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Demographic distribution and prevalence of overactive bladder in Venezuela

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A B S T R A C T

Objective: there is little information available about overactive bladder (OAB) in South America. This study was intended to estimate the prevalence of overactive bladder in Venezuela based on the 2002 consensus criteria of the International Continence Society (ICS) and to ascertain its demographic distribution in the country.

Subjects and methods: from 2003 to 2007, a multicenter, prospective patient evaluation was conducted in different cities of Venezuela. A total of 3,407 adults (38% male and 62% female) aged 18-75 years (mean, 54 years) completed a physician-guided questionnaire (OAV-V8) on urinary symptoms, bladder function, diet, general habits, and general medical condition. Statistical analysis was performed using software based on R programming for computational statistics.

Results: a 21% overall prevalence of OAB in Venezuela was measured. Females were more affected than males (25.6% versus 13.7% in males, $p < 0.005$). OAB was detected at an early age (18 years) and continued to be more prevalent in females (males 9% and females 14%). The greatest prevalence of OAB in the cohort studied was found in the subgroup aged 65-69 years. A value of $p < 0.005$, with a 95% confidence interval, was considered significant in all statistical tests.

Conclusion: the OAB-V8 questionnaire is of value to clearly identify patients with OAB symptoms. The overall prevalence of OAB in Venezuela is 21%. OAB occurs in both sexes, but mainly in females, and may be detected at an early age.

Distribución demográfica y prevalencia de la vejiga hiperactiva en Venezuela

Palabras clave:
Vejiga hiperactiva
Prevalencia
Incontinencia

R E S U M E N

Objetivo: existe escasa información sobre la vejiga hiperactiva (VH) en Suramérica. El objetivo de este estudio era calcular la prevalencia de la vejiga hiperactiva en Venezuela basándonos en los criterios de consenso de la International Continence Society (ICS) de 2002 y comprobar su distribución demográfica en el país.

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Sujetos y métodos: desde 2003 a 2007 realizamos una evaluación prospectiva multicéntrica de pacientes en distintas ciudades de Venezuela. Un total de 3.407 adultos (38% varones y 62% mujeres) de 18 a 75 años de edad (media: 54 años) contestaron un cuestionario guiado por un médico (OAB-V8) sobre síntomas urinarios, función vesical, dieta, hábitos generales y estado médico general. Los procedimientos estadísticos se realizaron mediante software basado en programación R para estadística computacional.

Resultados: se determinó una prevalencia global de la VH en Venezuela del 21%. Las mujeres estaban más afectadas que los varones (25,6 frente a 13,7% en varones, $p < 0,005$). La VH se detectó a edad temprana (18 años) y mantuvo una mayor prevalencia en las mujeres (varones 9% y mujeres 14%). En la cohorte estudiada la mayor prevalencia de VH se dio en el subgrupo de 65 a 69 años de edad. En todas las pruebas estadísticas se consideró significativo un valor de $p < 0,005$, con un intervalo de confianza del 95%.

Conclusión: el cuestionario OAB-V8 ayuda a identificar claramente a los pacientes con síntomas de VH. La prevalencia global de la VH en Venezuela es del 21%. Está presente en ambos sexos, pero sobre todo en las mujeres y puede detectarse a una edad temprana.

Introduction

The International Continence Society (ICS) redefined in 2002 overactive bladder (OAB) as a "symptom syndrome consisting of urgency, with or without urgency urinary incontinence, often associated with urinary frequency and nocturia, in the absence of pathological or metabolic factors explaining them".[1] Estimates of OAB prevalence provide different results in different parts of the world. Milton et al[2] found an overall OAB prevalence of 16.6% in 16,776 subjects in 6 European countries. In a Spanish population studied by Castro et al,[3] OAB prevalence was 21.5%, similar to that reported in the Milsom study. In the United States[4] and Canada,[5] prevalence rates of 26.5% and 14.8% respectively have been reported. In Asia,[6,7] research on OAB has found prevalence rates ranging from 14% and 29.9%. In Latin America, the estimated OAB prevalence has only been reported for Argentina (23.4%). The prevalence of the condition in a young Brazilian population (18.9%) has recently been reported. Among all reports cited, only the most recent ones[3,8,9] meet the 2002 ICS definition of OAB, and have interestingly been published by Spanish- or Portuguese-speaking authors. The largest population-based survey to assess OAB prevalence rates based on the 2002 ICS criteria was reported in the EPIC study.[10] Its authors assessed 19,165 subjects in 5 countries and found an overall OAB prevalence of 11.8%.

To our knowledge, no data about OAB have been reported in Venezuela, and we therefore set out to objectively define its prevalence in our country in order to be able to effectively describe treatment strategies. We also intended to verify the demographic distribution of OAB in our environment and to eventually contribute with our data to the study and therapeutic approach of this urinary syndrome.

