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Title: Effects of oropharyngeal exercises on antropometric measures and symptoms in patients with obstructive sleep apnea syndrome

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Body: Background and Aim: Upper airway muscle function plays a major role in the maintenance of upper airway patency and contributes to the obstructive sleep apnea syndrome (OSAS). The aim of this study was to determine the impact of oropharyngeal exercises on antropometric measures and symptoms in patients with OSAS. Materials and Methods: Twenty-six patients with OSAS were randomized to 3 months of a set of oropharyngeal exercises (n=14, 53.7±7.1 years), or control group as standart medical treatment (n=12, 47.3±7.3 years). Anthropometric measurements (neck and abdominal circumference) were measured. Snoring frequency (range 0–4), intensity (1–3), Epworth Daytime Sleepiness score (0–24) and Pittsburgh Sleep Quality score (0–21) were determined, and full polysomnography were performed at baseline and at the end of the intervention. Results: No significant difference was found in baseline characteristics between the groups (p>0.05). Body mass index and abdominal circumference did not change significantly over the study period (p>0.05). Patients undergoing oropharyngeal exercises had a significant decrease in neck circumference (-1.04±0.97 vs. 0.08±1.18 cm), snoring frequency (-2.3±0.7 vs. 0.1±0.3), snoring intensity (-3.2±1.1 vs. 0±0), daytime sleepiness (-6.2±4.8 vs. 0.2±4.1), sleep quality score (-4.6±3.6 vs. -1.5± 1.3) as compared with the control group (p< 0.05). Conclusions: Oropharyngeal exercises significantly reduce antropometric measurements and symptoms in patients with OSAS. They represent a promising treatment for OSAS.