

Quality of life and body image of patients with urinary disorders

Qualidade de vida e autoimagem de pacientes com distúrbios urinários

Calidad de vida y autoimagen de pacientes con disturbios urinarios

Gardênia Lima Gurgel do Amaral^I

ORCID: 0000-0001-6765-8980

Kleynianne Medeiros de Mendonça Costa^I

ORCID: 0000-0003-2227-9391

Charlene Maria Ferreira de Lima^I

ORCID: 0000-0002-1123-8626

Tânia Arena Moreira Domingues^{II}

ORCID: 0000-0002-4828-2356

Dulce Aparecida Barbosa^I

ORCID: 0000-0002-9912-4446

Angélica Gonçalves Silva Belasco^I

ORCID: 0000-0002-0307-6225

^IUniversidade Federal do Acre. Cruzeiro do Sul, Acre, Brazil.

^{II}Universidade Federal de São Paulo. São Paulo, São Paulo, Brazil.

How to cite this article:

Amaral GLG, Costa KMM, Lima CMF, Domingues TAM, Barbosa DA, Belasco AGS. Quality of life and body image of patients with urinary disorders. Rev Bras Enferm. 2020;73(Suppl 1):e20190522. doi: <http://dx.doi.org/10.1590/0034-7167-2019-0522>

Corresponding author:

Gardênia Lima Gurgel do Amaral
E-mail: gardeniagurgel@hotmail.com



EDITOR IN CHIEF: Antonio José de Almeida Filho
ASSOCIATE EDITOR: Rafael Silva

Submission: 07-10-2019 **Approval:** 01-24-2020

ABSTRACT

Objective: to assess the quality of life and body image of men with difficulty urinating and indwelling urinary catheter users, integrating the socio-demographic, economic and morbidity variables. **Method:** a cross-sectional analytical study with 64 male patients with urinary problems. Three questionnaires were used for data collection: one containing sociodemographic, economic and morbid data, the Medical Outcome Study 36-item short-form health survey to analyze quality of life, and the Body Dysmorphic Examination, which assesses body image. T-test, Mann-Whitney, Pearson, Spearman, Linear Regression and Stepwise were used. **Results:** quality of life and body image were compromised in both groups, affecting emotional aspects, with a high degree of body dissatisfaction and altered physical and social adversity. **Conclusion:** changes in patients' quality of life and body image were observed, confirming the need for improvement in care.

Descriptors: Quality of Life; Self Concept; Patients; Urinary Catheterization; Lower Urinary Tract Symptoms.

RESUMO

Objetivo: avaliar a qualidade de vida e autoimagem de homens com dificuldade para urinar e de usuários de cateter urinário de demora, integrando às variáveis sociodemográficas, econômicas e de morbidade. **Método:** estudo transversal analítico com 64 pacientes do sexo masculino com problemas urinários. Foram utilizados três questionários para coleta de dados: um contendo dados sociodemográficos, econômicos e mórbidos, o *Medical Outcome Study 36-item short-form health survey* para análise da qualidade de vida e o *Body Dysmorphic Examination*, que avalia a autoimagem. Utilizaram-se os Testes t, Mann-Whitney, Pearson, Spearman, Regressão Linear e *Stepwise*. **Resultados:** a qualidade de vida e a autoimagem mostraram-se comprometidas nos dois grupos, afetando os aspectos emocionais, com alto grau de insatisfação corporal e adversidade física e social alterada. **Conclusão:** foram observadas alterações na qualidade de vida e autoimagem dos pacientes constatando a necessidade de melhoria na assistência.

Descritores: Qualidade de Vida; Autoimagem; Pacientes; Cateterismo Urinário; Sintomas do Trato Urinário Inferior.

RESUMEN

Objetivo: evaluar la calidad de vida y la autoimagen de los hombres con dificultades para orinar y los usuarios de sondas urinarias con retraso, integrándolos con variables sociodemográficas, económicas y de morbilidad. **Método:** estudio analítico transversal con 64 pacientes varones con problemas urinarios. Se utilizaron tres cuestionarios para la recopilación de datos: uno que contenía datos sociodemográficos, económicos y mórbidos, el *Medical Outcome Study 36-item short-form health survey* para analizar la calidad de vida y el Examen dismórfico corporal, que evalúa la autoimagen. Se utilizaron las pruebas t, Mann-Whitney, Pearson, Spearman, Regresión lineal y *Stepwise*. **Resultados:** la calidad de vida y la autoimagen se vieron comprometidas en ambos grupos, afectando aspectos emocionales, con un alto grado de insatisfacción corporal y alteración de la adversidad física y social. **Conclusión:** se observaron cambios en la calidad de vida y la autoimagen de los pacientes, lo que confirma la necesidad de mejorar la atención.

Descriptorios: Calidad de Vida; Autoimagen; Pacientes; Cateterismo Urinario; Síntomas del Sistema Urinario Inferior.

INTRODUCTION

Many urological diseases affect men, which may be congenital or acquired, malignant or benign, requiring clinical or surgical treatment. They occur at any time in life, presenting acute and self-limited or chronic and debilitating symptoms, which can make the diagnosis complex⁽¹⁾.

