

# Evaluation of Sexual Dysfunction in Lower Urinary Tract Symptoms/Benign Prostatic Hyperplasia Patients

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## Abstract

**Introduction:** Lower urinary tract symptoms (LUTS) suggestive of benign prostatic hyperplasia (BPH) and sexual dysfunction are widely prevalent in aging population. There is a strong correlation between the severity of LUTS and sexual dysfunction either due to the direct effect of LUTS/BPH or due to treatment strategies adopted for LUTS/BPH. However, the symptoms of sexual dysfunction are not concentrated on both by the patient and the physician at least in our country.

**Aim:** The aim of this study is to evaluate the prevalence of sexual dysfunction in LUTS/BPH patients.

**Methods:** Patients admitted into ward with symptoms suggestive of LUTS/BPH were given the linguistic version of international prostate symptom score and male sexual health questionnaire and asked to respond. All details regarding the patients' demographics, scoring, and results were entered into a pro forma.

**Results:** A total of 120 patients were enrolled for the study. Majority of the patients who had bothersome LUTS also had bothersome sexual dysfunction. The correlation coefficient is 0.33 signifying a positive correlation.

**Conclusion:** The prevalence of sexual dysfunction in patients with LUTS is 70%. The severity of sexual dysfunction correlates with severity of LUTS. Ejaculatory function deteriorates after the treatment of LUTS/BPH.

**Key words:** Benign prostatic hyperplasia, Lower urinary tract symptoms, Sexual dysfunction

## INTRODUCTION

Sexual dysfunction affects a couple's relationship and the quality of life (QoL) of the patient and the partner irrespective of age. Lower urinary tract symptoms (LUTS) suggestive of benign prostatic hyperplasia (BPH) is highly prevalent among the elderly.<sup>[1]</sup> However, the symptoms of sexual dysfunction are not concentrated on both by the patient and the physician at least in our country. Sexual dysfunction manifests mainly as erectile dysfunction (ED), ejaculatory disorders (EjD), or decreased libido/hypoactive

sexual desire (HSD). Men with moderate-to-severe LUTS are at increased risk for sexual dysfunction. Although reduced rigidity and reduced ejaculate volume are the highly prevalent symptoms in aging men, reduced rigidity and pain on ejaculation are considered to be the most bothersome, affecting the QoL. Sexual dysfunction is much more prevalent in patients with LUTS/BPH than in men without them, even after controlling for confounding variables such as age and comorbid illnesses. Hence, LUTS/BPH is considered to be an independent risk factor for sexual dysfunction.<sup>[2]</sup> The reason for the association is a common underlying pathology or the psychological effect of LUTS/BPH on sexual function needs to be confirmed. Despite a decline in the frequency of sexual intercourse, as well as in overall sexual functioning, most elderly men report regular sexual activity and consider their sex life as an important dimension of their QoL. However, most patients with LUTS/BPH experience a negative effect of LUTS on their sex life. Hence, treatment of LUTS/BPH should

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also aim to at least maintain or, if possible, improve sexual function.<sup>[3]</sup> The successful management of patients with LUTS associated with BPH should include assessments of sexual function and monitoring of medication-related sexual side effects. For men with LUTS and sexual dysfunction, an appropriate integrated management approach, based on each patient's symptoms and outcome objectives, is warranted.<sup>[4]</sup> We intended to evaluate the prevalence of sexual dysfunction in the LUTS/BPH patient population in our country, in our setup to analyze the amount of importance attached to the sexual QoL and also to see the correlation between LUTS and sexual dysfunction.

### Aim

The aim of this study is to evaluate the prevalence of sexual dysfunction in LUTS/BPH patients.

## MATERIALS AND METHODS

Between June 2017 and November 2017, all patients admitted into inpatient department with LUTS/BPH were included for evaluation. These patients were admitted for either evaluation or intervention for LUST/BPH.

- Informed consent obtained from all eligible patients
- All patients after admission were given the linguistic version of international prostate symptom score (IPSS) and male sexual health questionnaire
- Patients who are literate were asked to fill up the questionnaire (self-administered questionnaire)
- Patients who were not able to fill up (for various reasons such as illiterate and poor eyesight not able to understand the contents) were interviewed personally
- To avoid interviewer bias, the same interviewer interviewed all patients
- All details regarding the patients' demographics, scoring, and results were entered into a pro forma
- Post-treatment effect evaluation was done at the end of 3 months following treatment.

### Initial Evaluation

The patients with complaints suggestive of LUTS/BPH were thoroughly evaluated with history and physical examination, Digital Rectal Examination and focused neurological examination, baseline blood parameters, USG kidneys–ureter–bladder, uroflow, and post void residual urine.

