

THE ASSOCIATION BETWEEN THE ICIQ-LUTS & THE ICIQ-BLADDER DIARY IN ASSESSING LUTS

Hypothesis / aims of study

The bladder diary (BD) provides an objective non-invasive method of investigating lower urinary tract symptoms (LUTS) while symptom questionnaires, such as the ICIQ-MLUTS (1) and ICIQ-FLUTS (2) for males and females respectively, provide a subjective assessment. The association between objective and subjective assessments has not been well established for the ICIQ. This study hypothesises that there is strong positive association between the ICIQ-MLUTS/FLUTS and the ICIQ-BD (3).

Study design, materials and methods

Retrospective analysis of data collected from an urodynamics' database was conducted. Only patients who completed both the ICIQ-LUTS and the ICIQ-BD were included. Assessment of the relationship between the ICIQ-BD and the ICIQ-LUTS with regards to daytime frequency and nocturia episodes was conducted using descriptive statistics to determine how well they correlate.

Results

3054 patients were on the database with only 529 patients fully completing both the ICIQ-BD and ICIQ-LUTS from February 2012 until November 2014. Criterion testing showed fair agreement between the nocturia question on the ICIQ-LUTS and the ICIQ-BD (Kappa = 0.339; $p < 0.001$; 48.5%). Whereas diary recordings of daytime voiding frequency showed less agreement with questionnaire responses (Kappa = 0.254; $p < 0.001$; 42.7%). The degree of agreement was higher at the extremes of frequencies (Table 1). With increasing daytime frequency there was a tendency of the patients to exaggerate the numbers on the ICIQ-LUTS. Females had a slightly higher agreement than males during both the day time (43.2% vs 41.6%) and night time (49.3% vs 47%).

Table (1): Screening power of ICIQ-LUTS and ICIQ-BD recording for daytime frequency and nocturia episodes.

Frequency	Sensitivity	Specificity	Predictive +	Predictive -	Agreement	Kappa
Day time						
1-6	46.8	92.9	82.3	71.4	73.9	0.425
7-8	41.3	79.7	46.8	75.8	68.1	0.217
9-10	29.2	77.5	20.8	84.4	69.4	0.058
11-12	31.4	89.5	17.5	94.9	85.6	0.152
13+	77.8	89.0	27.6	98.7	88.5	0.360
Overall	-	-	-	-	42.7	0.254
Night time						
0	48.8	94.7	61.9	91.2	87.7	0.476
1	49.4	84.0	61.4	76.3	72.2	0.35
2	44.0	76.0	36.2	81.4	68.4	0.186
3	33.3	86.6	29.1	88.7	79.0	0.187
4+	71.0	92.6	59.0	95.5	89.8	0.586
Overall	-	-	-	-	48.5	0.339

Interpretation of results

The reason for the higher agreement of the ICIQ-LUTS and the ICIQ-BD as regards to nocturia episodes may be explained by the more bothersome impact of nocturia episodes thus patients remember it more when filling the ICIQ-LUTS. Also, the number of nocturia episodes is less than the daytime frequency thus more easily remembered. Another aspect is that nocturia questions have a smaller range for each choice, while for example in the daytime frequency the range is 1-6. This study also highlights the facts that patients fill out both questionnaires independently of each other.

Concluding message

The ICIQ-BD is a simple, cheap, valid and reliable objective method to assess LUTS. However, an agreement between the ICIQ-BD and the ICIQ-LUTS with regards to daytime frequency and nocturia episode is weak and therefore both are needed in the assessment of patients with LUTS.

References

1. Donovan JL, Peters TJ, Abrams P, Brookes ST, de aa Rosette JJ, Schäfer W. Scoring the short form ICSmaleSF questionnaire. International Continence Society. J Urol. 2000 Dec;164(6):1948–55.
2. Brookes ST, Donovan JL, Wright M, Jackson S, Abrams P. A scored form of the Bristol Female Lower Urinary Tract Symptoms questionnaire: data from a randomized controlled trial of surgery for women with stress incontinence. Am J Obstet Gynecol. 2004 Jul;191(1):73–82.
3. Bright E, Cotterill N, Drake M, Abrams P. Developing and validating the International Consultation on Incontinence Questionnaire bladder diary. Eur Urol. 2014 Aug;66(2):294–300.

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** East of Scotland Research Ethics Service **Helsinki:** Yes **Informed Consent:** No