THE EFFECTIVENESS OF INSPIRATORY MUSCLE TRAINING ON INSPIRATORY MUSCLE STRENGTH, MAXIMUM INSPIRATORY PRESSURE, AND ADAPTATION DURATION IN ADULT PATIENTS WITH INVASIVE MECHANICAL VENTILATION

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ABSTRACT

Background: The prolonged use of mechanical ventilation is a major cause of weakening. It can also change the condition of the patient's respiratory muscles during intensive care unit (ICU) admission. Inspiration muscle training (IMT) is an intervention intended to increase or maintain inspiratory muscles. This study aimed to evaluate the effectiveness of inspiratory muscle training on inspiratory muscle strength, maximum inspiratory pressure, and adaptation duration in adult patients with invasive mechanical ventilation.

Subjects and Method: This was a systematic review using electronic databases: PubMed, Science Direct, ProQuest, EBSCO, and Cochrane. The target population was adult patients with invasive mechanical ventilation. The intervention was IMT. The outcome was inspiratory muscle strength, maximum inspiratory pressure, and adaptation duration. After screening and critical appraisal, a total of 6 RCTs published in English between 2010 and 2020 was included in this review. The total sample size was 293.

Results: IMT significantly increased inspiratory muscle strength and maximum inspiratory pressure. It shortened adaptation duration of the invasive mechanical ventilation.

Conclusion: IMT significantly increases inspiratory muscle strength and maximum inspiratory pressure, as well as shortens adaptation duration of the invasive mechanical ventilation.

Keywords: inspiratory muscle training, invasive mechanical ventilation, systematic review

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