Other Reviews - - Other Review

The effect of respiratory muscle training on children and adolescents with cystic fibrosis: a systematic review and meta-analysis.

Code: PM38622583 **Year:** 2024 **Date:** **Author:** Cai W

Study design (if review, criteria of inclusion for studies)

Systematic review

Participants

Up to July 2023, electronic databases and clinical trial registries were searched. Controlled clinical trials comparing respiratory muscle training with sham intervention or no intervention in children and adolescents with cystic fibrosis.

Interventions

Respiratory muscle training vs sham intervention or no intervention

Outcome measures

The primary outcomes were respiratory muscle strength, respiratory muscle endurance, lung function, and cough. Secondary outcomes included exercise capacity, quality of life and adverse events.

Main results

Six studies with a total of 151 participants met the inclusion criteria for this review. Two of the six included studies were published in abstract form only, limiting the available information. Four studies were parallel studies and two were cross-over designs. There were significant differences in the methods and quality of the methodology included in the studies. The pooled data showed no difference in respiratory muscle strength, lung function, and exercise capacity between the treatment and control groups. However, subgroup analyses suggest that inspiratory muscle training is beneficial in increasing maximal inspiratory pressure, and qualitative analyses suggest that respiratory muscle training may benefit respiratory muscle endurance without any adverse effects.

Authors' conclusions

This systematic review and meta-analysis indicate that although the level of evidence indicating the benefits of respiratory muscle training is low, its clinical significance suggests that we further study the methodological quality to determine the effectiveness of training.

http://dx.doi.org/10.1186/s12887-024-04726-x

See also

BMC Pediatr. 2024 Apr 15;24(1):252. doi: 10.1186/s12887-024-04726-x.

Keywords

Adolescent; Adult; Inhalation OR nebulised; non pharmacological intervention - psyco-soc-edu-org; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; training; inspiratory muscle training; exercise; Chest physiotherapy;