Prevalence of Prostate Cancer Risk Factors and Symptoms in Indigenous People in Tabasco, Mexico

Research Article

Open access

Prevalencia de factores de riesgo y sintomatología prostática en indígenas de Tabasco

Prevalência de fatores de risco e sintomas de próstata em indígenas de Tabasco

How to cite this article:
Sánchez-Sánchez Kristell, Cruz-Sánchez Marcelina, Rivas-Acuña Valentina (+), Pérez-Chan Manuel. Prevalencia de factores de riesgo y sintomatología prostática en indígenas de Tabasco. Prevalencia de factores de riesgo y sintomatología prostática en indígenas de Tabasco. Revista Cuidarte. 2021;12(2):e1264.
http://dx.doi.org/10.15649/cuidarte.1264

Revista Cuidarte
Rev Cuid. May - Ago 2021; 12(2): e1264
http://dx.doi.org/10.15649/cuidarte.1264
E-ISSN: 2346-3414

Kristell Sánchez Sánchez[1]
Marcelina Cruz Sánchez[2]
Valentina Rivas Acuña (+)[3]
Manuel Pérez Chan[4]

1 Maestro en Enfermería, Universidad Juárez Autónoma de Tabasco, Villahermosa, Tabasco, México.
E-mail: Kris.sanchezss@hotmail.com
2 Doctora en Ciencias en Ecología y desarrollo sustentable, área de población ambiente y desarrollo rural. Profesora-investigadora en la División Académica de Ciencias de la Salud, Universidad Juárez Autónoma de Tabasco.
E-mail: Marcelina_c@hotmail.com
Autora de correspondencia
3 Doctora en Ciencias de Enfermería, Profesora-investigadora en la División Académica de Ciencias de la Salud, Universidad Juárez Autónoma de Tabasco. Tabasco, México.
E-mail: vrivasa@hotmail.com
4 Estudiante de Doctorado en Salud Pública, Especialista en Urología, Universidad Juárez Autónoma de Tabasco, División Académica de Ciencias de la Salud. Tabasco, México. E-mail: MA_PER_CH_78@hotmail.com

Abstract

Introduction: Prostate cancer is a public health problem being the most frequently diagnosed neoplasm and the second leading cause of cancer death in men. However, there is little information about this disease in indigenous people and therefore, current knowledge calls for urgent primary prevention. **Objective:** To analyze the prevalence of prostate cancer risk factors and symptoms in indigenous men in Centro, Tabasco. **Materials and Methods**: A cross-sectional descriptive correlational study was conducted with 281 Chontal men aged 40 years and older from the communities of Tamulté de las Sabanas, Aniceto and Tocoalt. The Prostate Symptom Score questionnaire and interviews for assessing risk factors were both implemented. **Results:** 52.7% had no formal schooling at all, 47.7% were peasants at an average age of 55 years, 16.7% had moderate to severe prostatic symptoms. As for risk factors, 44.5% were classified to be at medium risk and 55.5% at high risk. Pearson's chi-squared test between variables age and prostatic symptoms showed an association of p=.000 and a value of p=.166 between age and risk factors. Younger men showed to have more risk factors associated. None had undergone comprehensive screening. **Discussion and Conclusions:** Prevalence of prostatic symptoms found in older adults is consistent with other studies. Prevalence of risk factors in all participants is a matter of concern as these are the same risk factors observed in men diagnosed with prostate cancer. It is important to develop prevention strategies based on healthy lifestyles.

Key words: Prostatic Neoplasms; Risk Factors; Indigenous Population.

Received: May 23th 2020
Accepted: February 22th 2020
Published: April 30th 2021

*Correspondence
Marcelina Cruz Sánchez
E-mail: Marcelina_c@hotmail.com

Prevalencia de factores de riesgo y sintomatología prostática en indígenas de Tabasco

Resumen

Introducción: El cáncer de próstata, es un problema de salud pública, la neoplasia que se diagnostica con mayor frecuencia y segunda causa de muerte en los hombres. Poco se sabe de este problema en población indígena, por lo cual, los conocimientos actuales son demandantes en la prevención primaria. **Objetivo:** analizar la prevalencia de sintomatología prostática y factores de riesgo entre varones indígenas, Centro, Tabasco. **Material y Métodos:** estudio descriptivo correlacional, diseño transversal, muestra de 281 hombres de la etnia chontal de 40 y más años de las comunidades; Tamulté de las Sabanas, Aniceto y Tocoalt. Se utilizó el cuestionario de síntomas prostáticos y entrevista de factores de riesgo. **Resultados:** 52.7% sin escolaridad, 47.7% son campesinos, edad media 55 años, 16.7% con sintomatología prostática de moderada a severa. Factores de riesgo; 44.5% mediano y 55.5% alto riesgo. La prueba de Chi cuadrada de Pearson entre la variable edad y sintomatología prostática tuvo una asociación de p=.000. Un valor de p=.166 entre la edad y los factores de riesgo; hombres de menor edad presentaron más factores de riesgo. Ninguno se ha realizado los exámenes de detección integral. **Discusión y conclusiones:** coincide con otros estudios la prevalencia de síntomas prostáticos en adultos mayores, es preocupante la prevalencia de factores de riesgo en todos los participantes, mismos que se han observado en hombres con diagnóstico de cáncer de próstata, es importante crear estrategias de prevención con miras en los estilos de vida saludable.