Difficulty urinating, in general, is composed of a set of lower urinary tract symptoms (LUTS). In men, it presents gradually, over 40 years of age, due to structural or functional irregularities of the prostate that are perceived as discomforts associated with urinary retention and consequent bladder distension increase⁽²⁾.

Studies show that with advancing age, LUTS are common in men and increase over the years, both in frequency and severity⁽³⁻⁴⁾. In the United States, approximately 46% of adult men, aged 65 and over have some LUTS ranging from moderate to severe⁽⁵⁾. In South Korea, the prevalence was 70.6%⁽⁶⁾, and in Brazil was 69%⁽⁷⁾.

Among the most reported LUTS are difficulty emptying the bladder, reduction of the urinary jet, effort to urinate, difficulty starting urination, nocturia, sensation of incomplete bladder emptying, dropping of urine at the end of urination, and polururia⁽⁸⁾. The worsening of a given sign or symptom and the pathophysiology of urinary dysfunction determine the best treatment to avoid or minimize complications⁽⁹⁾.

The inability to empty the bladder as a result of an obstructive, traumatic, neurological or surgical event may generate the need for temporary or permanent urinary catheterization. Catheter use serves for therapeutic and diagnostic purposes, such as drainage of urine, bladder decompression, measurement of urinary output, bladder irrigation, instillation of drugs in the bladder and urine sample⁽¹⁰⁾.

Sterile materials and the use of aseptic technique are necessary for the insertion of the urinary catheter to avoid urinary tract contamination. National and international protocols for urinary infection prevention recommend closed and sterile system use for urinary drainage, use of an appropriate urethral catheter, collection tube and collection bag followed by an anti-reflux valve, drip chamber and urine collection channel for collecting urine, examinations and adequate and frequent intimate hygiene⁽¹¹⁻¹²⁾.

The World Health Organization (WHO) conceptualizes quality of life (QoL) as "the individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns"⁽¹³⁾.

The presence of signs and symptoms related to difficulty urinating and urinary catheterization can cause changes in people's QoL. Currently, QoL has been much discussed and is increasingly valued, in association with living conditions considered healthy⁽¹⁴⁾.

Indwelling urinary catheter users may also experience body image disorders that are conceptualized as relative perception, reproduced in the individual's own mind. People construct the way of seeing and thinking their own image and the way he/she imagines that others see them, and may manifest dissatisfaction with their body based on some real, imagined or exaggerated physical abnormality that they believe interferes with their appearance⁽¹⁵⁾.

Therefore, QoL and body image represent the figuration of self-satisfaction and/or self-identification of individuals inserted in the complex adjacent social environment. Mischaracterization could affect them physically and emotionally, maximizing the deleterious effects of their health/illness situation.

Therefore, assessing the QoL and body image of men with difficulty urinating and indwelling urinary catheter users may support health professionals in planning comprehensive care and focused on the real needs of patients who experience different realities to eliminate urine, preventing the appearance of other diseases.

OBJECTIVE

To assess the QoL and body image of men with difficulty urinating and indwelling urinary catheter users, integrating the socio-demographic, economic and morbidity variables.

METHOD

Ethical aspects

Ethical aspects were respected, as recommended by Resolution 466/12 of the Brazilian National Health Board (*Conselho Nacional de Saúde*). The project was approved by the Research Ethics Committee (REC) of the *Universidade Federal de São Paulo* (UNIFESP). All patients signed a free and Informed Consent Form (ICF). The other ethical aspects that conduct research with human beings were observed and respected.

Study design, place and period

This is an epidemiological, analytical study with a cross-sectional design and quantitative approach, developed at the urology outpatient clinic of the *Hospital Regional do Juruá*, located in the city of Cruzeiro do Sul, 648 km from the capital Rio Branco in the state of Acre. It is a public service, financed by SUS (Brazil's Health System - *Sistema Único de Saúde*) and administered by an agreement between the government of Acre and *Associação Nossa Senhora da Saúde* (freely translated as *Nossa Senhora da Saúde Association*), composed of four religious congregations. The data collection period was from January to May 2016.

Population and sample

The study group consisted of 64 patients, being adult and elderly men, with urological diseases, symptomatic, being followed up at the outpatient urology service of *Hospital Regional do Juruá*. They were divided into two groups: those who had difficulty urinating (32 patients), but did not use urinary catheter and diagnosed with Benign Prostate Hyperplasia (BPH), prostatitis, urethral stenosis and vesico-urethral reflux; and those who used indwelling urinary catheter (32 patients) for at least three months, in due to BPH, prostatitis, or urethral stricture. The sample was computed based on SF-36 domains' crossings among the groups. The largest was considered, which includes the sample of all other domains' crossings. The level of significance was set at 5% (p value <0.05) and a test power of 80% (1-β).

Study protocol

In order to select the participants potentially eligible for the research, the selection of outpatient medical records was carried out, according to the daily schedule of the medical consultation.

After the selection, participants were approached before the routine medical consultation with a urologist and received information about the research objectives. Those who expressed interest in participating in it signed the ICT. Data collection was carried out through questionnaires that were read and completed, by the researcher, for all patients, in a private room of the outpatient service.

