

LOWER URINARY TRACT SYMPTOMS, SEX AND QUALITY OF LIFE RELATED ISSUES IN HEALTHY YOUNG WOMEN

Hypothesis / aims of study:

Epidemiological studies on Urinary Incontinence (UI) in healthy young adult subjects are a helpful tool to follow pediatric patients with structural or with functional UI into adulthood. As a matter of fact, survival rate of patients with disabling congenital anomalies has relevantly increased over the years and the concept is now emerging that a history of bladder dysfunction (BD) during childhood may be predictive factor for Lower Urinary Tract Symptoms (LUTS) in women¹. To date, children born with congenital anomalies involving the perineum (i.e.: bladder exstrophy, cloaca, adrenogenital syndrome, anorectal anomalies and spinal dysraphism) and children with genetic diseases (i.e.:cystic fibrosis, mellitus diabetes and adrenoleukodystrophy²), have a reasonably good quality of life, as young adults; however, persistent or de novo UI remains a major concern. Because of lack of an integrated approach, only few studies on the urologic and uro-gynaecologic outcome into adulthood of these conditions have been published, so far. Longitudinal studies on subset of children with functional BD would be the optimal approach to understanding the influence of pediatric BD on adult UI. In 2006, the short- and long-form of the International Consultation of Incontinence Questionnaire (ICIQ) for female LUTS have been validated in our native language³. ICIQ-SF comprises 4 major questions: the first 3 questions (frequency and severity of urinary leakage, impact of incontinence in QoL) are summed to yield a total score (0-21); the fourth item is a self-diagnosis item about specific type of UI (urge/stress) and is not considered in the score system. The ICIQ-LF investigate the major aspects of LUTS and their impact on QoL in multi-items sections: symptoms of UI and other urinary symptoms (11 items); degree of bothersome related to symptoms (11 items); use of pads/protections (3 items); impact of UI on aspects of everyday life (9 items); interference of LUTS with sex life (5 items); overall emotional impact of UI (5 items). The reference period for symptom assessment is the 4 weeks preceding questionnaire compilation. QoL and degree of LUTS interference with patient's life are assessed on a 0-10 scale, where 0 means no, and 10 maximum, bother/impact on QoL bother/impact. With such validated tool to screen female population, an epidemiologic investigation was undertaken to screen LUTS, sex and QoL related issues in a cohort of healthy young women.

Study design, materials and methods:

One-hundred-six healthy young women aged 23 ± 5 years (range: 10 to 40 years) were recruited from a School of Nursing. Both ICIQ-SF and ICIQ-LF were self-administered anonymously to each woman the same day. To investigate previous presence of LUTS (voiding dysfunction, daytime incontinence, nocturnal enuresis, recurrent lower urinary tract infection) in paediatric age 5 not-validated items were added. A single identification number was assigned for both ICIQ-SF and ICIQ-LF and for the 5 not-validated items. Data were entered in a database and analysed.

Results:

One-hundred women returned questionnaires (response rate: 94%). The ICIQ-SF was completed in full by all subjects. The ICIQ-SF identified UI in 6 cases: urinary leakage once/week in 1, 2-3 times/ week in 2, several times/day in the remaining 3 cases. In 1 case leakage episodes occurred before reaching the toilet, in 4 with cough or sneezing, in 1 without obvious reasons. The total ICIQ-SF ranged from 5 to 10 (average value:5.5). The ICIQ-LF was completed by all subjects but some items were missing. The average number of missing items was 11,7 (range:7 to 37); items missing in the great majority of subjects (37/100) concerned sexual matters. Daytime frequency was every 1 hour in 10% of subjects, every 2 hours in 32%, every 3 hours in 26% and more than every 4 hours in 32% of cases. Thirty-two percent of women declared nocturia, 1 (30%) or 2 (2%) episodes per night. QoL score ranged from 0 to 8 (average value: 0.6) and from 0 to 7 (average value: 0.3), respectively, for daytime frequency and nocturia. Prevalence of LUTS and impact on QoL are listed in table 1. In ICIQ-LF, UI was found in 8 women. Incontinence episodes occurred about once a week or less in 4 cases, 2 or 3 times a week in 2 and several times a day in the remaining 2. Mini-pads were always necessary in 4 cases while the remaining 4 women did not use protections. Interference of urinary leakage with everyday life activities was mild (household job and sport) or moderate (job/employment and life outside house) in 4 cases. Quality of everyday life and general QoL score related to UI ranged, from 0 to 1 (average value: 0.2) and from 0 to 10 (average value:7), respectively. Seventy-one percent of women had sexual intercourse; out of the remaining 25%, 1% did not experience intercourse because of urinary leakage. Data on sexual matters are shown in table 2. Quality of sexual life score related to urinary leakage varied from 0 to 2 (average value: 0.03). Regarding the not-validated items, investigating incidence of LUTS in paediatric age, 12/100 women answered positively (1 voiding dysfunction, 1 daytime incontinence, 2 voiding dysfunction plus daytime incontinence, 3 nocturnal enuresis and 5 urinary tract infections). Out of the 12 women reporting LUTS in paediatric age, 10 had symptoms into adulthood (2 urinary incontinence, 9 abnormal daytime frequency, 7 urgency, 6 bladder pain, 5 hesitancy, 2 straining to void, 5 intermittency, 5 burning feeling when urinating and 3 feeling of incomplete bladder emptying).