Palabras clave: Neoplasias de la Próstata; Factores de Riesgo; Población Indígena.

Prevalência de fatores de risco e sintomas de próstata em indígenas de Tabasco

Resumo

Introdução: O câncer de próstata é um problema de saúde pública, a neoplasia mais comumente diagnosticada e segunda causa de morte nos homens. Pouco se sabe sobre este problema na população indígena, portanto, os conhecimentos atuais são exigentes na prevenção primária. **Objetivo:** analisar a prevalência de sintomas de próstata e fatores de risco em varões indígenas, Centro, Tabasco. **Material e Métodos:** estudo descritivo correlacionado, desenho transversal, amostra de 281 homens da etnia chontal com 40 anos ou mais das comunidades; Tamulté de las Sabanas, Aniceto e Tocoalt. Foram utilizados o questionário de sintomas da próstata e a entrevista de fatores de risco. **Resultados:** 52.7% sem escolaridade, 47.7% são camponeses, idade média de 55 anos, 16.7% com sintomas de próstata moderados a graves. Fatores de risco; 44.5% médio y 55.5% alto risco. O teste qui-quadrado de Pearson entre a variável idade e sintomas de próstata teve uma associação de p=.000. Um valor de p=.166 entre idade e os fatores de risco; homens menores de idade apresentaram mais fatores de risco. Nenhum realizou os exames de detecção abrangente. **Discussão e conclusões:** coincide com outros estudos a prevalência de sintomas de próstata em idosos, é preocupante a prevalência de fatores de risco em todos os participantes, o mesmo que foi observado em homens com diagnóstico de câncer de próstata, é importante criar estratégias de prevenção com vistas a estilos de vida saudáveis.

Palavras-chave: Neoplasias da Próstata; Fatores de Risco; População Indígena.

Introduction

Of all types of cancer, prostate cancer (hereinafter PCa) is the disease that most frequently affects men aged 40 and over throughout the world. This is a disease that is characterized by being silent since it can take a long time before symptoms appear[1].

Prostate cancer (hereinafter PCa) is the disease that most frequently affects men aged 40 and over throughout the world.

PCa is a public health problem that affects the quality of life of adult men and their families. In 2018, seven out of ten individuals diagnosed for the first time were in advanced stages of the disease, which means that treatment is more expensive and that men have a lower chance of survival[2].

This neoplasm is the second cause of cancer death among men, the average age of diagnosis is 65 years of age. In the world there are approximately 1,276,106 new cases each year and about 358,989 deaths[3].

In Mexico, according to data from the National Institute of Statistics and Geography (INEGI)[4], the second cause of death in men aged 60 or over is due to malignant tumors, and PCa is part of this group. It is expected that in the coming years the mortality rate will increase to 11.5 per 100,000 men, placing it as the main cause of death[5,6].

In Tabasco, located in the southeast of Mexico, the incidence and mortality of PCa is not different from that of the rest of the world. According to the results of a study carried out by the National Institute of Public Health (INSP) in states of high and very high marginalization over a period of 33 years (1980-2013), it was found that the states of Tabasco, Chiapas, Guerrero and Oaxaca, reached the highest rate of mortality from PCa. In the first one, starting in 1995, a constant increase in the mortality rate was identified, surpassing the national average. Between 2010 and 2013, Tabasco had a mortality rate of 14.6, considered above the national average of 13.6 deaths per 10,000 men[7].

Similarly, a well-known risk factor for PCa is age, which makes attention to men's health even more urgent, since based on socio-demographic data, in 2015 Mexico had a 60-year-old male population of 5,528,044. Projections up to 2030 show an increase in the elderly male population that is predicted to be 9,298,527[8,9].

In addition to age, it is necessary to explore other factors that put men's health at risk, among which are; ethnicity, being overweight, obesity, family history, consumption of red meat and saturated fats[10].

In Mexico, to meet this health need, from the first level of care, emphasis is placed on the screening of all men aged 40 and older, who are candidates for comprehensive screening tests at the first level of care. The three tests used are: the Prostatic Symptom Questionnaire (PSC), the measurement of total Prostatic Specific Antigen (PSA) in blood and the Digital Rectal Exam (DRE), widely recognized for the detection of Benign Prostate Hyperplasia (BPH).) and Pca[1,11-13].