The questionnaires used in the research addressed sociodemographic, economic and morbid characterization; QoL assessment (Medical Outcome Study 36-item short-form health survey-SF-36), translated and validated in Brazil⁽¹⁶⁾, composed of 36 questions subdivided into eight domains: Functional Capacity, Physical Aspects, Pain, General Health Status, Vitality, Social Aspects, Emotional Aspects, and Mental Health. The scores vary between 0 (zero) worst status and 100 (one hundred) best QoL status. For body image assessment, the instrument used was the Body Dysmorphic Examination (BDDE)⁽¹⁷⁾, also translated and validated in Brazil. It has 34 questions that assess physical appearance, the degree of dissatisfaction with appearance and negative body image that prevent the person from participating in social and occupational activities. The answer options for this instrument are descriptive and multiple choice with scores between 0 (zero) and 6. The final score is composed by the sum of the scores, which corresponds to 168 points, scores above 66 already reflect some degree of dissatisfaction with the appearance.

Analysis of results and statistics

After collection, the data were recorded and stored in a spreadsheet of the software Microsoft Office Excel 2010 and subsequently analyzed using descriptive statistics and measures such as mean, standard deviation, median, minimum, maximum and percentage and absolute frequency analysis. T test was used to compare the SF-36 and BDDE domains among men who had difficulty urinating and those who used urinary catheters. When the assumptions for the test use were not satisfied, the Mann-Whitney test was used (for 2 categories). To correlate the SF-36 and BDDE domains, the correlation coefficient was used. Since the assumptions for applying Pearson's correlation coefficient were not met, Spearman's coefficient was then used. Thus, in the verification of the variables that best explain the SF-36 scores, Linear Regression was used, where the relationship of each independent variable with the response variable was verified. When selecting the variables, the Stepwise method was chosen to verify, among the set of independent variables, which best explained the response variable. Throughout the statistical analysis, a significance level of 5% ($\alpha=0.05$) was adopted.

RESULTS

Thirty-two patients who had difficulty urinating and 32 who used an indwelling urinary catheter were interviewed, whose sociodemographic data are shown in Table 1.

Table 2 shows the morbid characteristics of patients with difficulty urinating. It is possible to observe that BPH was the main cause of inadequate urine elimination, affecting 75% of the individuals surveyed.

Table 1 - Sociodemographic aspects of patients with difficulty urinating and users of urinary catheters, Cruzeiro do Sul, Acre, Brazil, 2016

Variables	Difficulty Urinating n=32 n (%)	Urinary Catheter n=32 n (%)	p value
Age Group			
40 to 59 years	15 (46.9)	5 (15.6)	0.0009*
60 to 79 years	17 (53.1)	21 (65.6)	
80 and over	0 (0.0)	6 (18.8)	
Education			
Illiterate	13 (40.6)	20 (62.5)	0.0800
Incomplete elementary education	15 (46.9)	9 (28.1)	
Complete elementary education	1 (3.1)	2 (6.3)	
Secondary education	2 (6.3)	1 (3.1)	
Higher education	1 (3.1)	0 (0.0)	
Monthly Income			
No income	3 (9.4)	0 (0.0)	0.8352
Up to one minimum wage	13 (40.6)	14 (43.8)	
From one to three minimum wages	15 (46.9)	18 (56.2)	
Four wages or more	1 (3.1)	0 (0.0)	
'Occupation			
Employee	4 (12.5)	2 (6.2)	0.0054*
Self-employed	10 (31.2)	2 (6.3)	
Retired	16 (50)	28 (87.5)	
Unemployed	2 (6.3)	0 (0.0)	

Note: * $p \leq 0.05$ (statistically significant), **Monthly income: considered the minimum wage of 880.00 reais (reais is the Brazilian currency, which corresponds to about 202 US Dollars), in force in 2016.

Table 2 - Aspects related to the morbidity of patients with difficulty urinating, in the city of Cruzeiro do Sul, Acre, Brazil, 2016

Variables	n (%)
Medical Diagnosis	
Benign Prostatic Hyperplasia (BPH)	24 (75.0)
Prostatitis	7 (21.9)
Urethral stenosis	1 (3.1)
Treatment performed	
Medicated	31 (96.9)
Other	1 (3.1)
Has stream of urine interrupted several times when urinating	
Yes	30 (93.8)
No	2 (6.2)
How many times you needed to urinate again, in less than two hours from the last episode	
Rarely	1 (3.1)
Sometimes	8 (25.0)
Often	23 (71.9)
Feels pain or burning when urinating	
Yes	29 (90.6)
No	3 (9.4)
Time when you had the feeling of not completely emptying your bladder after urinating	
Sometimes	13 (40.6)
Often	19 (59.4)
Already had urinary retention	
Yes	11 (34.4)
No	21 (65.6)
Needs to force to eliminate urine	
Yes	31 (96.9)
No	1 (3.1)
What complication due to difficulty urinating	
Urinary tract infection	16 (72.7)
Haematuria	4 (18.1)
Erection difficulty	2 (9.2)
Features weak urine stream	
Yes	32 (100)

Table 3 - Average values of QoL scores and body image of patients with difficulty urinating and indwelling urinary catheter users, in the city of Cruzeiro do Sul, Acre, Brazil, 2016

Variables/Domains	Difficulty Urinating	Urinary Catheter	p value
SF-36			
Functional capacity	44.84	26.72	0.0021*
Physical Aspects	13.28	5.47	0.0805
Pain	40.81	33.94	0.2046
General Health Status	38.56	17.78	0.0001*
Vitality	48.91	27.97	0.0001*
Social Aspects	56.64	40.63	0.0003*
Emotional Aspects	4.17	4.17	1.0000
Mental Health	57.88	58.25	0.9351
BDDE	91.26	97.28	0.3761

Note: *p ≤ 0.05 (statistically significant).