Patients and methods

From 2003 to 2007, a multicenter, prospective patient evaluation was conducted in different cities of Venezuela. A total of 3,407 adults (38% male and 62% female) aged 18-75 years (mean, 54 years) completed a physician-guided questionnaire (OAV-V8) on urinary symptoms, bladder function, diet, general habits, and general medical condition. These patients attended private and public outpatient clinics of general medicine, urology, and gynecology in 12 medical centers during the study period and were accepted for evaluation. The study was approved by the local ethics committee of each institution. After a detailed explanation of the study objective, patients were selected at random and were asked to give their verbal consent to participate in the study. Questionnaire completion involved consent.[11-14] Patients who refused to complete the questionnaire were excluded from the study.

The original OAB-V8 questionnaire was validated for self-administration. However, in this study all questions were asked under the supervision of a physician to avoid erroneous interpretations of the questionnaire because of the marked differences in the cultural level of most people surveyed. All questions were answered within 5-8 minutes.

The OAB-V8 questionnaire,[15,16] clinically validated and recently translated into 14 languages,[17] was used. Unfortunately, a Spanish translation was not available at the time the study was conducted, and a "validated" Spanish version could therefore not be used. The English version was translated into Spanish, and a linguistic adaptation to the Spanish spoken at the region was then made. The questionnaire consists of 8 basic questions which assess urinary frequency and urgency and urge incontinence. All

Table 1 – Patient selection based on the V8 results

Sex	V8<8	V8>8	Total
Female	1,229	866	2,095
Male	775	537	1,312
Total	2,004	1,403	3,407

Table 2 – Overactive bladder detection rate using the V8

	No OAB	Possible OAB
Female	38%	52%
Male	66%	33%
Total	49%	51%

OAB: overactive bladder.

Table 3 – Overall prevalence of overactive bladder in Venezuela

Sex	Prevalence
Female	25.6%
Male	13.7%
Total	21,0%

answers include a 6-point scale (0 to 5) to estimate the degree of urinary discomfort.

The sum of the scores in the first 8 questions gives a numerical result. Patients with a score ≥ 8 were considered as "positive" and were asked to answer additional question (33 in total) about bladder function, diet, general habits, and general medical condition. Based on all these questions, the physician issued a diagnosis of "no OAB", "probable OAB", or "possible OAB".

A descriptive and graphic analysis of all observations collected from the questionnaire was used to assess the potential variations in OAB. OAB prevalence was calculated as a percentage based on the results of the questionnaire. A value of $p < 0.005$, with a 95% confidence interval, was considered significant in all statistical tests. Statistical analysis was performed using software based on R programming for computational statistics.[18-24]

Results

A total of 3.407 subjects were surveyed using the OAB-V8 questionnaire. Of these, 2,004 (58.8%) had a score less than 8, and only 1,403 (41.17%) met the 2002 ICS criteria for OAB and were fully assessed (Table 1). OAB was only considered as possible in 51% of all patients with a score ≥ 8 in the OA-V8 (table 2). Overall OAB prevalence was 21.0% (table 3), 25.6% in females and 13.7% in males.

OAB prevalence increased with age in both males and females. People aged 65-69 years were most affected, but those aged 70 years or over showed a marked decrease in OAB prevalence (fig. 1). OAB prevalence was different in younger and older subjects, 12% and 24% in people under and over 40 years of age respectively (Fig. 2), and was more prevalent in females at all ages.

OAB definition has evolved over time as the condition has been more thoroughly studied. This study assessed a large number of patients attending different outpatient clinics to define the prevalence of OAB in Venezuela. In 2006 there are a significant number of questionnaires to assess OAB available, but none of them is specific for this purpose. Thus, authors have used a single questionnaire[15,25] or several questionnaires combined[26] to report OAB prevalence. In our study, a single clinically validated questionnaire was used to identify people with OAB.[27] According to Coyne,[16] a score ≥ 8 in the V8 provided for a 95.7% ratio of having a possible OAB. According to our results, only 51% of people with a score ≥ 8 had a diagnosis of OAB. Comparison of questionnaire results was not tested against urodynamic assessment in each case, which may be considered as a limitation of our study. Because of the importance of the OAB-V8 and the possibility of using it to assess the efficacy of OAB treatment,[10,17] the low sensitivity of the questionnaire in our study requires a review of its use as an isolated screening test.

Our results showed an overall OAB prevalence of 21% based on the 2002 ICS criteria. OAB prevalence in Venezuela is higher in females (25.6%) as compared to males (13.7%) and shows a similar pattern to that reported in most articles assessing both sexes simultaneously.[2,10]