In this regard, the evidence on these guidelines for the prevention and diagnosis of PCa does not show consensus. On the one hand, there are those who affirm that screening should be per-

formed on all men from 40 years of age[12,14-17], on the other hand, emphasizes the need to search for symptoms and subsequently TRUS from 65 years of age, since most cases of PCa are detected from this age[18-21]. Likewise, the literature indicates that tests should not be performed after the age of 70 or when life expectancy is limited to less than 10 years due to other diseases[18,22,23]. What does seem to be a consensus is the need for that whatever the result of the screening tests, the next phase of treatment and prognosis, as well as the side effects of treatment, should be discussed between the patient and their treating physician[12,18,19,22,23].

There is a noticeable absence of studies that account for the situation among the indigenous population[24]

In the literature about this serious health problem, there is a noticeable absence of studies that account for the situation among the indigenous population[24]. A high proportion of the published studies refer to urban and/or mestizo populations. For nursing professionals, preventing diseases and contributing to their early detection is a priority in professional practice. For this reason, the objective of this work was to analyze the prevalence of prostate symptoms and risk factors in the male indigenous people of the Chontal ethnic group from the municipality of Centro in Tabasco.

Material and Methods

A quantitative descriptive correlational study was carried out, with a cross-sectional design[25,26]. The population consisted of 1,411 Chontales indigenous men from Tabasco, aged 40 and older, registered in the census cards of the health center, originating from three of the 10 communities that make up the Villa Tamulté de las Sabanas; Tamulté de las savannas, Tocoal and Aniceto, belonging to the Municipality of Centro, Tabasco, 40 km from the capital; Villa Hermosa. The collective transport route along highway 180 goes to Km 20, where there is a deviation of approximately 6 km, which finally leads to Villa[27].

The sampling method was simple random probabilistic, making home visits to men who had at least one identified risk factor. The sample size was calculated using the formula for finite[25] populations with a confidence level of 95% and a maximum error of 5% (0.05). The calculated sample was 212 men, this *n* was increased by 30%, due to possible rejections or absences, leaving a final sample of 281 individuals.

To measure the prostate symptomatology variable, the Prostatic Symptomatology Questionnaire (PSQ), designed by the American Urological Association (AUA), was used to identify symptoms of a possible prostate disorder based on the urination of men 40 years and older. The CSP was adapted to the everyday language of the Chontal indigenous men, substituting medical terms for words in common use, for example: urinate; pee, nocturia; for going out to the bathroom several times at night. Obtaining acceptable levels of internal consistency in the pilot test (Cronbach's $\alpha = 0.82$).

The CSP is made up of seven questions related to a symptom. The dimensions that make it up are the following: incomplete emptying, frequency, intermittency, urgency, weak urination, effort and nocturia[14]. The response scale ranges from 0 (never) to 5 (almost always), the score is from 0 to 35 points. Prostatic symptomatology was classified as: normal (0), mild (1-7), moderate (8-19), severe (above 20).

To measure the risk factors, an interview guide was designed based on what is described in the literature, which included: first line family history: father, grandfather and brothers, frequency of consumption of red meat and saturated fats, affiliation to the Chontal ethnic group and overweight/obesity measured by the indicator; Body Mass Index (BMI) that was calculated through the formula of body weight divided by height in meters squared, for which a clinical scale with a maximum altimeter of 1.95 m was used; weight was established with the person standing barefoot on the central base, the reading recorded in kilograms and grams.

Height was referred to as the maximum distance between the base of the scale and the vertex (highest point of the head). According to the responses of the participants, a dichotomous score was used, risk factor absent (0), risk factor present (1), it was classified into ranges as follows: 0 without risk, from 1 to 2 medium risk and from 3 to 4 high risk.

The introduction to the research scenario was established through a first contact visit to the Health Center of Villa Tamulté de las Sabanas, with the doctor in charge, the objective of the study was raised, allowing access to the census card records. from the health center.

In a second interview, the authorities of the communities and the doctor in charge were informed in writing. As a first strategy for the pilot test of the study, with the support of the health center, a health fair was organized in the market of Villa Tamulté de las Sabanas, where only 10 people agreed to answer the CSP. As a second strategy, men 40 years of age and older were called by voicemail to undergo two comprehensive detection tests: CSP and the rapid prostate antigen test, only one person attended the call. Due to the results obtained, it was decided to visit the subjects' homes, with the support of the promoter of the health center, originally from the community, which contributed to zero rejections.

The interviews were conducted during the months of June-November 2019 from 8:00 a.m. to 12:00 p.m. from Monday to Saturday and lasted approximately 40 minutes each.