Table 4 - Correlation between the QoL and body image domains, according to groups of patients with difficulty urinating and patients with urinary catheters, Cruzeiro do Sul, Acre, Brazil, 2016

SF-36		FC	PA	P	GHS	V	SA	EA	MH
BDDE									
DPU	R	-0.26	-0.12	-0.23	0.20	-0.18	-0.26	0.03	-0.43
	p value	0.16	0.50	0.21	0.27	0.34	0.15	0.87	0.01*
IUC	R	0.13	-0.10	0.01	-0.06	0.06	-0.07	-0.21	-0.12
	p value	0.47	0.60	0.94	0.76	0.75	0.70	0.25	0.52

Note: *p ≤ 0.05 (statistically significant); DPU - Difficulty Urinating; CUD - Indwelling Urinary Catheter, SF-36 - Medical Outcome Study 36-item short-form health survey, BDDE - Body Dysmorphic Examination, FC - Functional Capacity; PA - Physical Aspects; P - Pain; GHS - General Health Status; V - Vitality; SA - Social Aspects; EA - Emotional Aspects; MH - Mental Health.

Table 5 - Analysis of multiple linear regression between the variables of patients with difficulty urinating and patients with indwelling urinary catheter QoL dimensions, Cruzeiro do Sul, Acre, Brazil, 2016

Domains of SF-36 Variables	Estimate		p value
	Difficulty Urinating	Urinary Catheter	
Functional Capacity			
Medical diagnosis (others)	-18.13	-	0.04*
Education (literate)	-	27.25	0.01*
Physical Aspects	-	-	-
Pain			
Diagnostic time	-19.05	-	0.02*
General Health Status			
Already had urinary retention (no)	-12.86	-	0.03*
Religion (Catholic)	-	11.64	0.02*
Education (literate)	-	11.75	0.02*
Complication related to catheter use (yes)	-	-12.54	0.04*
Vitality			
Complication related to catheter use (yes)	-	-19.84	0.01*
Education (literate)	-	13.93	0.03*
Social Aspects			
Education (literate)	16.04	-	0.005*
Diagnostic time (3 months to 1 year)	-	14.97	0.004*
Complication related to catheter use (yes)	-	-18.59	0.005*
Emotional Aspects			
Medical diagnosis (others)	16.67	-	0.002*
Mental Health	-	-	-

Note: *p ≤ 0.05 (statistically significant).

As for patients who used an indwelling urinary catheter, 96.9% used a Foley, 2-way catheter and 56.3% changed the catheter every 15 days. The underlying disease prevalent in this group was BPH, with 87.5%, and 75% of the patients had catheter-related urinary tract infection. Considering that urinary catheter use was continuous for these patients, it was questioned whether the health team received guidance on the daily care they should maintain during

catheter use, and 87.5% answered that they did not received no guidance. However, 84.4% of patients reported that they performed some type of home care, on their own initiative. Of these, 43.8% performed self-care while 56.2% needed help from third parties. Gland hygiene care, with water and soap, during the bath, was reported by 93.8% of the patients.

Closed drainage system use, with an anti-reflux valve, was reported by 25% of the patients using long-term urinary catheters, and 75% of the patients did not use the appropriate closed system, but used syringes to close the catheter outlet (43.8%), glass ampoules (28.1%) and nylon cord to tie the catheter and prevent urine from escaping (3.1%).

Table 3 shows the comparison of QoL and body image of patients with difficulty urinating and patients who used an indwelling urinary catheter. It is observed that patients with DPU have a significantly higher score of Functional Capacity, General Health Status, Vitality and Social Aspects than patients with catheter use.

The correlations between the SF-36 and BDDE domains in the comparison between the group of patients who had difficulty urinating and the group of patients who used an indwelling urinary catheter are shown in Table 4. It is observed that only in patients with DPU there was a significant negative correlation between Mental Health and BDDE. The higher the Mental Health score, the lower the BDDE score.

Table 5 shows the data on the factors that remain significant in the multivariate models (multiple linear regression model). DPU patients who had other diagnoses were negatively related to the Functional Capacity score, however with the Emotional Aspects, the relationship was positive. When the time of diagnosis of patients was greater than six months or when patients did not show reten-

tion in the bladder, there was a negative relationship to the Pain score. Literate patients positively influenced the Social Aspects score. In IUC patients, the variables were different, such as Functional Capacity, which had higher scores with education. The fact that the patients are Catholic, literate, have no complications and with earlier diagnoses, made them have a higher score in General Health Status, Vitality and Social Aspects, respectively.

