

Original Research Article

ASSESSMENT OF QUALITY OF LIFE OF MEN WITH LUTS DUE TO PROSTATE DISORDERS USING THE BOTHER SCORE.

ABSTRACT

Aims: The aim of the study was to assess the quality of life of patients with lower urinary tract symptoms [LUTS] due to prostatic diseases using the bother question of the IPSS. And also to determine factors that may be associated with poor quality of life among the patients.

Study design: This is a prospective, cross-sectional study.

Place and duration: The urology unit of Ekiti State University Teaching Hospital, Ado-Ekiti. Ekiti State, Nigeria. The study period was from 1st January 2018 to 31st December 2019.

Methodology: The International prostate symptom score [IPSS] was used to assess the severity of LUTS. While the bother question of IPSS was used to assess the QOL of the patients. HADS was used to assess for psychiatric morbidity among the patients. The data was analysed using SPSS version 20.

Results: A total of 224 patients with LUTS due to either BPH or cancer of the prostate [CAP] were recruited for the study. Most of the respondents [81.7%] were classified as having poor quality of life. High IPSS scores [$P < .05$, CI=-11.62--6.20], depression [$P < .05$, CI=-4.35-- -1.18] and high scores on all the individual LUTS were found to be significantly associated with poor QOL. Respondents who consumed alcohol had significantly higher bother scores. [T -test =-2.842, $P = .005$, CI=-0.807-- -0.146]. Cancer of the prostate patients also had significantly higher bother scores compared with those with BPH. [T -test =2.997, $P = .003$, CI =0.172--0.832]. Among all the LUTS, urgency had the highest correlation coefficient. [Corr coeff = 0.304, $P < .05$].

Conclusion: This study suggests that the prevalence of poor QOL is high among urology clinic patients with LUTS due to prostatic diseases. Common factors associated with poor QOL were severe LUTS, depression, high PSA scores, those with CAP and consumption of alcohol.

Keywords: prostate, bother score, lower urinary tract symptoms, urgency

1. INTRODUCTION

Lower urinary tract symptoms [LUTS] has been reported by various authors to be highly prevalent in adult men, especially those aged 40 years or older. Various studies reveal prevalence of having at least one symptom of LUTS to be about 35% to 77%. And this prevalence of LUTS continues to increase with increasing age.[1,2]

Lower urinary tract symptoms can be categorized into three major groups [1] storage; urinary frequency, nocturia, urgency, incontinence; [2] voiding; weak stream, hesitancy, and terminal dribble; and [3] post micturition; incomplete emptying, post micturition dribble.[3] These symptoms of LUTS have a negative effect on health-related quality of life [HRQoL], psychological and physical health, and can lead to major depressive symptoms, cardiovascular disease, and cerebral stroke.[4-7]

In most cases, patients with LUTS are not in any serious danger of death, as such, most of them only present to the hospital when the symptoms become bothersome to the patient with consequent negative impact on their quality of life.[8,9] This apathy to seek treatment was also explained by Rosen et al in a recent Multinational Survey of the Aging Male [MSAM-7]. They observed that only 19% out of the 90% of those discovered to have LUTS presented at the hospital to seek medical treatment.[10]

To determine the level or severity of bother, a specific question of the standardized International Prostate Symptom Score [IPSS], known as the “bother question,” is used to determine the bother score. This score is based on what the patient believes would be his ability to tolerate his current level of symptoms for the rest of his life.[11] The bother question is currently the most widely used QOL instrument for patients with BPH.[12] The bother question was found to have good internal reliability when compared to the two original global bother questions. The correlation coefficient between them was 0.82 indicating a very high correlation.[13]

The effectiveness of the bother score in establishing a strong relationship between the prevalence of symptoms and the degree of bothersomeness caused by LUTS was also done by Peters et al among 1271 men with LUTS from 12 countries.[14] The researchers observed that the most commonly occurring symptoms were not necessarily the ones that bothered men the most. Voiding [hesitancy, reduced stream, terminal dribble] tended to be more prevalent, whereas symptoms related to storage [frequency, nocturia, urgency, incontinence] were embarrassing and disruptive of daily life and tended to be more bothersome.[14]

Others have also reported that patients who have more of irritative LUTS were more likely to have poor QOL than men with more of obstructive symptoms.[15] The 6 aspects of QOL most acutely affected by prostatic symptoms include sleep, anxiety, outdoor mobility, leisure, usual daily activities, and well-being.[16]

The aim of the study was to assess the quality of life of patients with LUTS due to prostatic diseases using the bother question of the IPSS. And also to determine factors that may be associated with poor quality of life among the patients.

2. MATERIAL AND METHODS

This was a prospective, cross-sectional survey of anxiety in Nigerian men presenting with lower urinary tracts symptoms [LUTS] to the urology unit of the Ekiti State University Teaching Hospital, Ado-Ekiti. The study was performed in compliance with the principles of the Declaration of Helsinki, Good Clinical Practice and the World Association for Social, Opinion and Market Research [ESOMAR] guidelines for online research.[17]

Ethical approval was obtained from Ekiti State University Teaching Hospital Ethical board before the commencement of this study. Consent of the patient was also obtained before they were included in the study. Those who refused to give their consent were not victimized in any way. The process of data collection was non-invasive and was carried out without undue risks to the patient.

Inclusion criteria consisted of all cases of LUTS due to BPH or Ca prostate.

Exclusion criteria included men who have had previous prostatic surgery, those with neurogenic bladder of any cause, bladder calculi or contracture, urethral stricture, bladder malignancy.

2.1 INSTRUMENTS :

All the respondents were required to complete the following instruments;

1. A sociodemographic questionnaire was used for the sociodemographic details of the subjects. This also comprised of questions on some clinical variables.
2. IPSS International prostate symptom score [IPSS] was used to assess the severity of LUTS. The IPSS is composed of 7 questions ranging from 0 to 5 points each so that the total scores can be in 0-35range.[18]

3. Bother question – The bother question is incorporated in the IPSS questionnaire and was used to assess the bother score. The bother question has good internal reliability and is currently the most widely used QOL instrument for patients with BPH.[12]
4. Hospital Anxiety and Depression Scale [HADS] was used to assess for anxiety and depression among the patients.

3. RESULTS AND DISCUSSION

A total of 224 patients with LUTS due to either BPH or cancer of the prostate [CAP] were recruited for the study. The mean age of the patients was 68.43 ± 10.54 years. Almost all [92.0%] of the patients were married while 6.7% of them were widowed. More than half [54.9%] of the respondents were still working. Table 1a

More than two-thirds [68.8%] of the respondents were diagnosed with BPH. About half [51.2%] of the patients presented at the hospital within one year of onset of LUTS. Less than one-third [31.7%] of the respondents denied ever taking alcohol, while more than two-thirds [68.8%] denied ever smoking cigarettes. More than half [52.8%] of them had one medical co morbidity or the other. Most of the respondents [81.7%] were classified as having poor quality of life having had a bother score of 4 or more. The mean IPSS score of the respondents was 19.95 ± 8.06 while the mean BS was 4.48 ± 1.18 . [Table 1a and 1b].

Respondents who consumed alcohol had significantly higher bother scores compared with those who never consumed alcohol [T-test = -2.842, P value = 0.005, CI = -0.807 - -0.146]. Those who were diagnosed with cancer of the prostate also had significantly higher bother scores compared with those with BPH. [T-test = 2.997, P value = 0.003, CI = 0.172 - 0.832]. There was however no significant differences observed in the bother scores among those with or without history of smoking nor among those with/without co morbidity. [Table 2]

There was no significant differences in the bother scores across all ages [corr coeff = 0.116, P value = 0.085]. Higher bother scores were observed in those respondents who had higher scores on the IPSS [corr coeff = 0.420, P value = 0.000]; higher depression scores [corr coeff = 0.231, P value = 0.001] and higher scores on all the individual LUTS. The highest correlation coefficient was observed among patients with urgency symptoms. [Corr coeff = 0.304, P value = 0.000] [Table 3].

In contrast to depression, the anxiety scores was not significantly correlated with the bother scores. Patients having high PSA scores were also more likely to have high bother scores. [corr coeff = 0.208, P value = 0.006]. [Table 3]

Table 4 shows the mean scores of the variables when bother scores were grouped into good and poor QOL. High IPSS scores, depression and high scores on all the individual LUTS were found to be significantly associated with poor QOL. Age of the respondents and high anxiety scores were however not associated with QOL.

