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Editorial

The Role of Physiotherapy in Optimising Asthma Management

El papel de la fisioterapia para optimizar el manejo del asma

Pulmonary rehabilitation (PR) is recognised as a cornerstone in the management of various chronic respiratory diseases, including asthma, combining exercise training, education and behaviour change, to improve physical and psychological condition.[1,2] Its implementation requires an interdisciplinary team and encompasses respiratory physiotherapy interventions, such as breathing exercises, airway clearance techniques, respiratory muscle training (RMT), and exercise training, led by physiotherapists; as well as educational components, in which physiotherapists also participate.[2] Physiotherapy interventions have proven to be both effective[1,3,4] and cost-effective[5] for adults with asthma. In this editorial, we reviewed evidence up to July 2025 supporting the role of physiotherapy in adult asthma management, focusing on respiratory physiotherapy interventions, exercise training and physical activity (PA), and education.

Respiratory physiotherapy

Respiratory physiotherapy can benefit individuals with asthma through breathing techniques, airway clearance techniques and RMT.[6–8] Breathing exercises, in their various forms may help retrain dysfunctional breathing patterns and improve hyperventilation symptoms and overall asthma-related quality of life (QoL).[9,10] Evidence regarding the impact of breathing exercises on lung function is mixed. Some studies indicate that breathing exercises can improve forced expiratory volume during the first second (FEV_1) or peak expiratory flow (PEF), while others show no significant changes.[9] Breathing retraining aims to teach patients more efficient breathing patterns for daily life and during episodes of dyspnoea. Although the techniques vary, they share common principles: regulation of tidal and minute volume, nasal breathing, breath-holding, and diaphragmatic-abdominal breathing. These practises can also reduce anxiety and depression[9,10]: dysfunctional breathing is linked to increased anxiety levels,[6] and anxiety, in turn, can worsen the perception of dyspnoea.[11]

Airway clearance techniques include all interventions aimed at removing mucus from the respiratory tract with the aim of reducing the risk of exacerbations.[8] Daily or near-daily sputum production is reported in 52.1% of patients with asthma,[8] that may increase during asthma exacerbations. Given the high prevalence of comorbid rhinitis[12] frequently linked with mucus hypersecretion, both upper and lower airway clearance should be considered in the therapeutic approach: nasal irrigation or hand-held positive expiratory pressure (PEP) devices. In case of respiratory infections, although further research is required, airway clearance techniques should be considered an important tool for the prevention of secondary complications.[13] However, no studies have identified the most appropriate technique or device for patients with asthma, nor the optimal timing of such interventions. This should not discourage the use of these techniques when clinically indicated, but further research in the topic is warranted.

Another potentially beneficial intervention is RMT, which involves the use of different external loads to train the respiratory muscles. To date, only studies on inspiratory muscle training (IMT) have been conducted. Future research should address the effects of expiratory muscle training in asthma. IMT has been shown to improve maximum inspiratory pressure (MIP), reduce the use of rescue medication and alleviate dyspnoea.[7] Further studies are needed to clarify its impact on exercise capacity, respiratory muscle endurance, asthma-related QoL, hospital admissions, and its effects across different asthma severities and age groups. RMT is generally recommended to train at 40–60% of MIP, with sessions performed from two to seven days per week, during at least six weeks.[7]

Physical activity and exercise training

PA is any movement by skeletal muscles that expends energy. Exercise is a subset of PA, being a planned, structured, and repetitive form of PA aimed at improving or maintaining fitness. Current asthma guidelines recommend incorporating PA strategies and exercise into disease management,[1,3] particularly for those with exercise intolerance or dyspnoea due to persistent airflow limitation.[1] Exercise training is a core component of physiotherapy interventions for individuals with asthma. However, the lack of specific exercise guidelines for this population, along with fears of exercise-induced bronchospasm (EIB) or exercise-induced asthma (EIA), often results in reduced PA levels.[14] Regarding exercise, there is no justification for avoiding it in this population. Individuals with stable, well-controlled asthma, should be encouraged to engage in regular exercise without fear of exacerbation. Aerobic and resistance exercise has been shown to improve exercise tolerance – as measured by maximal oxygen consumption (VO_{2max}) and six-minute walk distance – and asthma-related QoL. While its effect on asthma control may be limited, further studies are needed.[4] Exercise prescription for this population must be preceded by an exhaustive initial evaluation, and be led by physiotherapists, who are the health professionals qualified to prescribe exercise training due to their health training. Prescription should adhere to general principles applicable to chronic conditions or healthy populations, while prioritising individualisation, a key element of therapeutic

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programmes.[4] Even if there is no consensus, exercise training is commonly recommended two to three times a week, with sessions lasting approximately 30 min.[15] Finally, for individuals at risk of EIB, a consultation with a physician to adjust pharmacological treatment is recommended to maintain good asthma control. Additionally, an appropriate warm-up should be performed prior to exercise. This may induce a refractory period, potentially reducing the risk of EIB in susceptible individuals.[16] Therefore, fear of EIB should not discourage participation in exercise training. Beyond exercise, PA strategies primarily involve behavioural changes, feedback, and counselling. These topics will be addressed in the next section.

Education

Education can be considered a maintenance treatment, as its objective aligns with those of pharmacological intervention: to reduce exacerbations. Education also promotes sustained engagement in health-enhancing behaviours. Patients should understand that asthma is a chronic condition requiring long-term management, even in the absence of symptoms. Physiotherapists, in collaboration with other healthcare professionals, can help patients develop essential skills for disease control. These skills include correct inhaler use, identifying and avoiding triggers, recognizing and monitoring symptoms, and measuring PEF regularly. Physiotherapists also lead education on PA, providing information and strategies to increase and then maintain PA levels. Strategies aimed at increasing PA – such as the use of pedometers, education on activity recommendations, phone calls or messages, and structured training – can enhance PA in adult patients with asthma, reduce symptoms, and improve asthma-related QoL.[15] These skills and knowledge support self-care and treatment adherence, both of which are closely linked to improved asthma control. Evidence suggests that educational interventions can reduce the number of medical consultations and exacerbations and improve asthma-related QoL without an increase in healthcare costs.[3,17] Further research is needed to improve physiotherapy-led education overall, as well as to evaluate the role and impact of digital health in this context.

Physiotherapy is recognised as a fundamental component of the interdisciplinary management of asthma. It offers a broad repertoire of evidence-based interventions that address multiple dimensions of the disease. These not only improve symptoms, functional capacity and asthma-related QoL, but also enable patients to better understand and manage their condition, fostering long-term engagement in a more active lifestyle. Continued research is needed to address existing knowledge gaps, optimise intervention protocols, and further strengthen the role of physiotherapy in asthma management.

Declaration on generative AI and AI-assisted technologies in the writing process

We, the authors of the submitted manuscript, hereby declare that no generative artificial intelligence (AI) tools were used in the preparation, writing, data analysis, or any other aspect of the development of this manuscript.

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Conflicts of interest

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