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Is Inspiratory Muscle Training Effective in Ensuring Control of Asthma?

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Objectives: The aim of asthma treatment is to provide asthma control. There are two components of asthma control to control symptoms and prevent future risks. The concept of asthma control is defined as the reduction or elimination of the effects of the disease, asthma symptoms and future risks by treatment, and therefore, whether the treatment has reached its goal. Our study aims to evaluate the effect of 4-week inspiratory muscle training on pulmonary functions and asthma control in asthmatic subjects.

Methods: A total of 21 patients were included in the inspiratory muscle training program. Total of 21 patients (16 females and 5 males) with moderate persistent asthma who were accepted to participate in the study were included in the inspiratory muscle training program. Respiratory muscle strength, respiratory function test, and asthma control test and baseline assessments were applied before the treatment. Asthma control test The inspiratory muscle strength training with 50% of the maximum inspiratory pressure determined by the measurement of respiratory muscle strength assessment for patients with 19 and more points is 7 days of the week; twice a day; each session was 30 breaths. After four weeks of treatment, asthma control test, respiratory function test and respiratory muscle strength measurements were repeated.

Results: The included patients had a height of 150 cm to 172 cm (158.62±6.91); the weights ranged from 55 to 97 kg (75.69±11.86) and body mass index (BMI) ranged from 22.0 to 40.40 kg/m^2 (30.18±5.09).The mean MIP of the asthmatic individuals before inspiratory muscle training was 71.24±23.54 cm H_2O; After 4 weeks of education, the mean MIP value was 90.38±25.20 cm H_2O ($p \leq 0,05$). The mean pre-training MEP value was 83.05±26.49 cm H_2O; After the training, the mean MEP value was 88.76±22.93 cm H_2O ($p > 0.05$). The mean asthma control test score before the training was 21.19±2.15; After 4 weeks of training, it increased significantly by 22.95±2.01 ($p < 0.05$). There was no statistically significant increase in the pulmonary functions of asthmatics after training ($p > 0.05$).

Conclusion: While inspiratory muscle training has a positive effect on asthma control test; the effect of respiratory muscle training on symptom control and pulmonary function can be investigated with more cases.

Keywords: Asthma control, inspiratory muscle training, pulmonary functional test