DISCUSSION

The study showed that the prevalence of urinary problems was higher in men aged between 60 and 79 years, data similar to those found in other studies that indicate that the symptoms increase progressively with aging⁽¹⁸⁻¹⁹⁾.

The level of education was different, especially in the group of patients who used an indwelling urinary catheter, as more than 60% were illiterate. Also, in both groups, the monthly income of about 40% of men did not exceed 1 minimum wage, and the rest, with the exception of 1 patient, received up to 3 wages. These data are similar to the median monthly income of 600.00 *reais* (about 137 US Dollars) for men residing in Acre, which is below the national average of 1,200.00 *reais* (about 275 US Dollars)⁽²⁰⁾. A similar study shows that the level of education and low income can be an impediment in the search for diagnosis, adequate treatment, knowledge of risks and health care, in addition to prolonging the search for adequate therapy and, consequently, presenting a higher risk of aggravating the health⁽²¹⁾.

Urinary catheter use in patients over the age of 60 years seemed to inhibit work activities. Urinary problems that affect elderly men sometimes force them to use the indwelling urinary catheter, which can lead to infections⁽²²⁾. Studies indicate that urinary catheterization in the elderly is frequent. In Italy, approximately 25% of men aged between 70 and 85 years and about 33% aged over 85 years use urinary catheter⁽²³⁾. The Brazilian National Health Surveillance Agency (ANVISA - *Agência Nacional de Vigilância Sanitária*) pointed out that 16 to 25% of hospitalized patients undergo urinary catheterization⁽²⁴⁾.

Among the patients who had difficulty urinating 75% had BPH and of these 96.9% used drug treatment to control the disease, however they often did not empty the bladder completely after urinating, used the bathroom several times in 24 hours, had a urinary stream weak, and 34.4% reported an episode of significant urinary retention. The prevalence of BPH increases markedly in men and the continued growth of the prostate is a risk factor for progression of LUTS and an increased risk of clinical progression of BPH, urinary retention and need for prostate surgery⁽²⁵⁾. Studies have shown that men with difficulty urinating experience discomfort, difficulty sleeping, problems in social life, decreased QoL, changes in psychological status and even depression⁽²⁶⁻²⁷⁾.

Among patients with difficulty urinating, 72.7% reported episodes of urinary infection and 90.6%, pain when urinating. The same complications were found in patients studied in France who had difficulty urinating, sometimes due to prostatic problems, which had been unknown to patients until then⁽²⁸⁾.

Urinary retention and the need to force oneself to pass urine may also justify episodes of urinary infections. Similar findings were found in a research carried out with 6,074 men with the same characteristics in France, Asia, Latin America, Algeria, and the Middle East (Bahrain, Qatar, Kuwait, United Arab Emirates), which confirmed that urinary retention can lead to urinary tract infection in men. The study also showed that the rate of urinary retention in patients in Latin America was the highest, 43.8%, and associated mainly with the continuous and excessive alcohol consumption⁽²⁹⁾.

Most urinary catheter users (87.5%) reported not having received guidance on how to care for the catheter at home. Health

professionals have a duty to guide patients and their families about the care they should take at home when using probes, catheters, drains or dressings, in addition to other care when necessary. The use of accessories such as those mentioned above can generate insecurity and fear in users and family members when they do not know how to proceed at home. Orientations generate confidence, knowledge, possibility of self-care and less complications. A study carried out in the United Kingdom on the need for information from people who live for a long time with urinary catheters has shown that the practical knowledge that users acquired with their experience with urinary catheters can help nurses in new decisions for better care, informing patients in a verbal, written and visual way about the catheter and how to live with it, in order to meet the real needs of patients in a humanized context⁽³⁰⁾.

More than half of the patients who used the urinary catheter reported needing help to perform care with it. A study conducted at Wisconsin University Hospital in the United States found that 75% of patients did not receive adequate education on indwelling urinary catheters. One hundred percent of patients reported that alternative methods of excretion were not discussed, and 65% of patients received no information about the risks of having an indwelling urinary catheter⁽³¹⁾.

Another aspect of the study that concerns patients using indwelling urinary catheter is that 75% of patients did not use a closed and adequate system for urine drainage (urine collector with drainage system and anti-reflux valve). In this group, the bag was replaced by syringes to close the catheter outlet, 43.8% of the cases, glass ampoules in 28.1% and 3.1% used a nylon cord to tie the catheter and prevent urine output. This finding contradicts the scientific evidence and national and international recommendations on maintaining a closed drainage system after aseptic insertion to avoid the risk of urinary tract infection associated with the catheter^(24,32). It is worth mentioning that the service had a urine collection bag, but the fact that patients did not use the bag may be associated with the lack of guidance from the health team or perhaps because of body image, an unproven inference.

