

Quality of life among male patients with lower urinary tract symptoms presenting at LUMHS

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ABSTRACT:

OBJECTIVE:

To explore the Quality of life among male patients with Lower urinary tract symptoms (LUTS) presenting at LUMHS using International Prostatic Symptom Score.

METHOD:

Cross-sectional study was conducted at LUMHS, Jamshoro among male patients ≥ 50 years or coming with LUTS associated with enlargement of prostate with symptoms for at least 3 months. Non probability convenience sampling technique was utilized. Participants were interviewed a questionnaire for recording IPSS. The questions inquired incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. Last question determines patient's perceived QOL. Chi square test was applied to determine level of significance.

RESULTS:

Among 312 participants, mean age was 71 ± 4 . 140(44.8%) patients were < 70 years of age whereas 172(55.1%) were > 70 years. IPSS scoring was 75(24.0%) mild, 124(39.7%) moderate and 113(36.2%) severe symptoms. Nocturia was most frequently presented LUTS. Significant association was noted between IPSS and age (p value = 0.001) with severe symptoms recorded in increased age patients. BMI was also reported to have significant association with LUTS. 31(9.93%) patients reported mixed QOL, 103(33.01%) patients reported mostly dissatisfied, 100(32.05%) patients reported unhappy, and 78 (25%) patients reported as having terrible QOL. Significant association was found between IPSS and QOL scores. (p .value=0.001)

CONCLUSION:

Lower Urinary Tract Symptoms significantly impact quality of life and are associated with high IPSS score and advanced age. For alleviating urinary symptoms knowledge of conventional measures should be given to aging population.

KEY WORDS:

Lower Urinary Tract Symptoms, LUTS, Quality of Life, QOL, IPSS score

INTRODUCTION:

Lower urinary tract symptoms (LUTS) are represented by altered bladder sensation resulting in urgency (inability to delay voiding), urinary leakage, nocturia and increased frequency. Obstructive symptoms including prolonged micturition, slow stream, hesitancy, splitting, intermittency, terminal dribbling, straining, post micturition dribbling, feeling of not completely emptying could also be a representation. ^[1, 2, 3] Among adult men (≥ 40 years) the prevalence of LUTS has been reported with range 62-73%. ^[4] Whereas in Asian region frequency of male with LUTS is reported in a range from 14% - 59%. ^[5]

Prostatic enlargement is the leading underlying cause of LUTS in older men. ^[6] The symptoms of enlarged prostate are frequently experienced by population over 50 years of age. ^[6] Although LUTS associated with Prostate enlargement is not life threatening, but still it could have a definite influence on patient's quality of life (QOL) mainly in older age population by affecting social and emotional well being and work related productivity. ^[7] It can also cause waking up in the middle of the night for multiple time that cause sleep disturbance, resulting in serious retrogression in QOL and instability in psychological/mental behaviors. Thus alteration observed in patterns of sleeping, anxiety and depression, self-consciousness and awkwardness, impaired physical mobility, impaired sexual activities and dissatisfaction. Some people may experience progression in the prostatic enlargement that causes worsening symptoms, result in surgical intervention. ^[8] Certain treatments for this condition usually can be a cause of sexual dysfunction which is directly associated with the mental illness. ^[9]

There are numerous ways of determining severity of symptoms in male patients with benign enlarged prostate; the International Prostatic Symptom Score (IPSS) is considered as the best known methods for evaluation of disease severity. ^[10, 11] IPSS is used globally as a primary screening tool for the assessment of LUTS and QOL. ^[10, 11] Since 1991 IPSS is considered as the reliable and valid tool and it is used widely in urological settings. ^[11, 12]

Greater than 60 Percent of Asian men aged forty years and older have LUTS, which is related with a diminished quality of life, especially in those where LUTS categories overlap and with more severe symptoms. ^[13, 14] This also elevates risk of depression in these patients. ^[14] Using the

IPSS-QOL score, a study conducted in Iran in 2021 by J. Khedmati and F Soleymani demonstrates that as the severity of LUTS associated with enlarged prostate increases, the impact on QOL becomes more pronounced. ^[15] In Pakistani population frequency of LUTS was documented as 60.53% by Rasool M. ^[16] Salman M in their research work conducted at three districts of Punjab province of Pakistan in 2019 stated 33.7% prevalence of LUTS with affected patients suffering from poor QOL. ^[17] In another study Salman M reported LUTS are common in Calcium channel blockers users and result in reduced QOL. ^[18] Another investigation conducted in Pakistan in 2018 at Sheikh Zayed Medical College Rahim Yar Khan by Ullah A revealed that the QOL of elderly individuals is adversely affected by lower urinary tract problems resulting from benign prostatic hyperplasia. ^[19] To the best of our knowledge not much research work has been conducted in Sindh province of Pakistan exploring LUTS and its impact on QOL in male patients.