For the analysis of the information, the Statistical Package for the Social Science (SPSS) version 23 program was used, a database was designed from the content of the CSP and the data from the risk factor interview guide. Descriptive statistics were used for data analysis such as: frequencies and percentages, as well as Pearson's Chi-square correlation test.

For this research, the approval of the ethics committee of the Universidad Juárez Autónoma de Tabasco, Academic Division of Health Sciences, was obtained, the rules contained in the regulations of the (General Health Law) in research matters were also taken into account. For human beings, which due to its non-invasive nature is considered risk-free, written informed consent was requested and obtained from all participants, anonymity was protected and when any of the participants decided not to continue the interview once their consent had been accepted without prejudice[28].

Results

The average age was 55 years (40-89, SD = 11.79). By age group; the range from 40 to 59 concentrated the largest number of participants with 64% (n=181). According to the place of residence, more than half live in the Tamulte de las Sabanas community 58.4% (n=164). Just over half of the participants have primary school education or less, 52% (n=148). By occupation, 47.7% (n=134) indicated that they are farmers, followed by buildery with 23.5% (n=66). One of the risk

factors for contracting PCa is excess body weight, according to the BMI classification established by the WHO in adult men, the results show that overweight is present in 48% of the subjects (n= 135), while obesity appears in 39% (n=111), the combined frequency is 87% as shown in Table 1.

Table 1. ***Sociodemographic characteristics of the participants.***

Characteristic	*f*	%
Age		
40 to 49	99	35.20
50 to 59	82	29.20
60 to 69	60	21.40
70 to 79	29	10.30
80 to 89	11	3.90
Location		
Tamulté of the Savannahs	164	58.40
Ranchería Aniceto	58	20.60
Ranchería Tocoal	59	21.00
Education Level		
No schooling	32	11.40
Primary or less	116	41.30
Secondary or less	62	22.00
College or less	44	15.70
University or less	27	9.60
Occupation		
Farmer	134	47.70
Builder	66	23.50
Businessman	36	12.80
Professional	21	7.50
Unemployed	20	7.10
Pensioner	4	1.40
Marital status		
Couple	234	83.30
Single	47	16.70
Social Security		
SSA	211	75.10
ISSET	16	5.70
Neither	54	19.20
Nutritional condition		
Normal (BMI >18.5 <24.9)	35	12.40
Overweight(BMI >18.5 <24.9)	135	48.00
Obese (BMI >18.5 <24.9)	111	39.60

Note: Own elaboration based on sociodemographic data, f= Frequency, %= Percentage; (n=281)

Regarding the measurement of risk factors for contracting PCa, it was found that 16% (n = 45) had a family history of PCa, n = 246 (87.6%) suffered some degree of overweight or obesity. Another important risk factor is the consumption of red meat and saturated fats in this regard, it was found that 57.7% (n = 162) consume this type of food. The participants were classified according to the risk factors evaluated in 55.5% (n = 156) with high risk. It is observed that of the total number of participants, frequencies in the risk free range were not obtained.

The participants were classified according to the risk factors evaluated in 55.5% (n = 156) with high risk.

Regarding the results obtained from the prostate symptomatology variable, it was identified that 94% (n=264) of the male participants had presented at least one symptom associated with prostate diseases in the last month. The most frequently mentioned symptom was nocturia (94%); In contrast, the least reported was the effort to urinate (14.2%), a quarter of the participants had moderate to severe symptoms, as shown in the following table 2.

Table 2. Risk factors and prostatic symptoms of the participants.

Characteristic	*f*	%
Risk Factor		
Family background		
Present	45	16.00
Absent	236	84.00
Overweight or Obesity		
Present	246	87.60
Absent	35	12.40
Consumption of red meat and saturated fats		
Present	162	57.70
Absent	119	42.30
Risk classification		
Medium Risk	125	44.50
High Risk	156	55.50
Prostatic symptomatology		
Nocturia	264	94.00
Intermittence	87	31.00
Weak urination	80	28.50
Incomplete emptying	68	25.00
Frequency of two hours	63	22.50
Urgency	62	22.10
Effort	40	14.20
Symptom classification		
Normal	13	4.60
Mild	221	78.70
Moderate	41	14.60
Severe	6	2.10

Note: Own elaboration from the interview f= Frequency, %= Percentage; (n=281).

Chi-square analysis

Table 3 shows the crossing of the variables through a Pearson Chi square analysis, according to the results the variable presence of prostatic symptoms with the variable age has a value of p=.001, that is, the oldest, there is more probability of the presence of prostatic symptoms. The marital status and schooling variables do not show probability of presence in the appearance of prostate symptoms. The nutritional status with p=.006 indicates that there is a possibility that the variable influences the presence of prostate symptoms. On the other hand, family history of PCa with p=.437 does not show presence with the prostate symptomatology variable. To verify P values less than 5, Fisher's exact test was used, confirming the results.