Table 1: Prevalence of LUTS in a cohort of 100 healthy young women

LUTS	Never %	Occasionally %	Some-Times %	Most of the time %	All of the time %	Impact on overall QoL Average score (range)
Urine Leakage	92	4	2	2	-	0.5 (0-6)
Urgency	63	32	5	-	-	0.2 (0-3)
Bladder Pain	80	15	5	-	-	0.2 (0-3)
Hesitancy	60	29	9	1	1	0.2 (0-5)
Straining to void	81	18	1	-	-	0.08 (0-2)
Intermittency	62	31	7	-	-	0.1 (0-2)

Burning feeling when urinating	78	19	3	-	-	0.3 (0-5)
Feeling of incomplete emptying	72	22	4	2	-	0.2 (0-5)
Overall LUTS	26	49	21	3	1	0.3 (0-8)

Table 2: Prevalence of sexual problems in a cohort of 100 healthy young women

Symptoms	Not at all %	A little %	Moderately %	A lot %
Vaginal pain or discomfort	78	12	10	-
Pain during sexual intercourse	72	22	6	-
Urinary leakage during intercourse	98	2	-	-

Interpretation of results:

Though biased by the selected cohort of subjects, high response rate and small percentage of missing items confirm applicability of ICIQ-SF and ICIQ-LF questionnaires, to highly motivated young women with intermediate/high educational level. By the same bias can be explained the relevant prevalence of occasional (49%) or sometimes present (21%) LUTS in ICIQ-LF. Nevertheless, 3% of young women had LUTS most of the time with variable impact on QoL. Sexual problems do not seem to be specifically related to LUTS, even if 1% of subjects did not experience intercourse because of urinary leakage. Urinary incontinence was found in 6 and 8 women in ICIQ-SF and ICIQ-LF, respectively. Such difference is difficult to explain: it may be attributed to increased attention during ICIQ-LF compilation; the 2 patients who did not report urine leakage in ICIQ-SF actually complained of a mild degree of incontinence (leakage once a week or less often) in ICIQ-LF.

Concluding message:

These data confirm ICIQ-SF and ICIQ-LF as useful and easy-to-handle self-administered instruments to investigate LUTS in healthy women: an exceedingly high prevalence of LUTS was found in this homogeneous cohort of young adult women; apparently, differences have been found between data of short- and long- forms. From an epidemiological point of view, these data are, as far as we know, the first information regarding prevalence of LUTS in young women, using a validated tool. The data may be used for comparison with aged matched women who have diseases, which comprehend urinary incontinence as natural consequence. A relevant percentage of such healthy young women with LUTS also reported a previous history of voiding dysfunction in childhood. Whether or not such symptoms are the same persisting over the years or they are newly onset remains to be clarified.

References

1) J. Epidemiol Community Health, 53:453, 1999; 2) J. Urol., 17(6pt2):2651, 2004; 3) BJU Int., 97: 101-108, 2006

<i>Specify source of funding or grant</i>	No source of funding or grant
<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	Children's Hospital Bambino Gesù' Ethics Committee
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes