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Title: Comparison of the effects of inspiratory muscle training and oropharyngeal exercise training in patient with obstructive sleep apnea syndrome

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Body: Introduction and aim: Upper airway muscle and inspiratory muscle function plays a major role in the maintenance of upper airway patency and contributes to the obstructive sleep apnea syndrome (OSAS). The purpose of this study was to compare the effects of inspiratory muscle training (IMT) and oropharyngeal exercises (OE) on severity of the disease, respiratory muscle strength, exercise capacity, fatigue and quality of life in patients with OSAS. Materials and methods: Forty-one clinically stable subjects with OSAS were randomly assigned to one of three groups: 15 patients in the IMT group, 14 patients in OE group and 12 patients in the control group. Anthropometric measurements (neck and abdominal circumference), respiratory muscle strength (MIP, MEP) and exercise capacity (six minute walk test) were measured. Polisomnography recordings, quality of life (The Functional Outcomes of Sleep Questionnaire, FOSQ) and fatigue severity (Fatigue Severity Scale, FSS) were also evaluated before and 12 weeks after the treatment. Results: There were no significantly improvement in exercise capacity in three groups. Neck circumference decreased significantly in OE group compared to other groups ($p<0.05$). MIP, MIP% values were significantly increased in IMT group compared to other groups ($p<0.05$). There were significant improvements in MEP, MEP% values, total score of FOSQ and FSS score in OE and IMT group compared to the control group ($p<0.05$). Conclusions: IMT and OE ensures benefits in respiratory muscle strength, quality of life, fatigue in patients with OSAS. IMT and OE should be included in the treatment program of patients with OSAS.