Abstract

OBJECTIVE: To conduct a systematic review to evaluate the evidence of the use of incentive spirometry (IS) for the prevention of postoperative pulmonary complications and for the recovery of pulmonary function in patients undergoing abdominal, cardiac and thoracic surgeries. METHODS: Searches were performed in the following databases: Medline, Embase, Web of Science, PEDro and Scopus to select randomized controlled trials which the IS was used in pre- and/or post-operative in order to prevent postoperative pulmonary complications and/or recover lung function after abdominal, cardiac and thoracic surgery. Two reviewers independently assessed all studies. In addition, the studies quality was assessed using the PEDro scale. RESULTS: Thirty studies were included (14 abdominal, 13 cardiac and 3 thoracic surgery; n=3,370 patients). In the analysis of the methodological quality, studies achieved a PEDro average score of 5.6, 4.7 and 4.8 points in abdominal, cardiac and thoracic surgeries, respectively. Five studies (3 abdominal, 1 cardiac and 1 thoracic surgery) compared the effect of the IS with control group (no intervention) and no difference was detected in the evaluated outcomes. CONCLUSION: There was no evidence to support the use of incentive spirometry in the management of surgical patients. Despite this, the use of incentive spirometry remains widely used without standardization in clinical practice.

Keywords

Incentive spirometry, surgery, postoperative care, postoperative complication, physical therapy, breathing exercise.