Screening for OAB is common in both sexes and has usually been done in people over 40 years of age.[2,3,7,10] Recent publications have shown OAB to also occur at a younger age.[4,6,9,13] Irwin[10] reported that 9% of people over 18 years of age have OAB; our estimates were similar, with prevalence rates at 18 years of 8% in males and 14% in females. After 40 years of age, our OAB prevalence increased to 24% (32% in females and 15% in males), a rate similar to that found in Spanish-speaking populations[3,8] and higher than that reported in some European countries[10] for the same age group. A high OAB prevalence was found in both sexes, but mainly in females, and in most cases after 55 years of age, adding the OAB symptoms to those related to common diseases seen at an advanced age.[28,29] Most articles report an increase in OAB with age, which was also noted in our analysis. However, prevalence was higher in the 65-69 years age group as compared to older groups, and unlike in the reviewed literature, a trend to a decrease in OAB prevalence after 70 years of age was also found. This last finding was significant in the setting of application of a non-validated physician-guided version of the questionnaire and requires careful verification. In this subgroup and in the young population with positive results for OAB, additional studies to confirm our initial data would probably be appropriate. However, we think

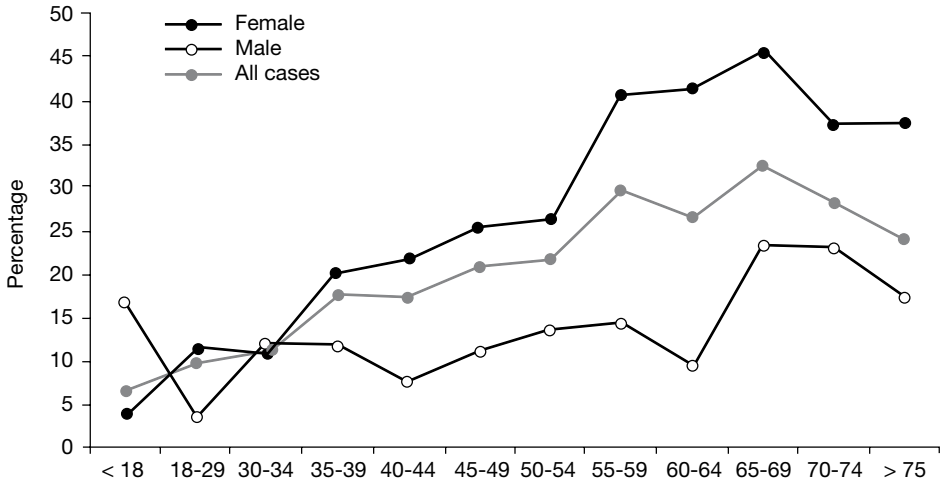

Figure 1 – OAB prevalence (%) by age group and sex.

that most elderly people think that OAB symptoms are part of the ageing process or feel ashamed for the symptoms associated to it and did not want to carry out the interview. This has previously been reported[30,31] for oral interviews. The latter always provide results less potent than self-administered questionnaires.

There are several factors which should be incorporated into our study analysis: the cultural level of the population, illiteracy, and the outpatient setting of patients. Estimates of OAB prevalence are highly variable due to symptom assessment, data collection methods, selection criteria, and population studied. Our results are similar to those previously reported by other authors, although the ethnicity of the Venezuelan population is difficult to define. Only the lower prevalence of OAB after 70 years of age appears to differ from the results reported for most populations.

In the era of evidence-based medicine, it should not be forgotten that baseline data provide the essential variables for objective evaluation. Although population-based registries may have special limitations, their information is still important in the diagnostic and planning process for a comprehensive functional approach. The objective of our group was to provide a registry that may subsequently be assessed in terms of comparability, validity, opportunity, and comprehensiveness in a condition where, despite the excellent definition available, physicians often find that patients, particularly in clinical practice, do not exactly understand what they are facing because OAB overlaps with other subtypes of lower urinary tract dysfunction.

We agree that OAB has a substantial impact on quality of life domains such as physical activity, psychological wellbeing, social activity, sexual activity, productivity at work, and household chores. Since diagnosis and time of treatment continue to be rather controversial issues, we think that a detailed assessment of OAB in each context would markedly contribute to improve the results in patients with this condition.

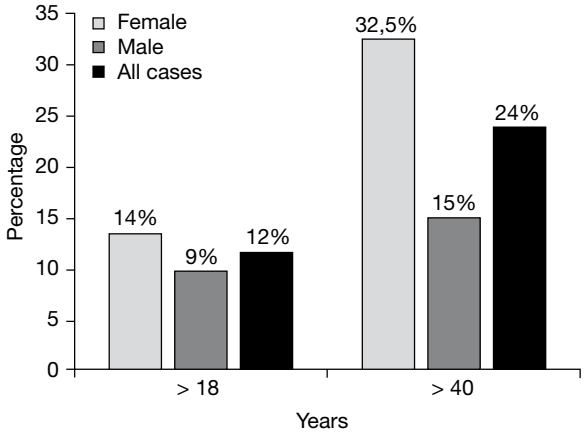

Figure 2 – OAB prevalence (%) by age (> 18 years; > 40 years) and sex.

Conclusions

The OAB-V8 questionnaire helps identify patients with OAB symptoms. The overall prevalence of OAB in Venezuela is 21%. OAB occurs in both sexes, but mainly in females, and may be detected at an early age.

Conflicts of interest

The authors declare no conflicts of interest.

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