The oldest, there is more probability of the presence of prostatic symptoms

Table 3. Association of variables and prostate symptoms.

Variable	Everyone	Presence of prostate symptoms %(n)		Value P	F
		No	Yes		
	100 (281)	4.62 (13)	95.38 (268)		
Age				< 0.001	< 0.000
40 to 49	35.20 (99)	1.07 (3)	34.13 (96)		
50 to 59	29.20 (82)	2.14 (6)	27.06 (76)		
60 to 69	21.40 (60)	1.07 (3)	20.33 (57)		
70 to 79	10.30 (29)	(0)	10.30 (29)		
80 to 89	3.90 (11)	0.36 (1)	3.54 (10)		
Marital Status				0.377	
Couple	83.30 (234)	4.28 (12)	79.02 (222)		
Single	16.70 (47)	0.36 (1)	16.34 (46)		
Education Level				0.077	
No schooling	11.40 (32)	(0)	11.40 (32)		
Primary or less	41.30 (116)	2.85 (8)	38.45 (108)		
Secondary or less	22.00 (62)	(0)	22. 00 (62)		
College or less	15.70 (44)	1.79 (5)	13.91 (39)		
University or less	9.60 (27)	(0)	9.60 (27)		
Nutritional condition				0.006	< 0.000
Normal (BMI>18.5 <24.9)	12.40 (35)	0.36 (1)	12.04 (34)		
Overweight(BMI >18.5 <24.9)	48.00 (135)	2.14 (6)	45.86 (129)		
Obese (BMI >18.5 <24.9)	39.60 (111)	2.15 (6)	37.45(105)		
Family background				0.437	
Present	16.02 (45)	1.07 (3)	14.95 (42)		
Absent	83.98 (236)	3. 56 (10)	80.42 (226)		

Note: f= Frequency; χ2= Pearson's Chi-square, F=Fisher's exact test.

Next, the same Pearson Chi-square test was applied with the risk factor variable. In this way, it is observed that there is no dependence between the age variable and risk factors, which indicates that the younger participants (range 40-89, X = 55 years, SD = 11.79) presented more risk factors. The schooling variable with p=.008 has a low probability of appearing in the risk factors. Meanwhile, the nutritional status and family history variables showed a value of p < 0.001 with the risk factors, which indicates that the BMI corresponding to overweight and obesity and a history of first-line cancer are likely to increase the risk factors, as seen in the following table 4.

Table 4. Association of variables and risk factors

Variables	Risk Factors n=(281)		Value P	F
	Yes	No		
Age	0.72 (2)	99.28 (279)	.166	
Marital Status	0.72 (2)	99.28 (279)	.019	
Education Level	0.72 (2)	99.28 (279)	.008	< 0.000
Nutritional condition	0.79 (2)	99.28 (279)	< 0.001	< 0.000
Family background	0.72 (2)	99.28 (279)	< 0.001	< 0.000

Note: f= Frequency; X2= Pearson's Chi-square, F=Fisher's exact test.

Discussion

The literature review has shown that there is little research related to risk factors and the presence of prostate symptoms in the indigenous population, the studies carried out have been developed in the mestizo urban population.

A first result showed that moderate and severe lower urinary tract symptoms occurred in less than a quarter of the participants; the only symptom that appears in most of the subjects studied is nocturia, in a study with patients suffering from BPH, carried out by Hernández[29], the symptom of nocturia showed a high prevalence, however it is also a symptom that is associated with Diabetes mellitus (DM), it is important to mention that in the research carried out by Repetto[30], men with DM presented a greater predisposition to present inflammation of the prostate, the latter associated with favoring the appearance of BPH and PCa. In this sense, a limitation of the study was not taking into account if the participants were diagnosed with DM. It is suggested for future research to identify the participants who have the disease, to better define the men who are presenting prostate symptoms. On the other hand, Delgado[31], in his study of the prevalence of prostate symptoms in men over 60 years of age, found that almost half of the sample had moderate to severe symptoms. In the findings of this study, a probability association between the age and prostate symptomatology; the older, the greater the presence of prostate symptoms. This finding agrees with Robles[32] since the risk of suffering from prostate diseases such as BPH and PCa increases after 50 years of age. Most likely, the participants who were classified as having moderate and severe prostate symptoms could be suffering from BPH, the main characteristic being the presence of lower urinary tract symptoms, however, they are also symptoms that are related to PCa in advanced stages of the disease. Therefore, there is the possibility that there is a small percentage of participants with PCa.[33,34] The problem is that the search for symptoms, plus the PSA test and TRUS cannot by themselves rule out or confirm whether the symptoms respond to the benign disease or prostate cancer[35], but they can provide early warning of BPH and PCa. Despite the problem that PCa represents in the world, studies report that between 17% and 50% of men diagnosed with PCa will not progress to metastasis or will do so slowly[36], other studies report that it is necessary to screen men with prostate symptoms[37]. In this regard, it is important to point out that early diagnosis contributes to improving the quality of life of men and their families.

