



FACTORS ASSOCIATED WITH QUALITY OF LIFE WITH PROSTATE CANCER

¹Mayra Sharlenne Moraes Araujo, ²Ana Hélia de Lima Sardinha, ³Pabline Medeiros Verzaro and ⁴José Albuquerque de Figueiredo Neto

¹Master in Nursing from the Federal University of Maranhão, São Luís, Maranhão, Brazil

²PhD in Pedagogical Sciences, Professor of the Nursing Department, Federal University of Maranhão, São Luiz, Maranhão, Brazil

³Master in Health and Environment, Federal University of Maranhão, São Luís, Maranhão, Brazil

⁴PhD in Health Sciences. Professor at the Department of Medicine and Health Sciences, Federal University of Maranhão, São Luís, Maranhão, Brasil

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ABSTRACT

Objective: To evaluate factors associated with the quality of life of men with prostate cancer. **Methodology:** This is an analytical, transversal research with a quantitative approach. The sample consisted of 226 men with prostate cancer under treatment at the AldenoraBello Cancer Hospital. For data collection, a socioeconomic, demographic, lifestyle questionnaire and a specific questionnaire were used to evaluate the quality of life in cancer. European Organization for Research of Cancer Quality of Life "Core" Questionnaire 30. One-way ANOVA and Principal Component Analysis were used for statistical analysis and identification of factors that interfere with quality of life. **Results:** The variables that showed an association with quality of life were: occupation, income, marital status, caregiver, financial aid, origin, physical activity and treatment time. **Conclusion:** It is understood that the disease requires confrontation and readaptations, being important the search to maintain the quality of life, from known factors that interfere in the same. **Implications for practice:** Knowing the factors that influence this quality of life, allows men to reflect on it and health professionals to find subsidies to try to improve it, as well as assist in health promotion, prevention and recovery strategies.

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INTRODUCTION

Prostate cancer is the most prevalent type among men. Approximately 70% of diagnosed cases occur in more developed regions. In the region of Latin America and the Caribbean, 1.1 million cases of cancer occurred in one year, with prostate cancer being the most common type among men (INCA, 2015). In 2016, 61,200 new cases of prostate cancer were registered in Brazil, ranking first among the most incident in the male population, corresponding to 28.6%. This corresponds to a risk of 61.2 new cases per 100,000 men (INCA, 2015). With increasing life expectancy worldwide, the number of new cases is expected to increase each year as the only well-established risk factor for prostate cancer

development is age. Approximately 62% of diagnosed cases occur in men 65 years of age or older (INCA, 2015; Damião *et al.*, 2015). The main risk factors for this type of cancer are age, race, and heredity. Behaviors seen in the male universe are also indicated as favorable factors for the appearance of prostate cancer such as: tobacco consumption, alcohol intake, sedentary lifestyle, diet rich in saturated fat, including animal fat, low in fiber, little exposure to the sun with consequent vitamin D deficiency, called behavioral factors (Beltran and Demichelis, 2015). The authors Ferreira *et al.*, (2016) report that men are more introspective than women, often silent, even showing signs and symptoms, delaying the search for medical care. They define their choices of life and health care subsidized in cultural patterns that perpetuate their masculinity that characterize them as unshakable strengths without possibility of failure. Being sick may represent a fragility to them that they are not accustomed to. The discussion is

*Corresponding author: Mayra Sharlenne Moraes Araujo
Master in Nursing from the Federal University of Maranhão, São Luís, Maranhão, Brazil

increasing about the quality of life, especially of patients with chronic diseases, such as cancer, making it increasingly important to study this theme (Miranda *et al.*, 2015). The term "quality of life", introduced in the health area in the 1990s, refers to the various situations that impose restrictions and affect the feelings, behaviors and health conditions of each individual (Batalha *et al.*, 2015). The study of the quality of life of individuals with cancer has been widely discussed in the literature (Batalha *et al.*, 2015; Nicolusse *et al.*, 2014; Simão *et al.*, 2017; Oliveira *et al.*, 2016) Knowledge of factors that alter the quality of life is fundamental for its identification and understanding, and then development of intervention strategies to prevent the decline of quality of life. According to Oliveira *et al.* (2016), the nurse is a professional with broad scientific vision that can develop and implement the nursing process, based on technical and scientific studies. This knowledge makes it possible to work on health education, making it important in this context to be able to guide, inform and analyze the knowledge of the clientele on prostate cancer by providing guidelines on risk factors and possible prevention of the disease, besides creating strategies that help men to deal with this diagnosis maintaining quality and life. In view of this, this research aimed to evaluate factors associated with the quality of life of men with prostate cancer.

