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The effect of 8 week pulmonary rehabilitation programme on chest mobility and maximal inspiratory and expiratory mouth pressure in patients with bronchial asthma

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Abstract

Bronchial asthma (AB) can lead not only to breathing disorders but also to musculoskeletal disorders. Breathing and musculoskeletal disorders can lead to health problems and decreased quality of life. These disorders may be also associated with psychosocial problems and could influence adult participation in various activities (physical activities and sports, activities of daily living - shopping, cleaning house, etc.). Breathlessness and cough are usually the most problematic symptoms of AB. Comprehensive care is based on medical treatment and non pharmacological treatment. Chest physiotherapy is an important part of the non pharmacological treatment, but the optimal medical treatment is also necessary for successful rehabilitation. The aim of this study was to find out if the pulmonary rehabilitation programme can influence the maximal inspiratory and expiratory mouth pressure and chest mobility of AB patients. The examined group consisted of 23 patients with AB. All AB patients had intermittent mild asthma and they were medically stable patients. All of them underwent an 8 week pulmonary rehabilitation programme (visits were twice a week, 30 minutes in length). The 8 week pulmonary rehabilitation programme was focused on breathing exercises (diaphragmatic breathing, activation of expiration, eff ective cough training, etc.) and on soft tissue techniques for releasing thoracic and shoulder muscles and fascias. Maximal inspiratory and expiratory mouth pressure and chest mobility were examined at the beginning and at the end of the 8 week pulmonary rehabilitation programme. Chest excursion measurements at the level of the fourth intercostal space and at the level of the tip of the xiphoid process were used for assessment of chest wall motion. The results of this study showed improved chest mobility and increased values of maximal inspiratory and expiratory mouth pressure after the pulmonary rehabilitation programme. Such improvement can be very important for AB patients. An increase in chest mobility and maximal inspiratory and expiratory mouth pressure leads to easier breathing with less inspiratory effort and consequential physical fatigue. For that reason a pulmonary rehabilitation programme should be a part of comprehensive care for AB patients.

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