The participants who were classified as having moderate and severe prostate symptoms could be suffering from BPH

Symptoms that are related to PCa in advanced stages of the disease. Therefore, there is the possibility that there is a small percentage of participants with PCa.[33, 34]

Despite this, there is a factor that affects detection, we refer to the resistance of men to performing screening tests; this meaning that men can think negatively when accepting the three comprehensive screening tests, according to Hodgson[38] men have unpleasant ideas regarding the digital rectal examination, such as loss of manhood and homosexuality. It is recommended, in future research, to pay attention to the socially constructed meanings that men assume about their health care.

Regarding the four risk factors evaluated, the participants were classified as medium and high risk, and it was also negatively associated with the age variable; the younger the age, the greater the presence of risk factors. Rodriguez[39] in his study with men suffering from PCa, found that the men were obese and had smoking habits. Other studies report in addition to these risk factors; family history, high-fat diet, sedentary lifestyle, and history of sexually transmitted infections[33,40].

In the present study of the risk factors found in more than half of the sample, two are modifiable factors, so it would be worth searching for health promotion strategies.

The results in relation to prostate symptomatology and the risk factors found in the study sample, highlight the need to carry out more research in the Chontal indigenous population of Tabasco, recognizing that they are part of the indigenous population and vulnerable social groups and it is frequent to find determinants social and inequities in health care. The foregoing is reflected in the study sample, since the main occupation is that of peasant or farmer, low schooling, absence of social security, which undoubtedly affects access to information on promotion, prevention and diagnosis of diseases in the population at the first level of care.

They are part of the indigenous population and vulnerable social groups and it is frequent to find determinants social and inequities in health care.

Conclusion

Prostate cancer undoubtedly affects the integrity of men throughout the world. In the Chontal indigenous population there are risk factors for BPH and PCa, it is suggested that nursing professionals carry out activities to promote healthy lifestyles, involving the worldview of men. These prevention programs should be focused on promoting exercise and a diet low in red meat and saturated fat, since more than half of the participants of the Chontal ethnic group are overweight or have some degree of obesity.

Similarly, although the average age of the sample was 55 years, a small percentage of men with symptoms related to prostate problems was found, it is worrying that despite these findings none of the participants had undergone prostate exams or comprehensive detection. For this reason, it is necessary for nurses to promote comprehensive screening tests, from the first level of care.

Declaration of conflict of interest: the authors declare that they have no conflict of interest.

Financing: own resources.

References

1. **Ruiz LA, Pérez MJ, Cruz BY, González LL.** Actualización sobre cáncer de próstata. *Correo científico médico.* 2017;21(3):876-883. Disponible en http://www.medigraphic.com/pdfs/correo/ccm-2017/ccm173u.pdf
2. **Manzanilla GH. La Norma Oficial Mexicana 048- SSA2-2017**. Para la prevención, detección, diagnóstico, tratamiento, vigilancia epidemiológica y prevención de la salud sobre el cáncer de próstata y su utilidad para la comunidad médica mexicana. *Rev Conamed*. 2018;23(3):110-125. Disponible en http://www.dof.gob.mx/nota_detalle.php?codigo=55079722&fecha=15/12/2017
3. **Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal.** Global Cancer Statistics 2018: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *Epub.* 2018;68(6):394-424. https://doi.org/10.3322/caac.21492
4. **Instituto Nacional de Estadística y Geografía**. Estadísticas a propósito del día mundial contra el cáncer (4 de febrero); Comunicado de prensa. Aguascalientes, México. 2016: 1-10.

