Abstract

Background: Patients with heart failure (HF) usually develop exercise intolerance. In this context, noninvasive ventilation (NIV) can help to increase physical performance. Objective: To undertake a systematic review and meta-analysis of randomized controlled trials that evaluated the effects of NIV on exercise tolerance in patients with HF. Method: Search Strategy: Articles were searched in the following databases: Physiotherapy Evidence Database (PEDro), Scientific Electronic Library Online (SciELO), and MEDLINE. Selection Criteria: This review included only randomized controlled trials involving patients with HF undergoing NIV, with or without other therapies, that used exercise tolerance as an outcome, verified by the distance travelled in the six-minute walk test (6MWT), VO$_2$ peak in the cardiopulmonary test, time spent in testing, and dyspnea. Data Collection and Analysis: The methodological quality of the studies was rated according to the PEDro scale. Data were pooled in fixed-effect meta-analysis whenever possible. Results: Four studies were selected. A meta-analysis including 18 participants showed that the use of NIV prior to the 6MWT promoted increased distance, [mean difference 65.29 m (95% CI 38.80 to 91.78)]. Conclusions: The use of NIV prior to the 6MWT in patients with HF may promote increased distance. However, the limited number of studies may have compromised a more definitive conclusion on the subject.

Keywords

Heart disease, exercise intolerance, positive pressure.