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Title: Inspiratory muscle training in obstructive sleep apnea syndrome

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Body: Aim: No information is known about the role of inspiratory muscle training in patients with obstructive sleep apnea syndrome (OSAS). The purpose of this study was to investigate the effects of inspiratory muscle training on respiratory muscle strength, polisomnographic results, snoring, and sleep quality in patients with OSAS. Materials and Methods: Twenty-seven OSAS patients were randomly assigned to one of two groups: 15 patients in the training group and 12 patients in the control group. The patients in training group underwent a 12-week inspiratory muscle training program (30-80% of their maximal inspiratory pressures, MIP) using a threshold loading device for 30 minutes per day, seven days per week. The patients in the control group underwent standart medical treatment. In all patients, respiratory muscle strength (MIP, maximal expiratory pressure, MEP) was determined. Polisomnography recordings, snoring (The Berlin Questionnaire), and quality of life (The Functional Outcomes of Sleep Questionnaire, FOSQ) were also evaluated before and after the treatment. Results: No significant differences were found between the two groups with regard to age, gender, and body mass index ($p>0.05$). After 12 weeks of inspiratory muscle training program, there were significant improvements in MIP, MEP, and total score of FOSQ compared with the control group ($p<0.05$). The presence of snoring, snoring frequency and severity decreased significantly after inspiratory muscle training ($p<0.05$). Conclusions: Inspiratory muscle training ensures significant benefits in respiratory muscle strength, quality of life, and snoring for OSAS patients. It should be taken into consideration for the management of the patients.