5. **Aldaco SF, Pérez PP, Cervantes SG, Torrecillas TL, Valle SA, Cabrera GP et al.** Mortalidad por cáncer en México: actualización 2015. *Gac Mex Oncol*. 2018;17(1):28-34. https://doi.org/10.24875/j.gamo.M18000105
6. **Reynoso NN, Torres DJ.** Epidemiología del cáncer en México: carga global y proyecciones 2000-2020. *Rev. Latinoamericana de Med Conductual*. 2018;8(1):9-15. Disponible en http://revistas.uman.mx/index.php/rlmc/article/view/65111
7. **Torres SL, Espinoza GR, Rojas MR, Escamilla NC, Vázquez SA, Campuzano JC, et al.** Prostate cancer mortality according to marginalization status in Mexican states from 1980 to 2013. *Rev. Salud pública de México*. 2016;58(2):179-185. http://dx.doi.org/10.21149/spm.v58i2.7787
8. **Consejo Nacional de Población**. Ciudad de México. Proyecciones de la Población de México y de las Entidades Federativas, 2016-2050 y Conciliación Demográfica de México, 1950 -2015. 14 de septiembre 2018.
9. **Delgado DD**. Cáncer de próstata: etiología, diagnóstico y tratamiento. *Rev. Med. Cos*. Cen. 2016;73(620):707-710. Disponible en http://revistamedicacr.com/index.php/rmcr/article/view/110/95
10. **García PH, Zapata CA, Sánchez A.** Una mirada global y actualizada del cáncer de próstata. An updated and global review on prostate cancer. *Rev. Fac. Med*. 2018;66(3):429-436. http://dx.doi.org/10.15446/revfacmed.v66n3.65770
11. **Secretaria de Salud.** México, D.F. Centro Nacional de Excelencia Tecnológica en Salud. Diagnóstico y Tratamiento del Cáncer de Próstata en el Segundo y Tercer Nivel de Atención. 2010. Disponible en https://cutt.ly/lxJRTV0
12. **Secretaria de Salud**. Ciudad de México. Centro Nacional de Programas Preventivos y Control de Enfermedades. Guía de Consulta del Médico para la Atención de la Próstata. 2016:1-40. Disponible en http://www.cenaprece.salud.gob.mx/programas/interior/adulto/descargas/pdf/GuiaCPByCA_Prxstata.pdf
13. **Córdoba BD, Sapién LJ, Corchado VA, Flores HV, Hernández GA, Horta RP et al.** Tacto rectal: significados de la revisión prostática para el diagnóstico de cáncer de próstata. *Rev. Elec. Psic. Izt.* 2018;21(2):772-795. Disponible en https://www.iztacala.unam.mx/carreras/psicologia/psiclin/vol21num2/Vol21No2Art20.pdf
14. **Diario Oficial de la Federación.** Ciudad de México. Norma Oficial Mexicana NOM-048-SSA2. Para la prevención, detección, diagnóstico, tratamiento, vigilancia epidemiológica y promoción de la salud sobre el crecimiento prostático benigno (hiperplasia de la próstata) y cáncer de próstata (tumor maligno de la próstata). 2017. Disponible en http://dof.gob.mx/nota_detalle.php?codigo=5507972&fecha=15/12/2017
15. **Torres FG**. Aplicación de la escala internacional de síntomas prostáticos a adultos mayores. *Rev. Ciencias Médicas la H.* 2010;16(1):37-47. Disponible en http://revcmhabana.sld.cu/index.php/rcmh/article/view/453/html
16. **Ramos C, Fulla JO, Mercado A.** Detección precoz de cáncer de próstata: Controversias y recomendaciones actuales. *Rev. Med. Clín Con*. 2018;29(2):128-135. https://doi.org/10.1016/j.rmclc.2018.02.013
17. **Pow SM, Huamán MA.** Retos para el diagnóstico precoz del cáncer de próstata en el Perú. *Rev. Per. Med. Exp. y Salud Pública.* 2013;30(1):124-128. https://doi.org/10.17843/rpmesp.2013.301.169
18. **Carter HB, Albertsen PC, Barry MJ, Etzioni R, Freedland SJ, Greene KL et al.** Detección precoz del cáncer de próstata: guía de la asociación urológica americana (american urological association, aua). American Urological Association Education and Research. 2019. Disponible en https://cutt.ly/txJRyhA
19. **Pereira PE, Salvador DM, Harter GR.** Barreras en relación a los exámenes de rastreo del cáncer de próstata. *Rev. Latino-Am de Enfermagem*. 2011;19(1):73-80. https://doi.org/10.1590/S0104-11692011000100011