### Inclusion Criteria

1. All patients with a history suggestive of LUTS/BPH with >50 years were included.
2. Patients who gave informed consent for the study were included in the study.

### Exclusion Criteria

After the initial evaluation, the patients were excluded using the following exclusion criteria.

1. Patients who have been already treated for LUTS/BPH earlier.
2. Patients with comorbid illness such as diabetes mellitus and hypertension.
3. Patients with history or clinical examination suggestive of associated neurological disorder.
4. Patients who were not willing to self-administer the questionnaire are to be interviewed.

### Symptom Severity and Sexual Function Assessment

All the patients were given with the linguistic version of the IPSS. Sexual function assessment was done using the linguistic version of the male sexual function scale. The male sexual function scale consists of a total of 8 questions, of which two questions are on erectile function domain and its bother, and three are on ejaculatory function domain and its bother, one question each on sexual desire and satisfaction. The final question assessed the overall bother or distraction of life due to the sexual dysfunction. The linguistic conversion was done by the investigator with the help of a psychologist who had experience in interviewing such type of patients. At most care was taken in phrasing the words so that it should not be embarrassing to the patient. Before put into use in this clinical study, the questionnaire was circulated among outpatients who were waiting for an ultrasound examination. They were asked to comment on the content whether it is understandable or not, and their suggestions were taken. The investigator interviewed patients (78 patients - 65%) who are illiterate and who could not read the questionnaire because of poor eyesight and who could not understand the content. To avoid bias, the same investigator interviewed all such patients. In all other patients (42 patients -35 %), it was used as a self-administered questionnaire.

### Management

Management of these patients was done according to the institute's protocol. Management consisted of medical therapy in the form of  $\alpha$ -blockers and 5 $\alpha$ -reductase inhibitors (5-ARIs). Surgical therapy was mainly transurethral resection of the prostate (TURP).

### Post-treatment Evaluation

Evaluation following treatment was done at the end of the 3<sup>rd</sup> month. All patients were asked to come for a follow-up at the end of the 3<sup>rd</sup> month and were given the IPSS and male sexual function scale questionnaires. Uroflow with postvoid residue was also done to ascertain the effect of therapy.

### Correlation between LUTS and Sexual Dysfunction

Correlation between LUTS severity and sexual function severity was assessed using the Microsoft Excel correlation coefficient.

## RESULTS

A total of 120 patients were included in the study; the mean age of the patients is 64.5 years, in the range between 53 and 82. The majority (73) were in the age group of 60–69. [Figure 1] Most of the patients (64, 53.33%) had severe bothersome symptoms. Most of the patients in the 50–59 age group (78%) had mild or moderately severe symptoms. In the 60–69 age group, 94.5% of patients had bothersome moderate-to-severe symptoms. Severe degree of symptoms was present in most of the patients in the 70–79 age group. The correlation coefficient for age and LUTS score is 0.33, signifying a positive correlation. As age increases, the incidence of LUTS also increases [Figure 2].

### Prevalence of Sexual Dysfunction

Most of the patients (50%) had moderate bother due to their ED. The rest had either no or severe bother in equal number. 64 of 73 patients in the age group of 60 moderate-to-severe ED, whereas only 9 of 14 patients had significant dysfunction in the age group of 50–59. The majority (66.6%) of the 120 patients had either no or mild bother due to their ejaculatory function. Only 1 was severely bothered. Just one patient in the age group of 50–59 had significant ejaculatory dysfunction, whereas 28 of 96 patients above 60 years had significant ejaculatory dysfunction. Majority of patients (60%) were not at all bothered by their sexual desire disorder. 7 patients (6%) were severely bothered by their sexual desire disorder. Among the 120 patients, 50 (41 %) were fully satisfied with their sexual activities. Around 30% of patients were either moderately dissatisfied or dissatisfied. 58 of 73 patients in the age group 60–69 had bothersome sexual dysfunction. 25 of 47 patients felt no bother due to sexual dysfunction in the other age groups [Figures 3 and 4].

### Correlation between LUTS Severity and Sexual Dysfunction

All patients with mild LUTS symptoms had none or mild ED, and almost all of the patients in the severe LUTS group had moderate or severe ED. The correlation coefficient is 0.71, showing the significant positive correlation between LUTS and ED. Only the patients with severe LUTS had ejaculatory dysfunction, 34 of 40 patients. The correlation coefficient is 0.5. None of the patients with mild LUTS symptoms were bothered by sexual dysfunction. Around 30% of patients with moderate LUTS had mild bother. 45% of patients with severe LUTS had severe distress due to sexual dysfunction. The correlation coefficient is 0.65, significant positive correlation.