The QoL scores of patients who used a urinary catheter or had difficulty urinating were low and significantly lower, in the first group, in five domains: Functional Capacity, Physical Aspects, General Health Status, Vitality, and Social Aspects; similar in the Pain and Mental Health domains, and also very low in the Emotional Aspects domain. Studies have shown that the QoL of patients with urinary problems is compromised in almost all domains^(19,33). However, a research carried out in Africa, with 32 patients who used an indwelling urinary catheter, showed that catheter use did not change the QoL of patients, as they reported that its use provided relief to the LUTS⁽³⁴⁾.

In both groups studied, body image assessment was compromised, however there was no significant difference between groups. The degree of dissatisfaction with appearance can generate emotional disturbances, as demonstrated by a study carried out with adult patients with LUTS in Hong Kong who presented mental health impairment with a high risk of depression, anxiety and psychological stress, due to the negative impact of body image, especially in male patients⁽³⁵⁾.

The significant correlation between body image scores (BDDE) and the Mental Health domain (SF-36) presented by patients in the

group with difficulty urinating are in accordance with the literature that confirms that aspects of QoL may be influenced by the view that individuals have on their body image. Urinary problems contribute to negative changes in QoL, as they emotionally affect individuals and their social life, causing internal blocks that make it difficult to cope with social life and self-perception of their health⁽³⁶⁻³⁷⁾.

The multiple linear regression analysis applied to the model showed that individuals with difficulty urinating had significant impairment of QoL in the Functional Capacity and Emotional Aspects dimensions due to the diagnosis of the underlying disease - BPH; Pain, due to the shorter diagnosis time; General Health Status, due to episodes of urinary retention; Social Aspects, due to low level of education. The group of patients who used a urinary catheter presented QoL impaired in the Functional Capacity dimensions due to low level of education; General Health Status, due to low level of education and presence of complications with catheter use; Vitality, due to the greater number of complications with catheter use and low level of education; Social Aspects, due to the longer time of diagnosis and the greater number of complications with catheter use. A similar study found that factors such as prostate disease, time of diagnosis and urinary retention are decisive factors for compromising QoL⁽³⁸⁾.

Study limitations

We assessed that the study had some limitations, such as the reduced number of patients in both groups due to the demand

for the service and the difficulty of obtaining some data from the patients' medical records, especially related to the medical diagnosis of morbidity and comorbidities.

Contributions to nursing, health and public policies

The study will contribute to the perception of the need for more detailed monitoring of health professionals with the study population, as health promotion measures must be implemented, ensuring care for patients using long-term urinary catheters and the symptoms of patients with difficulty urinating. Psychological counseling, social support and health education for patients must be included as a comprehensive part of QoL.

CONCLUSION

Patients in both groups showed significant changes in QoL and body image, thus requiring more detailed monitoring, involving both physical, psychological, emotional and social aspects. However, there was no significant difference in the comparison of the groups studied, when the aspects of QoL and body image were analyzed.

Specific researches on the relationship between the appropriate use of the equipment recommended for patients using urinary catheters, episodes of infection and QoL need to be developed with this group.

Psychological support, social support and health education, provided to patients in both groups, could be inserted as an integral part of quality care assistance and possible improvement in their QoL.

REFERENCES

1. Shore N, Tutrone R, Roehrborn CG. Efficacy and safety of fexapotide trifluate in outpatient medical treatment of male lower urinary tract symptoms associated with benign prostatic hyperplasia. *Ther Adv Urol*. 2019;11(14):1-16. doi: 10.1177/1756287218820807
2. Bacci M, Sebastianelli A, Salvi M, Schiavina R, Brunocilla E, Novara G, et al. Tolterodine in the Treatment of Male LUTS. *Curr Urol Rep*. 2015;16(9):2-9. doi: 10.1007/s11934-015-0531-9
3. Nnabugwu II, Ugwumba FO, Udeh EI, Anyimba SK, Okolie LT. The relationship between prevalence and severity of lower urinary tract symptoms (LUTS), and body mass index and mid-abdominal circumference in men in a resource-poor community in Southeast Nigeria: a cross-sectional survey. *BMC Urol [Internet]*. 2019 [cited 2019 Dec 6];19(1):15. Available from: <https://bmcurol.biomedcentral.com/articles/10.1186/s12894-019-0444-x>
4. Bajunirwe F, Stothers L, Berkowitz J, Macnab AJ. Prevalence estimates for lower urinary tract symptom severity among men in Uganda and sub-Saharan Africa based on regional prevalence data. *Can Urol Assoc J*. 2018; 12(11):E447-52. doi: 10.5489/cuaj.5105
5. Hoy NY, Dean NS, Wu J, Wollin TA, De SK. The impact of lower urinary tract symptomatology on urine volumes in stone formers. *Can Urol Assoc J*. 2019;13(8):256-9. doi: 10.5489/cuaj.5530
6. Yoo TK, Lee K-S, Sumarsono B, Kim S-T, Kim H-J, Lee H-C, et al. The prevalence of lower urinary tract symptoms in population aged 40 years or over, in South Korea. *Investig Clin Urol [Internet]*. 2018 [cited 2019 Dec 10];59(3):166. Available from: <https://synapse.koreamed.org/DOLx.php?id=10.4111/icu.2018.59.3.166>
7. Soler R, Gomes CM, Averbeck MA, Koyama M. The prevalence of lower urinary tract symptoms (LUTS) in Brazil: Results from the epidemiology of LUTS (Brazil LUTS) study. *Neurourol Urodyn*. 2017;37(4):1356-64. doi: 10.1002/nau.23446
8. Chapple C, Castro-Diaz D, Chuang YC, Lee KS, Liao L, Liu SP, et al. Prevalence of Lower Urinary Tract Symptoms in China, Taiwan, and South Korea: results from a cross-sectional, population-based study. *Adv Ther*. 2017;34(8):1953-65. doi: 10.1007/s12325-017-0577-9
9. Peyronnet B, Brucker BM, Michel MC. Lower Urinary Tract Symptoms: What's New in Medical Treatment? *Eur Urol Focus [Internet]*. 2018 [cited 2019 Oct 8];4(1):17-24. Available from: <https://doi.org/10.1016/j.euf.2018.04.005>
10. Wilde MH, McMahon JM, Tang W. Selfcare management questionnaire for long-term indwelling urinary catheter users. *Neurourol Urodyn* 2016; 35: 492. doi: 10.1002/nau.22735
11. Kim B, Pai H, Choi WS, Kim Y, Kweon KT, Kim HA, et al. Current status of indwelling urinary catheter utilization and catheter-associated urinary tract infection throughout hospital wards in Korea: A multicenter prospective observational study. *PLoS One*. 2017;12(10):1-11. doi: 10.1371/journal.pone.0185369

12. Gould CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA. Guideline for Prevention of Catheter-Associated Urinary Tract Infections 2009. [Internet]. 2009 [cited 2019 Oct 8]; Available from: <https://stacks.cdc.gov/view/cdc/11561>
13. Pereira-Caldeira NMV, Pereira-Ávila FMV, Almeida-Cruz MCM, Reinato LAF, Reis RK, Gir E. Instruments for quality of life assessment in individuals with human papillomavirus. *Rev Bras Enferm.* 2019;72(5):1363-9. doi: 10.1590/0034-7167-2017-0394
14. Olajide OA, Shola CA, Oyeronke TW-A, Olorunfemi OO, Segun OA. Quality of life and prevalence of depressive symptoms among patients on prolonged indwelling urinary catheters: a study from South west, Nigeria. *Int J Med Med Sci.* 2016;8(10):96-104. doi: 10.5897/ijmms2016.1241
15. Boyington JEA, Schoster B, Callahan L. Comparisons of body image perceptions of a sample of black and white women with rheumatoid arthritis and fibromyalgia in the US. *Open Rheumatol J.* 2015;9(1):1-7. doi: 10.2174/1874312901409010001
16. Soárez PC, Kowalski CCG, Ferraz MB, Ciconelli RM. Tradução para português brasileiro e validação de um questionário de avaliação de produtividade. *Rev Panam Salud Publica.* 2007;22(1):21-8. doi: 10.1590/s1020-49892007000600003
17. Jorge RTB, Sabino Neto M, Natour J, Veiga DF, Jones A, Ferreira LM. Brazilian version of the Body Dysmorphic Disorder Examination. *São Paulo Med. J.* 2008;126(2):87-95. doi: 10.1590/s1516-31802008000200005
18. Lee SWH, Chan EMC, Lai YK. The global burden of lower urinary tract symptoms suggestive of benign prostatic hyperplasia: a systematic review and meta-analysis. *Sci Rep [Internet].* 2017 [cited 2019 Oct 8];7(1):1-10. Available from: <http://dx.doi.org/10.1038/s41598-017-06628-8>
19. Kim TH, Han DH, Ryu DS, Lee KS. The impact of lower urinary tract symptoms on quality of life, work productivity, depressive symptoms, and sexuality in Korean men aged 40 years and older: a population-based survey. *Int Neurourol J.* 2015;19(2):120-9. doi: 10.5213/inj.2015.19.2.120
20. Instituto Brasileiro de Geografia e Estatística-IBGE. Censo Demográfico 2010 - Resultados dos Rendimentos[Internet]. Rio de Janeiro – IBGE. 2011[cited 2019 Jan 27]. Available from: http://www.ibge.gov.br/home/estatistica/populacao/censo2010/rendimentos_preliminares/rendimentos_preliminares_tab_pdf.shtm
21. Tavares DMS, Bolina AF, Dias FA, Santos NMF. Qualidade de vida de idosos com incontinência urinária. *Rev Eletrôn Enferm.* 2011;13(4):695-702. doi: 10.5216/ree.v13i4.12488
22. Barbadoro P, Labricciosa FM, Recanatini C, Gori G, Tirabassi F, Martini E, et al. Catheter-associated urinary tract infection: role of the setting of catheter insertion. *Am J Infect Control [Internet].* 2015 [cited 2019 Oct 20];43(7):707-10. Available from: <http://dx.doi.org/10.1016/j.ajic.2015.02.011>
23. Vincitorio D, Barbadoro P, Pennacchietti L, Pellegrini I, David S, Ponzio E, et al. Risk factors for catheter-associated urinary tract infection in Italian elderly. *Am J Infect Control [Internet].* 2014 [cited 2019 Oct 20];42(8):898-901. Available from: <http://dx.doi.org/10.1016/j.ajic.2014.05.006>
24. Ministério da Saúde (BR). Agência Nacional de Vigilância Sanitária (ANVISA). Medidas de prevenção de infecção relacionada à assistência a saúde [Internet]. Brasília (DF): MS ; 2017 [cited 2019 Mar 31]. Available from: <http://portal.anvisa.gov.br/documents/33852/3507912/Caderno+4+-+Medidas+de+Preven%C3%A7%C3%A3o+de+Infec%C3%A7%C3%A3o+Relacionada+%C3%A0+Assist%C3%A2ncia+%C3%A0+Sa%C3%BAde/a3f23dfb-2c54-4e64-881c-fccf9220c373>
25. Yue L, Wang T, Ge Y, Ge M, Zhang C, Hou Q, et al. Prevalence and heritability of benign prostatic hyperplasia and LUTS in men aged 40 years or older in Zhengzhou rural areas. *Prostate.* 2018;79(3):312-9. doi: 10.1002/pros.23737
26. Rhee SJ, Kim EY, Kim SW, Kim SH, Lee HJ, Yoon DH, et al. Longitudinal study of the relationship between lower urinary tract symptoms and depressive symptoms. *J Psychosom Res.* 2019;116(4):100-5. doi: 10.1016/j.jpsychores.2018.12.006
27. Pinto JDO, He HG, Chan SWC, Toh PC, Esuvaranathan K, Wang W. Health-related quality of life and psychological well-being in patients with benign prostatic hyperplasia. *J Clin Nurs.* 2014;24(3-4):511-22. doi: 10.1111/jocn.12636
28. Lafaurie M. Infections urinaires de l'homme âgé : prostatite aiguë ou colonisation urinaire ? NPG : neurologie, psychiatrie, gériatrie [Internet]. 2014 [cited 2019 Oct 8];14(83):295-9. Available from: <http://dx.doi.org/10.1016/j.npg.2014.05.004>
29. Fitzpatrick JM, Desgrandchamps F, Adjali K, Guerra LG, Hong SJ, El Khalid S, et al. Management of acute urinary retention: a worldwide survey of 6074 men with benign prostatic hyperplasia. *BJU Int.* 2012;109(1):88-95. doi: 10.1111/j.1464-410X.2011.10430.x
30. Prinjha S, Chapple A, Feneley R, Mangnall J. Exploring the information needs of people living with a long-term indwelling urinary catheter: a qualitative study. *J Adv Nurs.* 2016;72(6):1335-46. doi: 10.1111/jan.12923
31. Safdar N, Codispoti N, Purvis S, Knobloch MJ. Patient perspectives on indwelling urinary catheter use in the hospital. *Am J Infect Control [Internet].* 2016 [cited 2019 Oct 8];44(3):e23-4. Available from: <http://dx.doi.org/10.1016/j.ajic.2015.10.011>
32. Bradley SM, Schweon SJ, Mody L, Mahajan D, Olmsted RN. Identifying safe practices for use of the urinary leg bag drainage system in the postacute and long-term care setting: An integrative review. *Am J Infect Control [Internet].* 2018 [cited 2019 Sep 12];46(9):973-9. Available from: <https://doi.org/10.1016/j.ajic.2018.03.029>
33. Khalaf KM, Coyne KS, Globe DR, Malone DC, Armstrong EP, Patel V, et al. The impact of lower urinary tract symptoms on health-related quality of life among patients with multiple sclerosis. *Neurourol Urodyn [Internet].* 2016 [cited 2019 Jan 17];35(1):48-54. Available from: <http://doi.wiley.com/10.1002/nau.22670>
34. Okeke LI, Aisuodionoe-Shadrach OI. Self-Reported Quality of Life Measures of Patients With Benign Prostatic Hyperplasia on Indwelling Urethral Catheters. *Vol. 12, African J Urology.* 2006 [cited 2019 Feb 13];12:15-23. Available from: <https://www.ajol.info/index.php/aju/article/view/8135/30677>

35. Choi EPH, Lam CLK, Chin WY. Mental health mediating the relationship between symptom severity and health-related quality of life in patients with lower urinary tract symptoms. *Low Urin Tract Symptoms*. 2016;8(3):141–9. doi: 10.1111/luts.12086
 36. Choi H, Bae JH. Overview of the epidemiology of lower urinary tract dysfunction in South Korea. *Int Neurourol J*. 2016;20(2):91–100. doi: 10.5213/inj.1630502.251
 37. Liu SP, Chuang YC, Sumarsono B, Chang HC. The prevalence and bother of lower urinary tract symptoms in men and women aged 40 years or over in Taiwan. *J Formos Med Assoc [Internet]*. 2019 [cited 2019 Dec 8];118(1P1):170–8. Available from: <https://doi.org/10.1016/j.jfma.2018.03.006>
 38. Egan KB. The epidemiology of benign prostatic hyperplasia associated with lower urinary tract symptoms: prevalence and incident rates. *Urol Clin N Am [Internet]*. 2016 [cited 2019 Oct 8];43(3):289–97. Available from: <http://dx.doi.org/10.1016/j.ucl.2016.04.001>
-