The Quality of Life of Older Adults with lower urinary tract Symptoms is a serious public health issue and should be explored to provide benefit through awareness to the patients accordingly. Thus rationale of our study is to investigate quality of life in patients with lower urinary tract symptoms in male patients presenting at Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro.

OBJECTIVE:

To explore the Quality of life among the patients with lower urinary tract symptoms presenting at LUMHS using IPSS score.

METHODS:

This cross-sectional study was conducted at Liaquat University Medical and Health Sciences (LUMHS), Jamshoro among male patients with age 50 years or above coming first time with the LUTS associated with enlargement of prostate with symptoms for at least 3 months who were willing to participate in the study with ability to understand and comply with study tool were included in the study. Patients with age below 50 years, history of urethral catheterization, who had undergone surgical prostatic removal, any surgery or hospitalization in the preceding months, patients with acute diseases such as cardiovascular problems or having history of trauma

were excluded from the study. Non probability convenience sampling technique was utilized. Ethical permission from the institutional review board of LUMHS was taken before data collection. Voluntary participation was practiced and verbal informed consent was taken from each participant of the study according to Helsinki declaration. Confidentiality of the responses was ensured to the participants during and after study. Sample size was calculated using open epi.com with documented frequency of 28.3% patients experiencing terrible impact on QOL due to LUTS, the sample size calculated was 312 with 95% confidence interval and 5% margin of error.^[20]

For data collection, each patient presenting with LUTS was interviewed a questionnaire for recording IPSS. The questionnaire comprised of section A inquiring demographic data and clinical details of the participating patients. Section B of the questionnaire inquired 7 questions regarding urinary symptoms and 1 question concerning quality of life. Every question related to urinary symptoms allow the patient to choose 1 out of 6 answers indicating severity of the specific symptom. Responses on the likert scale are rated on a range of zero to five. The overall score ranges from 0 - 35 (asymptomatic to very symptomatic) denoting mild 0-7 score , moderate 8-19 score and severe 19-35 score. The questions inquire following urinary symptoms: incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. Last question determines patient's perceived quality of life QOL which includes 7 responses from 0 to 6. The QoL or level of satisfaction of LUTS of patients will be represented by seven different responses noted on likert scale: Delighted (0), Pleased (1), Mostly satisfied (2), Mixed (3), Mostly dissatisfied (4), Unhappy (5), and Terrible (6). Strict adherence to exclusion criteria was maintained in order to mitigate the influence of confounding variables and bias on the study outcomes.

All the data was entered and analyzed using SPSS version 22 for windows. Descriptive statistics was calculated for all study variables. Frequency and mean scores were calculated for quantitative variables like age, BMI, IPSS score, IPSS-QOL score. For categorical variables like, severity of symptoms (IPSS), and quality of life frequency and percentages were measured. Chi square test was applied for analyzing level of significance with P-value <0.05 as significant.

RESULTS:

After examining 500 male patients presenting with LUTS, 312 patients were selected according to the inclusion criteria. Mean age of the participant patients in this study was 71 ± 4 . Results of the study showed 140(44.8%) of male patients were less than 70 years of age whereas 172(55.1%) male patients were greater than 70 years of age. Table.1 represents the demographic details of the study. IPSS scoring noted was 75(24.0%) mild, 124(39.7%) moderate and 113(36.2%) severe symptoms. Nocturia was noted as the most frequently presented LUTS in our study. Table.2 present the frequency of different LUTS recorded in our study. Significant association was noted between IPSS and age (p value = 0.001) with severe symptoms recorded in increased age patients. (Table.3) BMI was also reported to have significant association with LUTS with patients presenting with increased BMI having moderate to severe symptoms. (Table.4) In our study, related to QOL question, 31(9.93%) patients reported mixed QOL, 103(33.01%) patients reported mostly dissatisfied, 100(32.05%) patients reported unhappy, and 78 (25%) patients reported as having terrible QOL. Significant association was also noted between IPSS and QOL scores. (p .value=0.001) where patients having severe symptoms recorded with dissatisfied to terrible QOL. Table.5 present the different QOL scores related to mild, moderate and severe IPSS categories.

