

# The epidemiology of urinary incontinence: a case still open

Maurizio Serati, Fabio Ghezzi

Department of Obstetrics and Gynecology, Urogynecology Unit, University of Insubria, Varese, Italy

Correspondence to: Maurizio Serati, MD. Department of Obstetrics and Gynecology, Urogynecology Unit, University of Insubria, Piazza Biroldi 1, 21100 Varese, Italy. Email: mauserati@hotmail.com.

**Abstract:** Urinary incontinence (UI) is a widespread and well-known disorder affecting millions of women all over the world with impressive and probably still underestimated rebounds on personal and social wellbeing. Unfortunately, the available studies on the epidemiology of female UI have used different definitions of UI, obtaining data not homogeneous. In a very recently published article, Bedretdinova *et al.* have demonstrated that UI definitions and sampling strategies both influence estimates of UI prevalence among women. The ICIQ-UI-SF questionnaire appears to be appropriate for estimating national prevalence in representative samples.

**Keywords:** Urinary incontinence (UI); epidemiology; questionnaires; prevalence; incidence

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Urinary incontinence (UI) is a widespread and well-known disorder affecting millions of women all over the world with impressive and probably still underestimated rebounds on personal and social wellbeing (1). The last International Urogynecological Association/International Continence Society joint report on the terminology for female pelvic floor dysfunction, defined UI as the complaint of any type of involuntary loss of urine (2). Unfortunately, the available studies on the epidemiology of female UI have used different definitions of UI, obtaining data not homogeneous. However, words are important, the names are important. The importance of names and definitions extends throughout human history. In his *Analects*, 2500 years ago, Confucius stated that “If names are not correct, language is not in accordance with the truth of things”. In 1997, Hampel *et al.* (3) have demonstrated the influence of different definitions of UI on the calculated incidence of this symptom. Diokno *et al.*, indeed, considered as incontinent all women that experienced UI at least 6 days in the last 12 months and they reported a prevalence of female incontinence that ranged from 12% to 53%, with a mean of 35.14% (4). Conversely, Thomas and eight other studies defined incontinence as any uncontrolled loss of urine that occurs at least twice a month without regard to severity or bother factor. Since these studies seemed to focus on a somewhat more severe form of female incontinence, the

prevalence rates were lower than in the above-mentioned studies, ranging from 4.5% to 37%, with a mean of 18% (5). Using, instead, as definition of UI “any frequency if the patient complains it as a problem”, the prevalence reported by nine studies ranged from 12% to 44% with a mean of 23.61% (6-8). These data clearly show that we cannot know the real prevalence and incidence of UI, without a rigorous respect of the definitions.

The two most relevant papers on the epidemiology of UI are the *Epiconc* study (9,10) and the meta-analysis by Minassian *et al.* (11); the author, using standardized definitions and questionnaires, reported a prevalence of any form of UI of 25% and 27.6% respectively. This means that if we produce well-designed studies, we can obtain highly reproducible and accurate epidemiological data. It is well demonstrated that the prevalence of UI is influenced by the age and by the gender of the considered population. In a very recently published article, Bedretdinova *et al.* offered an important contribute to this topic (12). The main aims of their study were to estimate and compare the prevalence of UI in France according to a validated international standard questionnaire, the ICIQ-UISF, for two population-based representative samples, and to analyze differences in UI prevalence among studies according to their design, including the sample characteristics (representative or not), the survey aim (general health or UI-focused), and

UI definition. The authors concluded that UI definitions and sampling strategies both influence estimates of UI prevalence among women. The ICIQ-UI-SF questionnaire appears to be appropriate for estimating national prevalence in representative samples, although clinicians should be aware that it is a measure of a symptom of urinary leakage and not of a disease. According to the ICIQ, a substantial proportion of French adult women experience symptoms of urinary leakage. On the basis of these results, we recommend that future observational studies of UI prevalence should be performed in representative samples and should seek to study general health rather than simply UI; they should also use a validated international standard questionnaire to facilitate international comparisons. Moreover, it is important to use a definition of UI with sufficient detail to allow UI severity to be graded, because measures of UI prevalence without details regarding severity are difficult to interpret.