20. **Fernández MF, Toiran GR, Varela AA, Segura RO.** Cáncer prostático: correlación entre el valor del antígeno prostático específico y el resultado anatomoclínico. *Rev. AMC.* 2015;19(1):42-49. Disponible en http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1025-02552015000100008
21. **Martínez MA, Duran PM, Sanchez EM, Molina VR.** Actualización en cáncer de próstata. *Rev. Medicine.* 2013;11(26):1578-1587. 10.1016/S0304-5412(13)70509-2
22. **González AA, Lázaro QM.** Cáncer de próstata. *SEOM.* 2017. Disponible en https://seom.org/info-sobre-el-cancer/prostata?start=4
23. **Kotwal AA, Schonberg MA.** Cancer screening in the elderly: a review of breast, colorectal, lung, and prostate cancer screening. *Rev. Cáncer Journal.* 2017;23(4):246-253. 10.1097/PPO.0000000000000274
24. **Cevallos R, Amores A.** Prestación de servicios de salud en zonas con pueblos indígenas. Washington, DC. 2009:3-94. Disponible en http://new.paho.org/hq/dmdocuments/2009/servicios%20salud%20zonas%20indigenas.pdf
25. **Polit FD, Tatano BC.** Investigación en enfermería. Fundamentos para el uso de la evidencia en la práctica de la enfermería. 9ª ed. Barcelona, Spain. LWW. 2018.
26. **Hernández SR, Fernández CC, Baptista LM.** Metodología de la investigación. 6ta ed. México D.F. McGraw-Hill/Interamericana; 2014.
27. **Vásquez DM.** Hábitat y cultura de los chontales del Centro, Tabasco. Rev. *América Indígena.* 1994;54(1-2):91-118. Disponible en https://www.academia.edu/download/36564984/vasquezdavila_1994_Habitat_y_cultura Chontal_Tabasco.pdf
28. **Diario Oficial de la Federación.** Ley General de Salud. Ultima reforma publicada. Modificación del listado de Sustancias de la Ley. 2018. Disponible en http://www.diputados.gob.mx/LeyesBiblio/ref/lgs.htm
29. **Hernández FC, Ristol PJ, Estivill E, Batista MJ, López AM.** Importancia de la nicturia y su impacto en la calidad de vida del sueño y en la calidad de vida en el paciente con hiperplasia benigna de próstata. *Rev Actas Urol Esp*. 2007;31(3):262-269. Disponible en http://scielo.isciii.es/pdf/aue/v31n3/v31n3a10.pdf
30. **Repetto E, Sosa A, Colla MR, Metrebian E, Metrebian S**. Relación de prostatitis en la aparición del cáncer de próstata y la hiperplasia benigna prostática. *Rev. Cubana. Urol.* 2019;8(1):22-33. Disponible en http://www.revurologia.sld.cu/index.php/rcu/article/view/502/527
31. **Delgado QE, Pulido GC, Navarro SC, Rivera VW, Sahagún CM.** Prevalencia de síntomas prostáticos en pacientes mayores de 60 años en una unidad de medicina familiar. *Rev Med MD.* 2015;6(4):263-267. Disponible en https://www.medigraphic.com/pdfs/revmed/md-2015/md154i.pdf
32. **Robles RA, Garibay HTR, Acosta AE, et al.** La próstata: generalidades y patologías más frecuentes. *Rev Fac Med UNAM*. 2019;62(4):41-54. Disponible en https://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=87803
33. **Brigham EK.** La epidemiología de la hiperplasia prostática benigna asociada con los síntomas del tracto urinario inferior: prevalencia y tasas de incidentes. *Urol Clin N Am.* 2016;43(3):289-297. https://doi.org/10.1016/j.ucl.2016.04.001
34. **Quimis PA, Vargas PL, Izquierdo BJ, Rodríguez PG.** Factores predominantes de hiperplasias prostáticas benignas. *Rev. RECIAMUC*. 2019;3(2):318-341. https://doi.org/10.26820/reciamuc/3.(2).abril.2019.318-341
35. **Esquivel PM, Caicedo BA, Guaitarilla SJ, Garcia PH.** Una mirada general a los biomarcadores para la tamización y el diagnóstico temprano del cáncer de próstata. *Rev. Urología Colombiana.* 2017;26(2):110-116. https://doi.org/10.1016/j.uroco.2016.10.010

36. **Monzón AJ, Bamadah SE, Viña AL, Jalon MA.** Aspectos actuales sobre el cribado en el cáncer de próstata. *Rev SEMERGEN*. 2017;43(5):387-393. https://doi.org/10.1016/j.semerg.2016.07.002
37. **Fernández FS, Toirán GR, Varela ÁA, Segura RO.** Cáncer prostático: correlación entre el valor del antígeno prostático específico y el resultado anatomoclínico. *Rev. Arch Med Camagüey*. 2015;19(1):42-49. Disponible en https://www.medigraphic.com/pdfs/medicocamaguey/amc-2015/amc151h.pdf
38. **Hodgson SE, Kelly KK.** Hombres creole y cáncer de próstata en Bluefelds, Costa Caribe Sur de Nicaragua. *Rev. Ciencia e Interculturalidad.* 2017;20(1):66-75. http://dx.doi.org/10.5377/rci.v20i1.4854
39. **Rodríguez RL, Pérez ML.** Caracterización de factores de riesgo en pacientes con cáncer de próstata en el municipio Placetas. *Rev. Cub Urol.* 2018; 51. Disponible en http://www.revurologia.sld.cu/index.php/rcu/article/view/446/404
40. **Gómez CJ, López CP, Martínez GG, Ortega GJ, Luna MA.** Descripción factores de riesgo en el cáncer de próstata en la región de Murcia. Universidad de Murcia. 2019.