

## COMPARISON OF LOWER URINARY TRACT SYMPTOMS (LUTS) REPORTED IN VOIDING DIARY AND ITS AGREEMENT TO UROLOGIST AND NURSE ASSESSMENT

### Hypothesis / aims of study

Lower urinary tract symptoms (LUTS) often cause bothersomeness, dissatisfaction and affect daily activities and living<sup>(1)</sup>. Transformation of subjective LUTS into objective measures is a challenging task. Concordance of symptom assessment is of paramount importance as it would enable improvement in treatment outcomes. A voiding diary is a very important tool as it provides important insight into the patient's voiding problem. This is recorded by the participant themselves while going about their normal daily activities in their familiar environment. Less than half of women with incontinence seek medical care and instead rely on absorbent pads, lifestyle changes or social isolation to cope with their conditions<sup>(2)</sup>. This study proposes to examine the agreement of assessment of patients LUTS by the urologist and urodynamic nurse in separate settings using the standardized urinary symptom questions. These assessments will be compared to the voiding diary and the degree of agreement calculated. There is no previous published literature on the physician and nurse assessment of LUTS and its comparison with the voiding diary.

### Study design, materials and methods

In their primary evaluation by the urologist, patients underwent a detailed history and examination for their LUTS. The symptoms were categorized in a standardized manner as used in routine urology practice. The participants were asked to keep a three day voiding diary if they did not do one prior to the first visit. They were assessed again by an urodynamic nurse for their LUTS before their urodynamic studies. A standardized question format and grading of severity will be used. All participants' data that meet the criteria of having assessment of their symptoms done by the urologist and nurse and have a three day voiding diary were included in the data analysis. The data from the voiding diary (frequency, nocturia, and enuresis and pad usage) was converted to format comparable to the standard symptoms grade used by urologist and urodynamic nurse. The symptoms will be categorized into one of the four levels – none, mild, moderate and severe. For example frequency of micturition every 2-3 hours is categorized as mild while 1-2 hour is moderate and less than 1 hour is severe frequency. Any frequency more than 3 hours is categorized in none group. For nocturia, once or less is none, two is mild while 3-4 times is moderate and more than four is severe. In pads used 1-2 pads/day is mild while 3-4 is moderate and more than 4 is categorized as severe. All three groups were assessed for inter rater reliability using the kappa (K) statistic which measures the extent of agreement beyond that expected solely by chance.

Total of 121 men and women were included in the study period from 1994-2002. The average age of these patients was 48.7(23-84). 85% were females. The mean duration between urologist and nurse assessment was 38.7 days

### Results

	<b>Urologist vs. nurse</b>	<b>Urologist vs. diary</b>	<b>Nurse vs. diary</b>
<b>Symptom</b>	<b>Kappa</b>	<b>Kappa</b>	<b>Kappa</b>
Frequency	0.73	0.71	0.42
Nocturia	0.76	0.87	0.39
Enuresis	0.68	0.53	0.32
Pads/protection	0.87	0.76	0.68
Urgency	0.67		
Dysuria	0.62		
S/P pain	0.45		
Hesitancy	0.40		
Voiding pattern	0.55		
Emptying	0.60		
Stress incontinence	0.53		
Urge incontinence	0.62		

### Interpretation of results

There was overall marginal insignificant difference between urologist and nurse evaluation with combine  $p=0.07$  for all symptoms. The 95% confidence interval for K (kappa) ranged from 0.32 to 0.80 with most of symptoms showing substantial agreement. The least agreement between urologist and nurse was with hesitancy and suprapubic pain. There was substantial agreement between 4 items captured by voiding diary and assessment by urologist. There was only a fair agreement in nocturia and enuresis between nurse assessment and voiding diary. There was a substantial disagreement between voiding diary and urologist and nurse assessment of the severity of frequency. Patient tends to report to more severe frequency to urologist and nurse when compared to voiding diary. There was also slight disagreement in mild to moderate category of stress incontinence between urologist and nurse.

### Concluding message

There is little literature on the physician and nurse assessment of LUTS and its comparison with the voiding diary. There is always a potential in different perception of the symptoms by different health care professionals and patients themselves. Our study showed reasonable good overall correlation between urologist, nurse and patient's voiding

diary. There was however a substantial disagreement between patient and both health care professionals for severity of frequency with an obvious trend of patients reporting greater severity. Subtle differences were noted among patient and health professionals that warrant future prospective studies with greater sample sizes

References

1. Int J Urol 2005; 12: 1032-36
2. Am J Obstet Gynecol 2003; 189: 76-80

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**HUMAN SUBJECTS: This study was approved by the Capital Health Research Ethics Board and followed the Declaration of Helsinki Informed consent was not obtained from the patients.**