PNMEDICAL

EFFECT OF RMT ON ASTHMA

Diseases that affect our ability to breathe are especially devastating to every-day life. This is especially true in patients with issues such as asthma. Increased airway resistance, air trapping and lung hyperinflation cause changes in breathing mechanics and inspiratory muscle impairment in patients with asthma. These issues can severely impact a patient's ability to live their life. Luckily, there are certain methods that might help alleviate some of the symptoms of asthma. Inspiratory muscle training (IMT), for example, has been tested to improve muscle strength in children with asthma. Let's take a look at a study below.

Key Findings

- People with asthma have respiratory muscle weakness due to increased airway resistance, air trapping and lung hyperinflation.
- 7 weeks of respiratory muscle training (RMT) increased inspiratory and expiratory muscle strength, and peak expiratory flow.
- RMT also decreased the frequency of asthma attacks and use of bronchodilators.

Patient Impact

RMT effectively reduces asthma symptoms and the need for inhaled medication.

Study Methods

The following variables were measured in the study

- Clinical outcomes peak expiratory flow (PEF)
- Maximal inspiratory pressure (MIP)
- Maximal expiratory pressure (MEP)
- Severity variables

The above were measured in children with asthma before and after a seven-week IMT with breathing exercises, as well as after 90 days, and compared to a control group.

Study Results

IMT significantly improved MIP, MEP and PEF. IMT further significantly reduced the frequency of asthma attacks, improved the ability to perform daily activities, and reduced diurnal and nocturnal symptoms as well as the frequency of rescue bronchodilator use.

The respiratory therapy program with both IMT and breathing exercises was effective to improve respiratory muscle function, leading to a significant improvement in PEF and, consequently, in severity variables. This is meaningful since both MIP and MEP increased significantly, thereby reducing airway obstruction, as evidenced by the higher PEF values and the improved severity variables.

References

Leite Lima EVNC, et.al. Inspiratory muscle training and respiratory exercises in children with asthma. J Bras Pneumol. 2008;34(8):552-558.