

# What is the prevalence of overactive bladder symptoms in a lower socioeconomic female population? A suggestion for a study in India

**Kaytan V. Amrute, Brian Vanderbrink\*, Gopal H. Badlani\*\***

Department of Ob/Gyn, Woodhull Medical Center, Brooklyn, NY, \*Department of Urology, Long Island Jewish Center, New Hyde Park, NY, \*\*Department of Urology, Wake Forest University Baptist Medical Center, Winston-Salem, NC, USA

## ABSTRACT

Although it is suggested that in the United States overactive bladder affects one out of six individuals, this estimation may represent a subset of the population. Using a Pubmed literature search, many studies do not address those in a lower socioeconomic strata and the prevalence of overactive bladder may be higher. Overactive bladder symptoms may be under-reported in this population due to social stigma, lack of education or inaccessibility to medical care. This paper proposes to perform an epidemiological study incorporating validated incontinence questionnaires to assess the prevalence of overactive bladder symptoms among Indian women.

**Key words:** Epidemiology, overactive bladder

Overactive bladder (OAB) is a clinical problem of significant magnitude.<sup>[1,2]</sup> Limited data exists on its prevalence in the minority women or in those of lower socioeconomic status.<sup>[3,4]</sup> A previous study did not analyze minority subsets while others utilized non validated questionnaires or retrospective data.<sup>[1,5,6]</sup> This prospective study aims to determine the prevalence of OAB symptoms with and without urge incontinence in women of lower socioeconomic strata. A working hypothesis is that the prevalence of OAB may be high in such a population as it could be under-reported by patients. This may be due to lack of education, economic hardships or social stigma. If a high prevalence rate is encountered, this population should benefit greatly from education and treatment.

## DESCRIPTION OF STUDY

The study should be multi-institutional in scope. It should consist of two stages: Phase 1 should include initial screening with a modified validated questionnaire while Phase 2 should consist of diagnostic testing for OAB in

those with a positive questionnaire. Testing should involve urine culture and cytology, voiding diaries and urodynamic studies. Intervention consisting of behavior modification and possible drug therapy is the goal.

A women's clinic or hospital averaging approximately 100 outpatient visits daily can be a site for the study. The study should be conducted in outpatient clinics over a six-month period. The study population should consist of women  $\geq$  18 years of age. Exclusion criteria include current pregnancy, women who have delivered within three months and those diagnosed with active urinary tract infection.

After obtaining Institutional Review Board approval, a confidential self-administered questionnaire incorporating the short forms of the Incontinence Impact Questionnaire (IIQ-7) and the Urogenital Distress Inventory (UDI-6) should be provided in the clinic. Additional pertinent clinical data including medical co-morbidities, current medications, previous pelvic surgery, obstetrical history, smoking history and BMI should be collected. Socioeconomic demographics should be assessed by asking patients to provide information on ethnicity, education level attained and annual income (see Appendix). Native language versions of the questionnaire should be available for those who cannot read Hindi or English. All responses should be held strictly confidential.

Response rate should be determined by the number of

---

**For correspondence:** Gopal H. Badlani,  
Wake Forest University Baptist Medical Center, Dept. of  
Urology, Medical Center Boulevard, Winston-Salem,  
NC 27157, E-mail: gbadlani@wfubmc.edu

questionnaires collected divided by total clinic visits during the six-month study period. All data should be entered into a computer database program and statistical analysis performed. Significant trends and correlations should be identified and reported.

One potential problem may involve the selection process. As the study population is not randomly selected, there may be an effect on the study outcome. To minimize a poor response rate and to provide an incentive to complete the questionnaire, small items such as pens or educational paraphernalia should be supplied.

### Previous work

In 2003, the International Continence Society characterized OAB as urgency, with or without urge incontinence, which is often accompanied by increased micturition frequency (more than eight voids per day) and nocturia. These symptoms occur in the absence of identifiable etiologies such as urinary tract infection, interstitial cystitis or bladder cancer.<sup>[2,7]</sup>

In the United States, it is suggested that one in every six adults should be affected.<sup>[1]</sup> The National Overactive Bladder Evaluation (NOBLE) study further clarified the prevalence of OAB: the estimated prevalence is similar among men and women, 16% and 16.9%, respectively. In women, the prevalence of OAB with incontinence ranges from 2% (aged 18-24 years) to 19% (aged 65-74 years), increasing markedly after age 44 years.<sup>[1]</sup> Patients with OAB reported more health problems, including diabetes and congestive heart failure and had an average of 84% more yearly visits to a physician than those without OAB.<sup>[8]</sup> Postmenopausal women with urge incontinence have a substantially higher risk of falling and sustaining a fracture than women without urge incontinence.<sup>[9]</sup> The annual costs associated with OAB in the community setting are greater than \$9 billion, including \$2.9 billion for diagnosis and treatment, \$1.5 billion for routine care, \$3.9 billion for treatment of health-related consequences and \$841 million in lost productivity.<sup>[10]</sup>