This study sought to assess the quality of life of patients with LUTS using the bother question. About 81.7% of the patients had high bother scores signifying poor quality of life. This high prevalence of poor QOL is high when compared with community based studies. For instance a community-based cross-sectional survey by Ojewola among Nigerian men concluded the overall prevalence of LUTS as 59.1%, and 25.5% among them had a low QoL.[19] The large number of patients with poor quality of life observed in this study may be because this is a hospital based study as such, most of the patients are most likely people who seek treatment for their uncomfortable LUTS.

This study found an association between poor quality of life and high scores on IPSS. This suggests that severity of LUTS determines the QOL of the patients. Similar findings were reported by various

authors.[20–23] In one of the studies, some men reported that LUTS affected their relationships with their spouses as they needed to sleep separately from them due to frequent nocturia.[24] Other qualitative studies reported that patients observed that LUTS made their life uncomfortable and interfered with their social life leading to the avoidance of social situations, long distance travel, and other situations that lack easily accessible toilets [26]. [20][24]

This study observed that patients who had high depression scores had poorer quality of life. Possible explanation for the association between depression, LUTS and QOL may be high prevalence of depression among patients with LUTS with consequent deterioration in their quality of life. Previous researches have reported high prevalence of depression among patients with LUTS.[5] Another possible explanation could be that deterioration in the quality of life of patients could lead to intense social withdrawal and other depressive features.

In contrast to the association between QOL and depression, this study did not find any association between anxiety scores and QOL. A similar study done to determine the association between LUTS and anxiety did not find any association.[5] This suggests that severity of LUTS and QOL is not associated with having an anxiety disorder.

Patients who had a diagnosis of CAP had a poorer quality of life compared with those with BPH. This may be because of possible complications that may have been developed by these patients and also because of the life threatening nature of CAP especially when metastasis has occurred.

Alcohol consumption in contrast to cigarette smoking was another factor associated with poor QOL in this study. Alcohol consumption has been associated with developing various morbidities among patients with LUTS.[5]

Patients with poor quality of life were observed to have higher PSA scores compared with those with good QOL. This may be because those with higher PSA are more likely to have CAP which is associated with higher morbidity and mortality than BPH.

This study observed that the correlation coefficient of individual symptoms of storage [urgency, frequency and nocturia] in the patients was higher than that of voiding symptoms, suggesting that QOL is more affected in patients with storage symptoms. Similar findings were reported by Peters et al, they observed that voiding [hesitancy, reduced stream, terminal dribble] tended to be more prevalent, whereas symptoms related to storage [frequency, nocturia, urgency,] were embarrassing and disruptive of daily life and tended to be more bothersome.[14]

Table 1a: sociodemographic and clinical variables of respondents

VARIABLE	FREQUENCY	PERCENTAGE[%]
Marital status		
Married	206	92.0%
Separated/ Divorced	3	1.2%
widowed	15	6.8%
Occupation		
Retired	101	45.1%
Working	123	54.9%
Duration of LUTS		
<1yr	108	51.2%
1-3yrs	12	29.4%
3-5yrs	22	10.4%
>5yrs	19	9.0%
Comorbidity		
None	100	47.2%
Yes	112	52.8%
Alcohol		

Never drank	71	31.7%
Lifetime use	153	68.3%
Cigarette use		
Never smoked	154	68.8%
Lifetime use	70	31.2%
Diagnosis		
PC	70	31.2%
BPH	154	68.8%
QOL		
GOOD	41	18.3%
POOR	183	81.7%

Table 1b: mean values of sociodemographic and clinical variables of respondents

VARIABLE	MEAN
AGE	68.43± 10.54
IPSS	19.95±8.06
BS	4.48±1.18
INCOMPLETE BLADDER EMPTYING	3.25±1.94
FREQUENCY	3.19±1.87
URGENCY	2.73±1.99
WEAK STREAM	3.26±1.83
STRAINING	1.53±1.93
NOCTURIA	3.87±1.17
PSA	31.48±37.0

Table 2: Association between bother score and various factors

VARIABLE	TEST	P value	CI
Marital status	T -test = -0.059	.953	-0.590 – 0.556
Occupation	T -test = -1.130	.260	-0.492 – 0.134
Comorbidity	T -test = 1.673	0.09	-0.049 – 0.601
Duration of LUTS	ANOVA = 1.057	0.369	-0.832 – 0.646
Smoking	T -test = -0.744	0.457	-0.463 – 0.209
Alcohol	T -test = -2.842	0.005*	-0.807 – -0.146
Diagnosis	T -test = 2.997	0.003*	0.172 – 0.832

