

A PROSPECTIVE STUDY OF LOWER URINARY TRACT SYMPTOMS AND QUALITY OF LIFE OLDER WOMEN RECEIVING HOME SUPPORT

Hypothesis / aims of study

Lower urinary tract symptoms (LUTS) are common among frail older adults and are associated with reduced quality of life (QoL). However, little is known about stability over time. Using a descriptive longitudinal design, we explored LUTS in a group of older community dwelling women requiring home support services. The purpose was to determine prevalence of LUTS, impact on urinary related QoL and if symptoms varied over time.

Study design, materials and methods

Older women receiving home support services were visited in their homes at baseline, three and six months. Data was obtained by one researcher or a research assistant. Participants were recruited through home care case managers and assisted living facility nurse practitioners. Inclusion criteria: female, age 70 years and older, able to comprehend English and give informed consent. Exclusion criteria: indwelling or intermittent catheterization, mobility limited to wheelchair, or bed-bound. LUTS and related QoL were measured by the International Consultation on Incontinence Questionnaire Female Lower Urinary Tract Symptoms (ICIQ-FLUTS), a 12 item questionnaire [1] measuring female lower urinary tract symptoms and the impact on quality of life (bothersomeness). We derived an overactive bladder syndrome (OAB) score and related QoL score from the ICIQ-FLUTS. PASW Statistics 18 software was used for analysis with descriptive statistics to summarize demographic data, Chi-square to compare frequencies, correlations to examine association between symptoms and QoL and repeat ANOVA for differences over the three time points. P-value 0.05 or less was considered significant. The calculated sample size was 100.

Results

104 women (mean age 84.3) agreed to participate, with four withdrawing at or just after the first visit leaving 100 women with baseline data. At three months, 88 remained (dropouts: cognitive change (3), move (3), poor health (1), hospital (2), no longer interested (1), vacation (1), dead (1)). At six months 75 remained (dropouts: poor health (1), hospital (2), no longer interested (2), physical decline (2), lost to follow up (6)). ICIQ-FLUTS, OAB and QoL showed a wide range of scores (Table 1). Only one participant, who dropped out by 3 months, reported OAB severity at the highest level (score of 16). No participants reported OAB scores over 12 at three or six months. Of the ICIQ-FLUTS subscores, filling and incontinence were the most common symptom groups reported at all time points. Correlations between total ICIQ-LUTS scores and the QoL score were modest ($r = 0.54, 0.57$ and 0.65 at baseline, 3 and six months respectively) but significant ($p = <.000$) at all data points. Almost all (91%) reported at least one symptom. The most common LUTS were: getting up at night to urinate; needing to rush to the toilet; leakage of urine before getting to the toilet; leaking urine when physically active, on exertion or with coughing or sneezing. At baseline, 29% reported no incontinence (UI), 26% urgency UI, 5% stress UI and 40% had mixed urgency and stress UI. With regard to frequency of leakage, at baseline, three months and six months, 20%, 18.1% and 21.46% reported daily or more than daily leakage. Urine leakage of any type was the most bothersome symptom. Data for the 75 participants who were in the study at all three time points revealed that *frequency of leakage* was the only statistically significant finding $F(2, 148) = 5.377, p=0.006$ (observed power .836). Post hoc analysis showed significant differences between baseline and 3 months, 3 months and 6 months but not between baseline and 3 months.

Table 1 ICIQ-FLUTS and urinary symptom related QoL scores

	Visit 1 N=100			Visit 2 N=88			Visit 3 N=75		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
ICIQ-FLUTS score *	9	6.93	0-28	7.9	6.49	0-30	7.96	6.22	0-26
ICIQ-FLUTS QoL score**	9.67	16.54	0-70	8.07	11.82	0-55	9.88	16.40	0-63
OAB score***	4.06	2.95	0-16	3.9	2.92	0-11	4.17	3.21	0-12
OAB score**** QoL	4.6	7.70	0-30	4.24	6.12	0-22	5.35	8.22	0-33

*0 = no symptoms, 48 = severe symptoms; ** 0 = not bothered, 120 bothered a great deal; *** 0 = no OAB symptoms, 16 = severe OAB symptoms; **** 0 = not bothered, 40 = bothered a great deal

Table 2: Most commonly reported LUTS

Symptom	Frequency	Visit 1 N=100	Visit 2 N=88	Visit 3 N=75
Number of times up at night to void	none	22 (22%)	16 (18.2%)	12 (16%)
	one	39 (39%)	40 (45.5%)	37 (49.3%)
	two or more	39 (39%)	32 (36.4%)	26 (34.7%)
Need to rush to the toilet	never	54 (54%)	45 (51.1%)	37 (49.3%)
	occasionally/sometimes	35 (35%)	30 (34.1%)	23 (30.7%)
	most or all the time	11 (1%)	13 (14.8%)	15 (20.0%)

Urine leakage before getting to the toilet	never	34 (34%)	41 (46.6%)	30 (40.0%)
	occasionally/sometimes	54 (54%)	32 (36.3%)	33 (44.0%)
	most or all the time	12 (12%)	15 (17.1%)	12 (16.0%)
Urine leakage when active, exertion, cough, sneeze	never	55 (55%)	49 (55.7%)	43 (57.3%)
	occasionally/sometimes	38 (38%)	31 (35.2%)	28 (37.4%)
	most or all the time	7 (7%)	8 (9.1%)	4 (5.3%)

Interpretation of results

Mean scores for the ICIQ-FLUTS, OAB, filling/voiding/incontinence subscores and specific urinary symptoms showed variation at the three measurement points suggesting LUTS in this sample of older women were not stable over time. Hospitalization and health changes were common, contributing to our high dropout rate and potentially, to the variation symptoms. Alternately, variation may reflect the difficulty in understanding the questions. Specifically many found the daytime frequency question difficult to understand and answer. Three symptoms associated with OAB (nocturia, urgency and urgency incontinence) were among the most frequently reported LUTS, although daytime frequency, the fourth symptom in the OAB syndrome, was not. It is not known if this is due to a different profile of OAB symptoms in older women or due to difficulty with the question. The ICIQ-FLUTS scores and the three subscores (filling, voiding and incontinence) were difficult to interpret in this population as some of the symptoms (ie bladder pain) were rarely identified. The data was more readily understood by looking at the OAB score and individual symptoms. As well, there was a tendency to score low on bothersomeness for most LUTS, even for those reporting severe symptoms. The modest correlation between total ICIQ-LUTS scores and the QoL score suggests that a variable other than symptom severity and bothersomeness may exist. Potentially, this may reflect a tendency of older women to accept LUTS as a part of aging, thus downplaying symptom impact. Alternately, some participants had difficulty using the 0-10 QoL scale which has descriptors only at the extreme ends.

Concluding message

There was wide variation of LUTS between participants and fluctuation over time, although most were not statistically significant. Variation was expected given that LUTS are not a normal part of ageing but rather influenced by health status, structural changes and functional ability. Questions arose about the ease of use of the ICIQ-FLUTS; further validation of the tool in this population is needed. Finally, the high dropout rate reflects the frailty of the population and illustrates the challenges of obtaining robust data about this group.

References

- (1) Jackson S, Donovan J, Brookes S, Eckford S, Swithinbank L, Abrams P. The Bristol female lower urinary tract symptoms questionnaire: Development and psychometric testing. *British Journal of Urology*, 1996;77:805-12.

Disclosures

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