After baseline evaluation among the 120 patients, only 16 patients (13.3%) were eligible or willing to undergo medical therapy. Patients (8) who had the prostate volume of < 30cc were started on  $\alpha$ -blockers. 8 patients

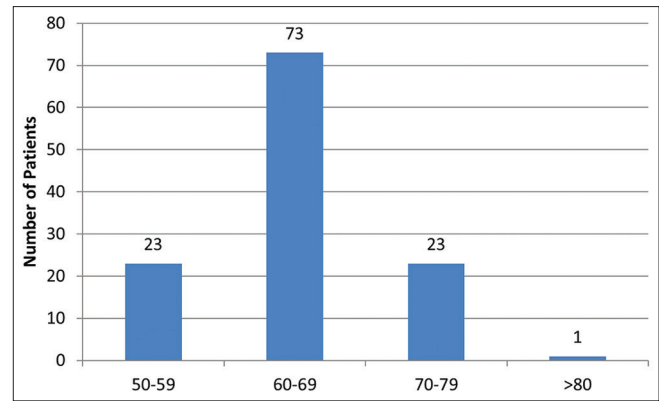


Figure 1: Distribution of age group

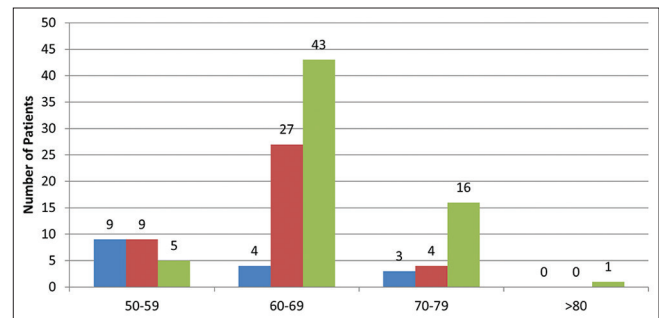


Figure 2: Age group-wise lower urinary tract symptoms severity

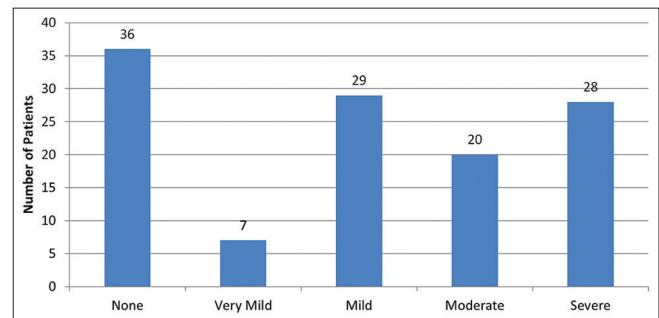


Figure 3: Overall bother/distraction due to sexual dysfunction

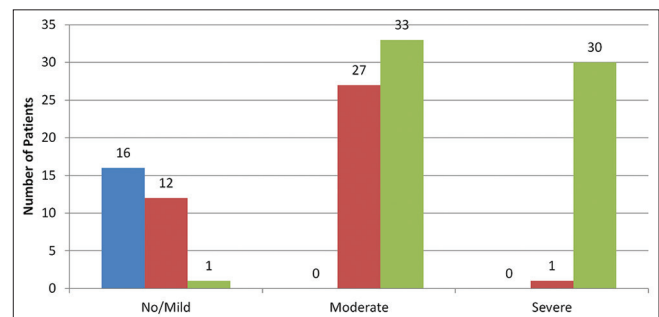


Figure 4: Correlation between lower urinary tract symptoms severity and sexual dysfunction bother

had the prostate volume of >30 cc, and they were advised to take combination therapy ( $\alpha$ -blockers and 5-ARIs). All patients had significantly improved flow

rate and consequent reduction in IPSS score. The erectile function was not altered after medical therapy. 6 patients (38%) developed bothersome ejaculatory dysfunction after medical treatment. 50% of patients on combined therapy and 25% on  $\alpha$ -blockers alone had ejaculatory dysfunction. Surgical treatment was mainly in the form of TURP. 104 patients underwent TURP under suitable anesthesia. All patients were asked to come for follow-up at the end of 3 months. Only 34 patients turned up for repeat evaluation. Postoperatively, among the 16 patients who had moderate bother, 7 patients (20%) had worsening of their erectile problems. Rest of the patients perceived no change. Among the 28 patients who had no issues with ejaculatory function preoperatively, 20 (71%) developed moderately bothersome ejaculatory dysfunction postoperatively. All the 6 patients who had moderate bother progressed to severe bother postoperatively.