MATERIALS AND METHODS

This is a cross-sectional analytical study with a quantitative approach, based on primary data. The research was developed at the Aldenora Bello Cancer Hospital, located in São Luís, capital of Maranhão, the only Center of High Complexity in Oncology (CACON) in the state of Maranhão. The study sample consisted of 226 men diagnosed with prostate cancer for more than six months, aged 18 years or older, who were hospitalized or in outpatient care at the Aldenora Bello Cancer Hospital and were able to communicate with the researcher. The data collection period was from January to July 2017. For data collection, a questionnaire was used with socioeconomic and demographic questions, health and lifestyle, and the European Organization for Quality of Life Questionnaire "Core" 30 (EORTC QLQ-C30), version 3.0, which was created by European Organization for Research and Treatment of Cancer (EORTC) in 1986 and then referred to as QLQ-C30, and is available in three versions. It consists of 30 items, whose objective is to measure the multidimensional quality of life (Schroeter, 2011). This questionnaire consists of 30 items, divided into three subscales: Global Health Scale, which addresses aspects of health and general quality of life (questions 29 and 30); Functional Scale, which addresses the physical, emotional, cognitive, functional and social domains (questions 1 to 7 and 20 to 27); and Symptom Scale, which refers to fatigue, pain, insomnia, nausea and other symptoms (questions 8 to 19 and 28) (Schroeter, 2011). The EORTC Score Manual was used to calculate the questionnaire domain scores. All data were transcribed into the Excel program and displayed in tables and descriptive graphs for better visualization. Statistical software was used for the statistical calculation, considering a significance level of 0.05. Comparisons between the Global Health Measure (QOL) averages of sociodemographic and clinical variables were performed using the one-way analysis of variance (ANOVA), assuming the data normality assumptions (Shapiro-Wilk test) and homogeneity of variance (Levene's analysis). When the QVG data did not meet these assumptions, they were mathematically transformed for the application of the analysis.

As a one-way ANOVA post-test, Tukey's multiple comparisons analysis was used. This research is part of a larger project titled: "MEN AND WOMEN WITH CANCER: MEANINGS, PERCEPTIONS AND IMPLICATIONS" approved by the Human Research Ethics Committee of the Presidente Dutra University Hospital (HUUPD), with an opinion number 1,749,940. The research complied with all the recommendations of resolution number 466 of December 12, 2012 of the National Health Council - Ministry of Health for Scientific Research in Human Beings.

RESULTS

Tests were conducted to separately evaluate the interference of each variable on the quality of life of men with prostate cancer. Where: p = test probability, and when this is less than or equal to 0.05 indicates statistical difference, that is, there is interference in quality of life, and when p is higher than 0.05 there is no statistically significant difference between the means of QVG for the group of the variable in question.

Table 1. Mean of QOL scores for socioeconomic variables of patients with prostate cancer

	Variable	Average	SD	p-value
Age (years)	31 – 40	100,0	0,00	,60237
	41 – 50	95,83	4,81	
	51 – 60	76,19	24,8	
	61 – 70	74,99	23,3	
	71 – 80	71,17	16,3	
Race	81 – 90	65,28	21,6	,35783
	White	67,59	18,3	
	Black	84,17	12,4	
	Yellow	66,67	0,00	
Occupation	Brown	73,03	21,4	,00041
	Retired	67,26	19,05	
Monthly income	Non retired	77,23	20,82	,02858
	0 a 2 minimum wages	71,73	20,60	
	3 a 4 minimum wages	92,50	11,11	
Education	5 or more minimum wages	66,67	0,00	,14516
	Did not study	71,53	14,57	
	Less than 8 years of study	71,99	21,92	
	Over 8 years of study	82,84	20,81	
Religion	Catholic	72,76	25,73	,14545
	Evangelical / protestant	52,08	18,23	
	No religion	72,76	25,73	
Marital status	Married / stable marriage	76,19	18,61	,00016
	Single	67,42	24,52	
	Separated / divorced	51,67	31,62	
	Widower	62,50	18,63	
Number of live children	Yes 1	77,78	31,25	,15040
	Yes 2 to 3	74,44	22,99	
	Yes 4 or more	72,41	16,32	
	No	72,92	32,96	
Live with you	1 to 2	76,04	24,95	,25641
	3 to 4	76,23	17,31	
	More than 5	67,62	21,40	
Caregiver	Son or daughter	72,05	16,53	,00117
	Wife	77,08	20,57	
	Other family members	65,91	27,81	
	Mother	100,00	0,00	
	Others/not family	16,67	0,00	
Someone's financial help	Family	65,63	24,10	,00785
	Friends	70,83	17,23	
	No help	78,55	15,91	
Family members needed to be away at work	Yes	72,02	21,81	,53275
	No	74,02	20,37	
From/ Came from where	City of São Luis	82,35	23,73	,01616
	Island of São Luis	75,00	16,84	
	State interior	71,31	20,76	
	Other	58,33	9,62	