Table.1: Demographic variables of the study

Variables	Frequency (%)
Age	
less than 70 yrs	140 (44.8)
70 or above	172 (55.1)
Marital status	
Married	294 (94.3)
Unmarried	18 (5.7)
Occupation	
Employed	123(39.5)
Unemployed	62 (19.7)
Retired	127 (40.8)
Hypertension	
Yes	64 (20.4)
No	248 (79.6)
Diabetes Mellitus	
Yes	80 (25.5)
NO	232 (73.9)
BMI Categories	
18.5-24.9	58 (18.5)
25-29.9	117 (37.6)
>30	137(43.9)
Education	
Graduation	124(39.7)
Secondary	103 (33.1)
Matriculation	85 (27.2)

Table.2: Frequency of LUTS

LUTS	n(%)
Incomplete Emptying	62(19.8)
Frequency	156(34.9)
Intermittency	94(30.1)
Urgency	125(40.0)
Weak stream	78(25.0)
Straining	78(25.0)
Nocturia	234(75.0)

Table.3: Age and IPSS

Age	Mild	Moderate	Severe	P Value
less than 70 yrs	170(54.4%)	142(45.5%)	0	0.001
70 or above	0	108(34.6%)	204(65.3%)	

Table.4: BMI and IPSS

BMI Categories	Mild	Moderate	Severe	P Value
18.5-24.9	28(96.55%)	1(3.44%)	0	0.001
25-29.9	10(16.94%)	28(47.45%)	21(35.59%)	
>30	0	33(47.82%)	36(52.17%)	

Table.5: QOL and IPSS

Quality Of Life	Mild n(%)	Moderate n(%)	Severe n(%)	P Value
0 Delighted	0	0	0	0.001
1 Pleased	0	0	0	
2 Mostly satisfied	0	0	0	
3 Mixed QOL	0	15(48.38%)	16(51.61%)	
4 Mostly dissatisfied	7(6.79%)	16(15.53%)	80(77.66%)	
5 Unhappy	4(4 %)	7(7%)	89(89%)	
6 Terrible	4(5.12%)	16(20.51%)	58(74.35%)	

DISCUSSION:

This study has investigated changes symptoms related to lower urinary tract and subsequent quality of life in male patients. We noticed lower urinary tract symptoms significantly impact quality of life and are associated with IPSS score severity. LUTS such as Nocturia can cause sleep disruptions together with the persistent urge to urinate and the associated anxiety may negatively affect a person's mental health and well-being.^[1, 2, 3] The number of times a person urinates and the frequency with which they feel the urge to urinate, particularly during the night can lead to reduction in overall quality of life^[8, 18, 19] In our study, most frequently reported LUTS was nocturia followed by urgency and increase in frequency.

Our study found that QOL was compromised ranging from mostly dissatisfied to terrible scores in patients presenting with high IPSS having moderate to severe LUTS. Salman M in their research work stated that patients with LUTS have poor QOL and around 1/3rd adult Pakistani men experience considerable urinary symptoms clinically.^[17] Arafa MA in their study also noted positive correlation between IPSS score and QOL.^[20] They documented that majority patients in their study were displeased due to their urinary symptoms. Ullah A reported negative impact on QOL due to substantial LUTS secondary to benign prostatic hyperplasia in patients with increase IPSS.^[19]

It has been reported in literature that prevalence of LUTS increases with increase in age.^[10, 21, 22] In our study we noted that patients with age less than 70 years were suffering from mild to moderate IPSS severity score as compare to age 70 and above who were facing more severe LUTS with severe IPSS scores. Gyasi-Sarpong CL^[10] in their study who also noted that IPSS scores and age are associated significantly. Our results are also comparable with study done by Eckhardt MD et al.^[23] Their results showed significant relation between age and IPSS, thus as age advances, IPSS score also increase. Contradictory result was noted by Arafa MA^[20] in their study who did not find strong association with age.

