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## MEDICAL OUTCOMES STUDY SLEEP SCALE (MOS- SLEEP SCALE) IN THE DETECTION OF OVERACTIVE BLADDER IN SPANISH POPULATION.

### Hypothesis / aims of study

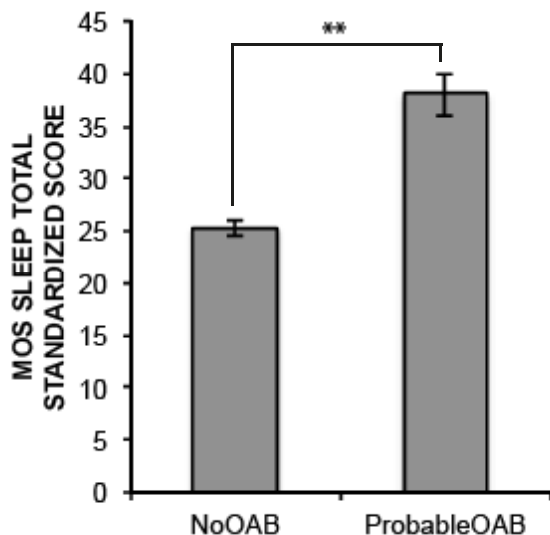
The negative effects that Overactive Bladder (OAB) and nocturia have on sleep patterns and the quality of life have previously been described. Medical Outcomes Study sleep (MOS-sleep) scale measures sleep disturbance by evaluating six dimensions of sleep, and producing a global disturbance summary score. This study analyses the relevance of the level of sleep disturbance assessed with the MOS-Sleep scale for the detection of patients with probable OAB among the general Spanish population.

### Study design, materials and methods

This is a Post-hoc analysis undertaken on the results of a cross-sectional study conducted among the Spanish general population through electronic data capture methods [CAWI (Computer Assisted Web Interviewing)]. The initial study included male and female subjects  $\geq 18$  years old, age and gender stratified as per the distribution in the Spanish general population. Subjects were classified into 2 groups based on OAB condition (probable OAB or no OAB). The classification of probable OAB was made using a previously validated OAB classification algorithm [1]. The impact on sleep quality and quantity according to the bladder condition was then compared using the 9 item sleep problem summary (SLP9) to obtain the MOS-Sleep scale total standardized score (0 no disturbance – 100 maximum disturbance). We studied MOS Sleep Scale scores with an analysis of covariance ANCOVA adjusting OAB condition classification for age and sex. Then, sensitivity and specificity of the model were predicted with a ROC curve analysis.

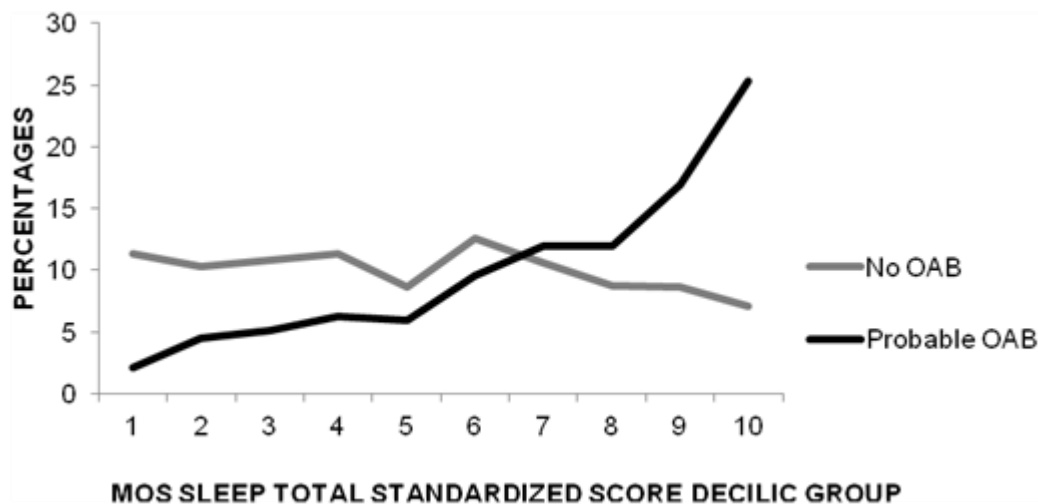
### Results

The analysis included data from 2035 subjects, 50.8% of whom were men, mean age (SD) 52.7 (12.1) years. The prevalence of probable OAB was 16.4% presenting this group higher score in the total MOS-Sleep scale adjusted by age and sex; 38.1 (36.4-39.8) vs. no OAB subjects 25.3 (24.5-26.0),  $p < 0.001$  (Figure 1).



**Figure1.** 9 item sleep problem summary score in subjects classified as No OAB or Probable OAB.

MOS-Sleep scale total standardized results were codified into decile intervals with a higher prevalence of probable OAB in the last decile group, (the one corresponding to a higher disturbance on sleep patterns). Results ranged from a 3.5% of the subjects classified as probable OAB in the first decile interval to 41.2% in the 10<sup>th</sup> interval (Chi<sup>2</sup>-lineal: 142.5,  $p < 0.001$ ) (Figure 2).



**Figure 2.** Cumulative percentages in the 9 item sleep problem summary score in No OAB and Probable OAB classified subjects.

#### Interpretation of results

The analysis showed that the Odds ratio of the frequency - adjusted by age and sex - for classification as a probable OAB patient increases 4.5% [odds ratio: 1.045 (1.038-1.053),  $p < 0.001$ ] with each standardized point of sleep condition deterioration in the 9 item sleep problems summary score. The strength of the analysis presents 71% sensitivity and 60% specificity to detect probable OAB when obtaining the mean value of total MOS Sleep scale ( $\geq 27$ ) in the general Spanish population. The chances of being classified as probable OAB grow from 4.5% in the first decile interval of MOS sleep scale results to 36.1% in the last decile interval ( $F = 736.2$ ;  $p < 0.001$ ).

#### Concluding message

Although with limitations, the results of the study might suggest that sleep quality represent a significant outcome in the group of subjects classified as probable OAB: the worst the sleep disturbance, the highest the probability of having probable OAB. Therefore, we propose to consider the inclusion of the examination of bladder condition when patients refer sleep interference during anamnesis and evaluation at the physician office.

#### References

1. Brenes FJ et al. Psychometric validation of the OAB-V8 and OAB-V3 scales for the screening of patients with probable overactive bladder in the Spanish population. *Med Clin (Barc)*. 2014; 143: 521-9

#### Disclosures

**Funding:** This study was sponsored by Pfizer S.L.U. Sandra Ballester Beltrán, Javier Rejas and Isabel Lizarraga are employees of Pfizer SLU, and Daniel Arumí is employee of Pfizer Inc. **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Comité ético de Investigación Clínica del Hospital Universitario de Getafe (Madrid, España). **Helsinki:** Yes **Informed Consent:** Yes