## DISCUSSION

LUTS suggestive of (LUTS/BPH) and sexual dysfunction are common, highly bothersome conditions in older men, and the prevalence of both disorders increases with age. Sexual dysfunction manifests mainly as ED, EjD, or decreased libido/HSD. Men with moderate-to-severe LUTS are at increased risk for sexual dysfunction. The successful management of patients with LUTS associated with BPH should include assessments of sexual function and monitoring of medication-related sexual side effects. For men with LUTS and sexual dysfunction, an appropriate integrated management approach, based on each patient's symptoms and outcome objectives, is warranted. Multinational survey of the aging male (MSAM-7) study showed that there is the progressive increase in LUTS and sexual dysfunction with age and independent increase in sexual dysfunction in patients with LUTS. Of a total of 232 patients who were enrolled in the study, 120 were finally included in the study after applying the inclusion and exclusion criteria. Although the sample size appears low, the patient group is the hospitalized patients only that form those who are very much distressed with the symptoms. Moreover, the sample size is comparable with that of Namasivayam *et al.*<sup>[5]</sup> Patients with comorbidities were excluded from the study. They formed around one-third of the patients. It is important to note that 10% of patients refused to respond to the sexual health questionnaire, which carries significance. The mean age of the patients was 65.8. The predominant age group is 60–69 years. This age characteristic is comparable to the studies in the literature. The elderly age may be significant because age as such can have a bearing on sexual dysfunction as revealed in the

Cologne Male Survey.<sup>[6]</sup> More than half of the patients had severe LUTS. This may be due to the patient sample selected, i.e., the inpatient group. The LUTS symptoms also had age-wise variation, with 78% of those in the 50–59 age group with mild symptoms, and most of them in the 70–79 group with severe symptoms. This signifies the increase in prevalence with age.<sup>[7]</sup> The sexual function too showed variation among different age groups. Both the factors, the ED and ejaculatory dysfunction were more common in the age group of 60–69, compared to other age groups. Only the patients in the age group of 60–69 were significantly bothered by sexual dysfunction. This may be due to the association of sexual dysfunction with increasing age. Moreover, patients after the age of 70 years may not consider their sexual dysfunction bothersome, though they have a high prevalence. None of the patients in the mild LUTS group had ED, whereas 98% in the severe group and 70% in the moderate LUTS group had significant ED. The increasing age is associated with both increases in LUTS and ED. This correlates well with the reports of the MSAM-7. The correlation coefficient for LUTS with ED is 0.71, which is highly significant. It is similar to the world literature.<sup>[8]</sup> The ejaculatory function was not that frequently affected by LUTS compared with ED. 67% of patients did not affect their ejaculatory function regardless of their LUTS status, whereas, in those affected, more than 90% belonged to the severe LUTS group. This shows that, although severe LUTS may not always associate with ejaculatory dysfunction, the presence of ejaculatory dysfunction signifies a higher LUTS status. These results correlate well with the study by Rosen *et al.* who proposed a prevalence of 70–80% sexual dysfunction with LUTS.<sup>[9]</sup> The correlation coefficient is 0.5, signifying an effective positive correlation. The degree to which the patients are bothered by their sexual dysfunction also varies well with LUTS. Almost all the patients (27/28) who had severe bother due to sexual dysfunction had associated severe LUTS. None of them had mild LUTS. 30% of the patients with LUTS had no bothersome sexual dysfunction. This includes patients in the higher age group strata who may have significant dysfunction but may not be bothered by it. Around 89% of patients with severe LUTS had bothersome sexual dysfunction. This bears evidence to the fact that sexual dysfunction increases with increasing LUTS. The MSAM-7 showed that the incidence of bothersome sexual dysfunction associated with LUTS. The correlation coefficient is 0.65, which shows that as LUTS increases, so too sexual dysfunction hand in hand requiring simultaneous effective management. In the government institutional setup, with predominantly poor patients, the standard medical management could not be given to the majority of the patients as they cannot afford it. Hence, around 90% of the patients were taken up for TURP. Another problem with our patients is the



poor compliance and lack of follow-up. This is proved by the fact that only 34 of 104 patients came for follow-up after TURP. In the post-treatment evaluation after medical therapy, the ejaculatory function decreased in around 36% of the patients. This can be expected because retrograde ejaculation is one of the most common adverse effects as associated with alpha-blockers.<sup>[10]</sup> There was no change in the erectile function after medical therapy. Of the 34 patients who came for follow-up after TURP, 20% of patients in the moderate ED progressed to severe ED. This may be due to the thermal injury to cavernosal nerves caused by TURP. 70% of the patients developed ejaculatory dysfunction postoperatively. This is also well explained in the literature.

## CONCLUSION

Sexual dysfunction is highly prevalent in the patients with LUTS in the range of 70%. The severity of LUTS also correlates with the severity of sexual dysfunction. Although the sample size is small and the follow-up is limited, we can suggest that treatment of LUTS should be combined with management of sexual dysfunction for better patient satisfaction and QoL.

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