In our opinion, it is essential that every epidemiological study on pelvic floor dysfunction in general, and UI in particular, follow these rules and these recommendations. However, also this study presents some limitations. The authors used the ICIQ-SF, a validated and widely used questionnaire, but several other questionnaires more specific and efficient to detect the UI in the general population exist and should be used.

On the basis of several guidelines and recommendations, one of the most recommended tools for the first management of UI is the use of validated questionnaires (13,14). Questionnaires should have been validated for the language in which they are being used, and, if used for outcome evaluation, must have been shown to be sensitive to change. However, it is surprising that the same EAU guidelines found that, although many studies have investigated the validity and reliability of urinary symptom questionnaires, most have taken place in adults without UI. This limits the extent to which results and conclusions from these studies can be applied in adults with UI. Some questionnaires are responsive to change and may be used to measure outcomes, though evidence on their sensitivity is inconsistent. Finally, no evidence was found to indicate whether use of QoL or condition specific questionnaires have an impact on outcome of treatment.

In conclusion, only the scrupulous use of standardized definitions and validated questionnaires can help us understand the epidemiology of the UI. However, much work should have to be done to get more and more sensitive and reliable tools in this field. Because only by knowing the

true prevalence of a disease we can make a real prevention.

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## References

1. Irwin DE, Milsom I, Hunskaar S, et al. Population-based survey of urinary incontinence, overactive bladder, and other lower urinary tract symptoms in five countries: results of the EPIC study. *Eur Urol* 2006;50:1306-14; discussion 1314-5.
2. Haylen BT, de Ridder D, Freeman RM, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *Int Urogynecol J* 2010;21:5-26.
3. Hampel C, Wienhold D, Benken N, et al. Definition of overactive bladder and epidemiology of urinary incontinence. *Urology* 1997;50:4-14; discussion 15-7.
4. Diokno AC, Brock BM, Brown MB, et al. Prevalence of urinary incontinence and other urological symptoms in the noninstitutionalized elderly. *J Urol* 1986;136:1022-5.
5. Thomas TM, Plymat KR, Blannin J, et al. Prevalence of urinary incontinence. *Br Med J* 1980;281:1243-5.
6. Milsom I, Ekelund P, Molander U, et al. The influence of age, parity, oral contraception, hysterectomy and menopause on the prevalence of urinary incontinence in women. *J Urol* 1993;149:1459-62.
7. Molander U, Milsom I, Ekelund P, et al. An epidemiological study of urinary incontinence and related urogenital symptoms in elderly women. *Maturitas* 1990;12:51-60.
8. Sandvik H, Hunskaar S, Seim A, et al. Validation of a severity index in female urinary incontinence and its implementation in an epidemiological survey. *J Epidemiol Community Health* 1993;47:497-9.
9. Hannestad YS, Rortveit G, Sandvik H, et al. A

- community-based epidemiological survey of female urinary incontinence: the Norwegian EPINCONT study. Epidemiology of Incontinence in the County of Nord-Trøndelag. *J Clin Epidemiol* 2000;53:1150-7.
10. Ebbesen MH, Hunskaar S, Rortveit G, et al. Prevalence, incidence and remission of urinary incontinence in women: longitudinal data from the Norwegian HUNT study (EPINCONT). *BMC Urol* 2013;13:27.
  11. Minassian VA, Drutz HP, Al-Badr A. Urinary incontinence as a worldwide problem. *Int J Gynaecol Obstet* 2003;82:327-38.
  12. Bedretdinova D, Fritel X, Panjo H, et al. Prevalence of Female Urinary Incontinence in the General Population According to Different Definitions and Study Designs. *Eur Urol* 2016;69:256-64.
  13. Abrams P, Andersson KE, Artibani W, et al. Recommendation of the International Scientific Committee: evaluation and treatment of urinary incontinence, pelvic organ prolapse and faecal incontinence. In: Abrams P, Cardozo L, Khoury S, et al., editors. 5th international consultation on incontinence. Paris: Health Publication Ltd., 2013:1915.
  14. Lucas M, Bedretdinova D, Berghmans LC, et al. EAU Guidelines on Urinary Incontinence. Available online: <http://uroweb.org/guideline/urinary-incontinence/>, 2015.

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