*significant

Table 3: correlation of bother score with variables

VARIABLE	CORRELATION COEFFICIENT	P value
Age	0.116	0.085
IPSS	0.420	0.000*

ANXIETY	0.118	0.078
DEPRESSION	0.231	0.001*
INCOMPLETE BADDER EMPTYING	0.267	0.000*
FREQUENCY	0.289	0.000*
URGENCY	0.304	0.000*
WEAK STREAM	0.207	0.002*
STRAINING	0.290	0.000*
NOCTURIA	0.288	0.000*
PSA	0.208	0.006*

*significant

Table 4: Association between QOL and various factors

VARIABLE	Mean score [GOOD QOL]	Mean score [POOR QOL]	Pvalue	CI
AGE	65.47	69.0	.08*	-7.64 – -.45
IPSS	12.9	21.8	.00*	-11.62 – -6.20
ANXIETY	3.7	4.2	.52	-2.07 – 1.06
DEPRESSION	3.7	6.5	.001*	-4.35 – -1.18
INCOMPLETE BLADDER EMPTYING	2.0	3.5	.000*	-2.19 – -.81
FREQUENCY	2.2	3.6	.000*	-1.96 – -.700
URGENCY	1.5	3.1	.000*	-2.18 – -.760
WEAK STREAM	2.5	3.3	.02*	-1.467 – -.125
STRAIN	0.6	1.6	.01*	-1.814 – -.445
NOCTURIA	3.1	4.1	.00*	-1.317 – -.521
PSA	19.9	34.8	.03*	-28.789 – -.843

*significant

4. CONCLUSION

This study suggests that the prevalence of poor QOL is high among urology clinic patients with LUTS due to prostatic diseases. Common factors found to be associated with poor QOL were severe LUTS, presence of depression, high PSA scores, those with a diagnosis of CAP and consumption of alcohol. The study also observed that all the individual LUTS were independently associated with poor quality of life with storage symptoms accounting for higher correlation coefficients with the **bother score**.

CONSENT

Written informed consent of the patients was obtained before they were included in the study. Those who declined consent were not victimized in any way.

REFERENCES

1. Bosch JLHR, Weiss JP. The prevalence and causes of nocturia. *J Urol*. 2013 Jan;189(1 Suppl):S86-92.
2. Chapple C, Castro-Diaz D, Chuang Y-C, Lee K-S, Liao L, Liu S-P, 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.
3. Kim S-K, Kim K-H, Kim S-H, Yoo S-J, Jeong Y-W. Health-related quality of life in adult males with lower urinary tract symptoms. *Qual Life Res*. 2019 Sep;28(9):2419–28.
4. C R, Cl L, E O, C M, M K, R H, et al. The impact of lower urinary tract symptoms and comorbidities on quality of life: the BACH and UREPIK studies. *BJU international* [Internet]. 2007 Feb [cited 2022 Jan 14];99(2). Available from: <https://pubmed.ncbi.nlm.nih.gov/17313423/>
5. Dada MU, Adegun PT, Idowu AA, Omonisi AE, Oluwole LO, Obadeji A. Prevalence and Determinants of Psychiatric Morbidities in Nigerian Men with LUTS Due to Prostatic Diseases. *AJMAH*. 2021 Nov 24;146–52.
6. Temi AP, Usman DM, Ademola I, Emmanuel OA, Olutoyin OL, Adetunji O. Pre-treatment Depression and Anxiety Disorder in Men with Cancer of the Prostate in South Western Nigeria. *INDJ*. 2021 Jan 28;46–53.
7. Fourcade R-O, Lacoïn F, Rouprêt M, Slama A, Le Fur C, Michel E, et al. Outcomes and general health-related quality of life among patients medically treated in general daily practice for lower urinary tract symptoms due to benign prostatic hyperplasia. *World J Urol*. 2012 Jun;30(3):419–26.
8. Hansen BJ, Flyger H, Brasso K, Schou J, Nordling J, Andersen JT, et al. Validation of the self-administered Danish Prostatic Symptom Score (DAN-PSS-1) system for use in benign prostatic hyperplasia. *British Journal of Urology*. 1995 Oct;76(4):451–8.
9. O’Leary MP. Validity of the “Bother Score” in the Evaluation and Treatment of Symptomatic Benign Prostatic Hyperplasia. *Rev Urol*. 2005;7(1):1–10.
10. Rosen R, Altwein J, Boyle P, Kirby RS, Lukacs B, Meuleman E, et al. Lower Urinary Tract Symptoms and Male Sexual Dysfunction: The Multinational

- Survey of the Aging Male (MSAM-7). *European Urology*. 2003 Dec;44(6):637–49.
11. Chatelain: Benign Prostatic Hyperplasia: 5th Internationa... - Google Scholar [Internet]. [cited 2022 Jan 14]. Available from: https://scholar.google.com/scholar_lookup?title=Benign+Prostatic+Hyperplasia.+Fifth+International+Consultation+on+BPH&publication_year=2001&
 12. Je B-M, Md D, Pa B, H V. Quality-of-life assessment in patients with benign prostatic hyperplasia: effects of various interventions. *Pharmacoeconomics* [Internet]. 2001 [cited 2022 Jan 18];19(11). Available from: <https://pubmed.ncbi.nlm.nih.gov/11735675/>
 13. Calais Da Silva F, Marquis P, Deschaseaux P, Gineste JL, Cauquil J, Patrick DL. Relative Importance of Sexuality and Quality of Life in Patients with Prostatic Symptoms. *Eur Urol*. 1997;31(3):272–80.
 14. Peters TJ, Donovan JL, Kay HE, Abrams P, de la Rosette JJ, Porru D, et al. The International Continence Society 'Benign Prostatic Hyperplasia' Study: the bothersomeness of urinary symptoms. *J Urol*. 1997 Mar;157(3):885–9.
 15. Hyperplasia* TD of VACS of TR for BP. A Comparison of Quality of Life with Patient Reported Symptoms and Objective Findings in Men with Benign Prostatic Hyperplasia. *The Journal of Urology* [Internet]. 1993 Nov [cited 2022 Jan 14]; Available from: <https://www.auajournals.org/doi/abs/10.1016/S0022-5347%2817%2935870-6>
 16. Silva FCD, Marquis P, Deschaseaux P, Gineste JL, Cauquil J, Patrick DL. Relative Importance of Sexuality and Quality of Life in Patients with Prostatic Symptoms. *EUR*. 1997;31:272–80.
 17. ICC/ESOMAR International Code on Market, Opinion and Social Research and Data Analytics [Internet]. ICC - International Chamber of Commerce. [cited 2022 Jan 21]. Available from: <https://iccwbo.org/publication/iccesomar-international-code-market-opinion-social-research-data-analytics/>
 18. Abrams P, Cardozo L, Fall M, Griffiths D, Rosier P, Ulmsten U, et al. The standardisation of terminology in lower urinary tract function: report from the standardisation sub-committee of the International Continence Society. *Urology*. 2003 Jan;61(1):37–49.
 19. Ojewola RW, Oridota ES, Balogun OS, Ogundare EO, Alabi TO. Lower Urinary Tract Symptoms: Prevalence, Perceptions, and Healthcare-Seeking Behavior amongst Nigerian Men. *World J Mens Health*. 2016 Dec;34(3):200–8.
 20. Choi EPH, Wan EYF, Chin WY, Lam CLK. Lower urinary tract symptoms and health-related quality of life in Hong Kong primary care: a cross-sectional study. *Qual Life Res*. 2020 May 1;29(5):1311–21.

21. Choi EPH, Huang J, Chau PH, Wan EYF. Health-related quality of life among Chinese primary care patients with different lower urinary tract symptoms: a latent class analysis. *Qual Life Res.* 2021 May;30(5):1305–15.
22. Choi EPH, Lam CLK, Chin W-Y. The health-related quality of life of Chinese patients with lower urinary tract symptoms in primary care. *Qual Life Res.* 2014 Dec;23(10):2723–33.
23. Coyne KS, Wein AJ, Tubaro A, Sexton CC, Thompson CL, Kopp ZS, et al. The burden of lower urinary tract symptoms: evaluating the effect of LUTS on health-related quality of life, anxiety and depression: EpiLUTS. *BJU Int.* 2009 Apr;103 Suppl 3:4–11.
24. Suen LKP, Cheng HL, Yeung SKW, Au-Yeung CH, Lee JCY, Ho KKY, et al. Qualitative insights into the experiences of living with moderate-to-severe lower urinary tract symptoms among community-dwelling ageing males. 2017 [cited 2021 Oct 3]; Available from: <http://ira.lib.polyu.edu.hk/handle/10397/79838>