Another significant finding noted in our study was increase IPSS scores noted in patients presenting with increase BMI having LUTS. Yelsel K ^[24] also reported that BMI and IPSS are associated significantly. They noted that the IPSS levels were substantially higher in overweight and obese patients as compare to patients in the normal group. They also observed that obese group had significantly higher IPSS levels than overweight group.

Determining the QOL can help propose management options to improve patients' well-being. It is imperative that for alleviating urinary symptoms knowledge of conventional measures should be given to aging population so that their routine activities are less affected. NICE clinical guidelines for managing LUTS in men is a useful guide for healthcare professionals and for men with LUTS and their families and carers. ^[25] This guideline provides LUTS management in men over 18 and it is directed to improve QOL for men with LUTS through evidence based management recommendations. This guide can be utilized for effective education of patients to improve their QOL.

CONCLUSION:

Lower Urinary Tract Symptoms significantly impact quality of life and are associated with high IPSS score and advanced age. For alleviating urinary symptoms knowledge of conventional measures should be given to aging population.

REFERENCES:

1. Abdelmoteleb H, Aiello M, Drake M et al (2020) The lower urinary tract symptoms. In: Drake M., Cocci A., Pereira e Silva R. (eds) Lower urinary tract symptoms in adults. pp 19-38. Springer, Cham.
2. Hollingsworth JM, Wilt TJ. Lower urinary tract symptoms in men. *BMJ*. 2014 Aug 14;349:g4474. doi: 10.1136/bmj.g4474.
3. Albarqouni L, Sanders S, Clark J, Tikkinen KAO, Glasziou P. Self-Management for Men With Lower Urinary Tract Symptoms: A Systematic Review and Meta-Analysis. *Ann Fam Med*. 2021 Mar-Apr;19(2):157-167. doi: 10.1370/afm.2609.
4. Gkatzoudi C, Bouloukaki I, Mamoulakis C, Lionis C, Tsiligianni I. Evaluation of Lower Urinary Tract Symptoms in Males and Urinary Incontinence in Females in Primary Health Care in Greece. *Medicina*. 2024; 60(3):389. doi: 10.3390/medicina60030389.
5. Li MK, Garcia LA, Rosen R. Lower urinary tract symptoms and male sexual dysfunction in Asia: a survey of ageing men from five Asian countries. *BJU Int*. 2005 Dec; 96(9):1339-54. doi: 10.1111/j.1464-410X.2005.05831.x.
6. Egan KB. The Epidemiology of Benign Prostatic Hyperplasia Associated with Lower Urinary Tract Symptoms: Prevalence and Incident Rates. *Urol Clin North Am*. 2016 Aug;43(3):289-97. doi: 10.1016/j.ucl.2016.04.001.
7. Emberton M, Fitzpatrick JM, Garcia-Losa M, Qizilbash N, Djavan B. Progression of benign prostatic hyperplasia: systematic review of the placebo arms of clinical trials. *BJU international*. 2008;102(8):981-6.
8. Liao L, Chuang YC, Liu SP, Lee KS, Yoo TK, Chu R, Sumarsono B, Wang JY. Effect of lower urinary tract symptoms on the quality of life and sexual function of males in China, Taiwan, and South Korea: Subgroup analysis of a cross-sectional, population-based study. *Low Urin Tract Symptoms*. 2019 Apr;11(2):O78-O84. doi: 10.1111/luts.12220.
9. Kassabian VS. Sexual function in patients treated for benign prostatic hyperplasia. *Lancet*. 2003 Jan 4;361(9351):60-2. doi: 10.1016/S0140-6736(03)12164-2.
10. Gyasi-Sarpong CK, Acheampong E, Yeboah FA, Aboah K, Laing EF, Amoah G. Predictors of the international prostate symptoms scores for patients with lower urinary