Abbreviations: QOL, quality of life; SD, standard deviation

Table 2. Mean of QOL scores for the clinical variables of patients with diagnosis of prostate cancer

Variable		Average	SD	p-value
Smoking habit	Smokes	74,44	17,36	,18286
	Never smoked	78,26	21,19	
	Smoked and stopped	71,89	21,05	
Habit of drinking alcoholic beverage	Drank	77,27	17,09	,57701
	Never drank	76,67	17,92	
	Drank and stopped	72,94	21,23	
Regular physical activity	Yes	83,02	20,41	,00009
	No	70,54	19,94	
Habit to seek for health care / travel to the doctor before diagnosis	For prevention of health problems (at least once a year)	80,26	25,59	,10074
	Only when there was a problem	73,06	20,12	
	After not healing the health problem with self-medication	64,58	23,88	
	Had never gone in the doctor	71,39	17,18	

Abbreviations: QOL, quality of life; SD, standard deviation

Table 3. Mean of QOL scores for clinical variables of patients with prostate cancer diagnosis

Variable		Average	SD	p-value
Cancer in the family	No	74,39	19,79	,43900
	Yes (prostate cancer)	70,00	17,21	
	Yes (another type of cancer)	67,42	28,51	
Age of diagnosis (years)	28	100,00	0,00	,36014
	31 to 40	97,22	4,30	
	41 to 50	76,54	22,32	
	51 to 60	72,52	21,79	
	61 to 70	70,05	17,04	
	71 to 80	66,67	14,91	
	81 to 90	100,00	0,00	
Start / treatment time	6 months to 1 year	77,94	18,54	,00000
	1 year	75,72	20,02	
	2 years	66,03	20,67	
	3 years	73,72	13,68	
	4 years	75,76	19,40	
	5 years	85,42	15,91	
	6 years	72,62	21,04	
	7 years	55,95	29,49	
	10 years	25,00	0,00	
	Treatment performed	Surgery	74,86	
Radiotherapy		83,33	0,00	
Chemotherapy		83,33	21,82	
Surgery + radiotherapy		65,00	11,65	
Surgery + radiatiotherapy + chemotherapy		71,49	25,01	
Chemotherapy + radiatiotherapy		67,31	15,44	
Surgery + chemotherapy		70,83	18,37	
Accompanying person in ambulatory care	Son or daughter	71,94	17,62	,38969
	Wife	77,24	22,22	
	Other family members	65,91	27,08	
	Mother	100,0	0,00	

Abbreviations: QOL, quality of life; SD, standard deviation.

According to the value of p found, it was seen that the mean QOL in the economically active group (non retired) is statistically higher than that of the retired. The variable monthly income also showed interference in quality of life, differences were found between the averages of QWL between the income group between 0 and 2 X minimum wage and 3 to 4 X minimum wages with the mean QWL of the income group of 0 to 2 X minimum wage presented lower quality of life. Stables or stable unions had a higher quality of life compared to those divorced (Table 1). We found a statistically significant difference between the mean values of QLW for the caregiver type, inferring that those who presented a non-family caregiver presented lower HRQOL than those who presented a relative as caregiver. It was also observed that the group receiving help from family members had lower QOL than those who did not receive it. The source also showed interference in the QVG, those from the capital city of the state of São Luís presented higher QOL compared to those from the interior of the state (Table 1). Regarding lifestyle and health, a statistically significant difference was detected only between the mean values of QLW for regular physical activity, and the highest

average quality of life attributed to regular physical activity practitioners (Table 2). Regarding the clinical variables, there were differences in QOL in relation to the beginning / time of treatment, those with 6 months to 1 year in superior treatment, that is, shorter time, higher quality of life. There was also an indication for a better QOL among those with 5 years of treatment (Table 3).