There are limited studies regarding the prevalence of OAB in minority populations. In a study by Bump,<sup>[11]</sup> 56% out of 54 black women described symptoms of urge incontinence. Sze *et al*<sup>[5]</sup> surveyed a total of 2370 patients, 34% black, 39% white and 27% Hispanic. The percentage of women who had urge incontinence symptoms was very similar between the three groups (19% vs. 16% vs. 16%,  $P=0.214$ ). The study, however, did not use a validated questionnaire. Duong and Korn,<sup>[6]</sup> in a retrospective analysis, revealed that detrusor instability was diagnosed more often in black women than in Hispanic, white or Asian women (29% vs. 8%, 15% and 14%, respectively;  $P<0.001$ ,  $P=0.04$  and  $P=0.04$ ). Another study evaluating the differences between

white and Hispanic women showed the symptoms of urge incontinence in 18% of white women compared to 9% in Hispanic women ( $P=0.019$ ). The power was limited in this study, however, secondary to a small number of white women enrolled in the study.<sup>[12]</sup> In a community-based survey of elderly Mexican-American women, 15% of 1,589 reported having urinary incontinence. Of those incontinent patients, 33% reported urge incontinence and 15% reported symptoms severe enough to keep them from engaging in social activities.<sup>[13]</sup> An epidemiologic study of OAB with or without urinary incontinence in a cohort of younger Indian women does not exist.

This proposal should analyze the prevalence of OAB symptoms in a minority, lower socioeconomic female population. Using a questionnaire based on validated forms, this study should evaluate symptoms, patient demographics and medical co-morbidities. Our hypothesis is that OAB symptoms may be under-reported in such a population, because of lack of education, social stigma or economic hardships. If a high prevalence is encountered, intervention with behavior modification and drug therapy may be beneficial.

### REFERENCES

1. Stewart WF, Van Rooyen JB, Cundiff GW, Abrams P, Herzog AR, Corey R, *et al.* Prevalence and burden of overactive bladder in the United States. *World J Urol* 2003;20:327-36.
2. Wein AJ, Rovner ES. Definition and epidemiology of overactive bladder. *Urology* 2002;60:7-12.
3. Brown JS, Nyberg LM, Kusek JW, Burgio KL, Diokno AC, Foldspang A, *et al.* Proceedings of the National Institute of Diabetes and Digestive and Kidney Diseases International Symposium on Epidemiologic Issues in Urinary Incontinence in Women. *Am J Obstet Gynecol* 2003;188:S77-88.
4. Davila GW, Neimark M. The overactive bladder: Prevalence and effects on quality of life. *Clin Obstet Gynecol* 2002;45:173-81.
5. Sze EH, Jones WP, Ferguson JL, Barker CD, Dolezal JM. Prevalence of urinary incontinence symptoms among black, white and Hispanic women. *Obstet Gynecol* 2002;99:572-5.
6. Duong TH, Korn AP. A comparison of urinary incontinence among African American, Hispanic and white women. *Am J Obstet Gynecol* 2001;184:1083-6.
7. Abrams P, Cardozo L, Fall M, Griffiths D, Rosier P, Ulmsten U, *et al.* The standardization of terminology in lower urinary tract function: Report from the Standardization Sub-committee of the International Continence Society. *Urology* 2003;61:37-49.
8. Wagner TH, Hu TW, Bentkover JD, LeBlanc K, Stewart W, Corey R, *et al.* Health-related consequences of overactive bladder. *Am J Manag Care* 2002;8:S598-607.
9. Brown JS, Vittinghoff E, Wyman JF, Stone KL, Nevitt MC, Ensrud KE, *et al.* Urinary incontinence: Does it increase risk for falls and fractures? Study of Osteoporotic Fractures Research Group. *J Am Geriatr Soc* 2000;48:721-5.
10. Hu TW, Wagner TH. Health-related consequences of overactive bladder: An economic perspective. *BJU Int* 2005;96:43-5.
11. Bump R. Racial comparisons and contrasts in urinary incontinence and pelvic organ prolapse. *Obstet Gynecol* 1993;81:421-5.

12. Mattox TF, Bhatia NN. The prevalence of urinary incontinence or prolapse among white and Hispanic women. *Am J Obstet Gynecol* 1996;174:646-8.
13. Espino DV, Palmer RF, Miles TP, Mouton CP, Lichtenstein MJ, Markides KP. Prevalence and severity of urinary incontinence in elderly Mexican-American women. *J Am Geriatr Soc* 2003;51:1580-6.

**How to cite this article:** Amrute KV, Vanderbrink B, Badlani GH. What is the prevalence of overactive bladder symptoms in a lower socioeconomic female population? A suggestion for a study in India. *Indian J Urol* 2007;23:192-4.

**Source of Support:** Nil, **Conflict of Interest:** None declared.