- tract symptoms: A descriptive cross-sectional study. *Urol Ann.* 2018 Jul-Sep;10(3):317-323. doi: 10.4103/UA.UA_4_17.
11. Barry MJ, Fowler FJ Jr, O'Leary MP, Bruskewitz RC, Holtgrewe HL, Mebust WK, Cockett AT. The American Urological Association symptom index for benign prostatic hyperplasia. The Measurement Committee of the American Urological Association. *J Urol.* 1992;148:1549-57; discussion 1564.
 12. Yao MW, Green JSA. How international is the International Prostate Symptom Score? A literature review of validated translations of the IPSS, the most widely used self-administered patient questionnaire for male lower urinary tract symptoms. *Low Urin Tract Symptoms.* 2022 Mar;14(2):92-101. doi: 10.1111/luts.12415.
 13. Wong SY, Woo J, Hong A, Leung JC, Kwok T, Leung PC. Risk factors for lower urinary tract symptoms in southern Chinese men. *Urology.* 2006 Nov;68(5):1009-14. doi: 10.1016/j.urology.2006.05.039.
 14. Wong SY, Hong A, Leung J, Kwok T, Leung PC, Woo J. Lower urinary tract symptoms and depressive symptoms in elderly men. *J Affect Disord.* 2006 Nov;96(1-2):83-8. doi: 10.1016/j.jad.2006.05.013. Epub 2006 Jul 11.
 15. Khedmati J, Soleymani F, Moosivand A, Zartab S, Seyedifar M. Economic Evaluation for Benign Prostatic Hyperplasia in Iran: Surgical Treatment or Dutasteride. *Iran J Pharm Res.* 2021 Winter;20(1):206-215. doi: 10.22037/ijpr.2019.111979.13465.
 16. Rasool M, Saleem MS, Waqas M, Pansota MS, Tabassum SA. Lower urinary tract symptoms: frequency in men aged 40 or above. *Professional Med J.* 2016 Nov 10;23(11):1340-4.
 17. Salman M, Khan J, Khan A, et al. Prevalence and predictors of lower urinary tract symptoms in Pakistani men: A cross-sectional study. *J ClinUrology.* 2019;12(4):307-313. doi:10.1177/2051415818815371
 18. Salman M, Khan AH, Syed Sulaiman SA, Hughes JD, Khan JH, Shehzadi N, Hussain K. Assessment of lower urinary tract symptoms among calcium channel blocker-users and its impact on quality of life. *J Pak Med Assoc.* 2021 May;71(5):1384-1387. doi: 10.47391/JPM.A.1162.
 19. Ullah A, Bukhari S, Faiz H. Quality of life among patients of benign prostatic hyperplasia. *J Sheikh Zayed Med Col.* 2018;9(3):1446-9.

20. Arafa MA, Farhat K, Aqdas S, Al-Atawi M, Rabah DM. Assessment of lower urinary tract symptoms in Saudi men using the International Prostate Symptoms Score. *Urol Ann.* 2015 Apr-Jun;7(2):221-5. doi: 10.4103/0974-7796.150492.
21. Andersson SO, Rashidkhani B, Karlberg L, Wolk A, Johansson JE. Prevalence of lower urinary tract symptoms in men aged 45-79 years: A population-based study of 40 000 swedish men. *BJU Int.* 2004;94:327–31. doi: 10.1111/j.1464-410X.2004.04930.x.
22. Haidinger G, Temml C, Schatzl G, Brössner C, Roehlich M, Schmidbauer CP, et al. Risk factors for lower urinary tract symptoms in elderly men. For the Prostate Study Group of the Austrian Society of Urology. *Eur Urol.* 2000;37:413–20. doi: 10.1159/000020162.
23. Eckhardt MD, van Venrooij GE, van Melick HH, Boon TA. Prevalence and bothersomeness of lower urinary tract symptoms in benign prostatic hyperplasia and their impact on well-being. *J Urol.* 2001 Aug;166(2):563-8. doi:10.1016/S0022-5347(05)65985-X.
24. Yelsel K, Alma E, Eken A, Gülüm M, Erçil H, Ayyıldız A. Effect of obesity on International Prostate Symptom Score and prostate volume. *Urol Ann.* 2015 Jul-Sep;7(3):371-4. doi: 10.4103/0974-7796.152056.
25. Lower urinary tract symptoms in men: management. London: National Institute for Health and Care Excellence (NICE); 2015 Jun. (NICE Clinical Guidelines, No. 97.) Available from: <https://www.ncbi.nlm.nih.gov/books/NBK553261/>.