DISCUSSION

Professionally active men had a better quality of life compared to those who were just retired. The income distributed by the National Institute of Social Security (INSS), due to the policy established in the country, decreases every year, because the updating of these values does not correspond to real inflation, which sometimes causes them to continue to be active to complement the income. Other studies carried out with people living with chronic illness portray this same difficulty in both personal and family life, due to the need to reconcile domestic expenses with transportation and purchase of medications (Bulla and Kaefer, 2013; Mathias *et. al.*, 2015). The above

reasons may also justify the fact that the income variable was indicated with a factor that interferes with the quality of life of men with prostate cancer. Men with incomes less than 2X minimum wage had a worse quality of life. Low income may be an indication that these patients live in precarious conditions, due to low educational level and low occupational qualification, which leaves them dependent on public services, such as education, leisure and health, which are sometimes precarious. These results may be related to the study site (Goulart, 2012). A study carried out in China, with the objective of determining the factors that interfere in the quality of life of patients with this pathology, showed that married (86.2%) showed better results in the areas related to health, social relations, besides sexual satisfaction, concluding that marital status is an important determinant in the quality of life of men with the disease (Kao *et al.*, 2015). This study also found a relationship between marital status and quality of life, concluding that those married or in stable union have a better quality of life when compared to the other groups. A family member as the primary caregiver of the man with cancer, showed a role influencing a better quality of life. A study carried out with families of men with prostate cancer revealed that they are strengthened throughout the experience, manifesting much more potential than fragilities in the care done, offering the necessary support to the men (Mathias *et al.*, 2015).

The family has a significant impact on the health and well-being of each of its members, and can exert considerable influence on their illnesses. It justifies a higher quality of life among those who have a family member as caregiver. The role of primary caregiver is usually assumed by a member who has been performing functions that are closer to the current need (caring), while maintaining coherence in family functioning. The family as caregiver offers a quality of relationships established in the past, building a linear sequence of coherence and giving a meaning to the life history, some reasons to take care are: retribution, repair, reconstitution of the previous relationship, maintenance of the role (Wanderbroocke, 2017). It was seen that receiving financial aid, interferes in overall quality of life, such financial aid has not been defined (loan or donation). Studies describe that the financial crisis of an individual can cause diverse changes in his health. Debts are indicative of financial crisis. Receivers of financial donations sometimes feel inferior because they feel they need others to maintain their basic needs, especially when it comes to men, especially of low social status which accentuates the historically assigned role of them, to be in charge of the maintenance of the family (Donadio, 2013; Antunes, 2015). The men from the interior of the state showed inferior quality of life when compared to the others, mainly to those living in the capital. The fact of residing in the municipality where the treatment is performed can be considered a positive factor. Ease of access leads to satisfaction and good connection with the health service. The presence of the link between the user-professional-health institution reduces the barriers to the continuity of clinical follow-up and allows the monitoring of patients who are more resistant and who tend to abandon treatment (Fernandes *et al.*, 2014). Physical activity was seen as a positive factor for the quality of life of men with prostate cancer, corroborating other studies correlating regular physical activity and walking, enough to improve the quality of life, vitality, and decrease of depressive symptoms, anxiety and others (Magbanua *et al.*, 2014; Boing *et al.*, 2016).

Physical activity tends to be linked to a lower risk of developing cancer and can be considered a protective factor for prostate cancer. Adherence to a healthy lifestyle, defined by practicing physical exercises an average of three hours or more per week, not smoking and eating healthy, may be a strategy to significantly reduce mortality from this cancer and consequently reduce morbidity and mortality from diseases whose factors are similar (Kenfield *et al.*, 2015). A study carried out with individuals with another type of cancer found a poor quality of life, indicating the time of treatment and the fact that they live with that disease every day, having several moments of hopelessness, sadness and even depression (Oliveira and Araujo and Zago, 2015). The man goes through a difficult period of treatment, in the expectation of discharge for cure and when it happens a new phase begins, marked by the long battle against the risks of a relapse, as well as new ways of living from the experiences lived in this phase of life. In general, after 5 years of treatment without showing signs of recurrence, the man is discharged for cure. Thus, it is justified that those men with 5 years of treatment are considered cured, thus pointing to a better QOL.

Conclusions

This study allowed us to know the main factors that interfere in the quality of life of these men, based on socioeconomic, demographic and clinical characteristics. Advances in the area of health allow men to coexist with prostate cancer and loss of quality of life, despite the vital crisis that cancer can cause. It is understood that the disease requires confrontation and readaptations. Thus, knowing the factors and quality of life of men offers subsidies to health professionals to improve care. Humanized and individualized care of men is important because the feelings with the diagnosis are different for each person, since the suffering of men with prostate cancer can affect their physical and emotional well-being. As limitations of the study it is possible to indicate the quantity of the studied sample that for the annual average of the population served in the referred CACON is satisfactory, however it becomes small in face of the prevalence of the disease in Brazil and in the world. This research was funded by the Foundation for Research and Scientific and Technological Development of Maranhão and does not present any conflicts of interest.

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