the presence of nodules.[2] The PSA test verifies the presence of clinically important tumors, as well as other slow-growing tumors that might otherwise escape the diagnosis.25 The positive test results in biopsy that can identify small cancers that will either evolve to malignancy or not.[26] Many tumors, clinically categorized as localized, are not in fact and receive ineffective therapeutic instructions. Other patients with neoplasia without clinical relevance are treated unnecessarily. This occurrence results from the current fixation in the prognostic classification for the indication of appropriate therapies. Doubt in defining the pre-treatment prognosis of localized prostate cancer is a problem, due to the high morbidity associated with frequently performed treatment alternatives.[27]

When choosing a treatment for this type of cancer, the health professional should give importance to the age of the patients, the comorbidities, the admission to treatment, the stage and the degree of tumor. As for the histological data of the biopsy there is about 50% chance of the cancer spreading out of the prostate in 10 years, with damage to other organs, consequently affecting survival.[28]

One of the biggest challenges regarding early detection has been the lack of knowledge about the natural history of this type of cancer. The damages generated due to the illness of the head of the family harm the quality of individual and family life, sometimes affecting the only source of income of the house, having the children to perform the tasks of family care, failing to carry their lives within the standard expected for age.[16]

The economic and social pattern is an important variable of influence for the detection of these tumors, due to the possible difficulties of access and accessibility to public services of secondary health care. However, other studies still need to be done to verify this hypothesis, through the survey of family and individual income of the study population.

The current strategies for the provision of public health services to the population, with primary care services functioning as a gateway to other levels of care, including secondary prevention through early diagnosis of non-communicable diseases and injuries that is excluding for a large part of users, who have access hampered by geographical distances (travel time, cost of transportation) and socio-organizational accessibility, compromised by the hours of operation of the services, which rarely privilege workers through the provision of differentiated shifts or extended hours.

The secondary data existing in the institution studied are of immense wealth and numerous other studies can still be conducted in order to better understand the characteristics of the population assisted in these services, as a way of identifying risk and protective factors that support public policies in the

health area in the state of Bahia, with the purpose of increasing early detection rates, efficiency and efficacy in treatments and lower death rates caused by breast cancer in Brazil.

Public health policies should be supported by scientific evidence based on objective information. The use of health information from existing secondary data is fundamental, as they prove how much it is necessary to invest in changes in factors associated with cancer in order to reduce the inequities present. One of the ways to contribute to the discussion on the subject is to give visibility to mortality data, describing the impact on the male population. Therefore, it is necessary on the part of managers a decision to converge efforts in the prevention and control of cancers, given the magnitude and complexity of its determinants. Therefore, it is essential to seek the most up-to-date and continuous knowledge and information about the behavior of prostate cancer for health professionals and society in general, improving the understanding of this reality.

The contributions of this study to health materialize in the opportunity of scientific publicization of substantial findings for the knowledge of men's neoplasia, as well as the therapeutic modalities of treatment, associated factors, situations of health risk and vulnerability to the development of cancers among the male public. Moreover, they serve in a singular and relevant way to guide health actions for men at regional and national level.

Conclusion

In view of the above, it can be concluded that the results obtained in this study corroborate the data of high and possibly increasing prevalence in several Brazilian municipalities, and indicate the need for interventions for the implementation of prevention services, early detection and adequate control of prostate cancer and its risk factors in this northeastern population studied. It is important to emphasize that this prevalence was much higher in patients who were older (over 60 years of age).

The other risk factors analyzed (smoking and alcohol consumption) have a great influence on the development of the pathology under study, however, in this study there was no statistically significant association for these variables, and it is not possible to analyze them conclusively, due to the insufficient data in the medical records surveyed. While in relation to the histology variable, most of the patients analyzed were already in a picture considered medium risk, with the possibility of this cancer moving to the high risk, thus prolonging its treatment and reinforcing the importance of a previous diagnosis to mitigate the possibilities of a possible metastasis.

We also conclude that a closer look is needed on this one, which is a major cause of male mortality worldwide and lacks studies that contribute to the formulation of public and health policies aimed at reducing risks and vulnerabilities to this population group. Therefore, effective health promoting actions aimed at men's health are necessary in order to reduce the associated risks of unfavorable outcomes and their social impact.

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