

DOI: 10.5152/TurkThoracJ.2019.138

[Abstract:0158] MS-196 [Accepted: Oral Presentation] [Sleeping Disorders]

Impact of Gender on Symptoms and Comorbidities in Obstructive Sleep Apnea

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Objectives: Obstructive Sleep Apnea (OSA) is more common in men than in women. In the current study, we aimed to address the impact of gender on symptoms and comorbidities in patients with OSA

Methods: This cross-sectional study was conducted among 1297 consecutive patients, who were admitted to the Sleep Apnea Outpatient Clinic of the Department of Pulmonary Medicine, Marmara University Pendik Training and Research Hospital between November 2015 and October 2018, and who had complete questionnaires and a sleep study with cardiorespiratory polygraphy. OSA was defined as an Apnea-Hypopnea-Index of at least 15/hour on the polygraphy.

Results: In all, 1042 patients (334 women; 32.1%) fulfilled the inclusion criteria. OSA was observed in 589 (56.5%). Women were older than men (50.2 ± 12.5 vs 45.6 ± 15.1 yrs; $p < 0.001$), and had lower AHI (22.1 ± 20.1 vs 26.8 ± 21.9 events/h; $p < 0.001$). In the OSA group, women were older (53.7 ± 11.5 vs 47.8 ± 12.8 yrs; $p < 0.001$), and more obese (Body-Mass-Index [BMI] 34.6 vs 31.8 kg/m²; $p < 0.001$). When the symptoms were categorized as frequent/very frequent, women with OSA complained more regarding daytime fatigue (74.6% vs 63.7%), nocturia (69.7% vs 51.8%), headache in the morning (50.0% vs 28.4%), depressive mood (49.0% vs 19.5%) and restless legs symptoms (43.1% vs 17.2%), than did men (all p values < 0.05). No gender difference was observed regarding loud snoring, witnessed apneas, nocturnal sweating, and daytime sleepiness. Physician diagnosed comorbid conditions were more common in women than in men (lung disease [25.4% vs 13.7%], hypertension [29.6% vs 15.0%], diabetes [20.3% vs 11.3%], and hypothyroidism [14.0% vs 4.1%]; $p < 0.05$). In the multivariate logistic regression analysis, age (OR 1.03, 95% CI 1.02-1.05, $p < 0.001$), BMI (OR 1.13, 95% CI 1.09-1.17, $p < 0.001$), and male sex (OR 2.56, 95% CI 1.76-3.73, $p < 0.001$) were significantly predictive for OSA while history of tonsillectomy was protective (OR 0.48, 95% CI 0.25-0.94, $p = 0.032$).

Conclusion: In this sleep clinic cohort, there was no gender difference regarding the cardinal symptoms such as loud snoring, witnessed apnea and daytime sleepiness while women presented fatigue, nocturia, headache, depressive mood and restless legs symptoms more frequently. In addition, comorbidities were more prevalent in women. Our findings suggest that OSA-related symptoms develop late and/or the referral of women for diagnostic evaluation of OSA is delayed.

Keywords: Obstructive sleep apnea, gender difference, cardiorespiratory polygraphy