primary studies - published RCT

Exercise with incorporated expiratory manoeuvres was as effective as breathing techniques for airway clearance in children with cystic fibrosis: a randomised crossover trial.

Code: PM23177226 **Year:** 2012 **Date:** 2012 **Author:** Reix P

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

Randomised, cross-over trial with concealed allocation and intention-to-treat analysis

Participants

34 children with cystic fibrosis in a stable clinical state.

Interventions

Participants underwent two 20-min airway clearance interventions on two scheduled clinic days: one involving three bouts of various whole-body exercise modalities each followed by independent expiratory manoeuvres, and the other involving breathing control, thoracic expansions with manual expiratory compressions, and the forced expiratory technique.

Outcome measures

Wet weight of expectorated sputum, change in lung function, co-operation with treatment, perceived treatment quality, and satisfaction with treatment were all assessed after each intervention.

Main results

The wet weight of sputum after exercise was 0.6g higher after the exercise intervention, which was not statistically or clinically significant (95% CI -0.2 to 1.4). However, lung function and participant satisfaction with the treatment were both significantly better after the exercise intervention. Co-operation with treatment and perceived treatment quality were equally high for each intervention.

Authors' conclusions

A session of various whole-body exercises interspersed with independent expiratory manoeuvres could be an acceptable substitute for a session of breathing control, thoracic expansions with manual expiratory compressions, and the forced expiratory technique in children with mild cystic fibrosis lung disease.

http://dx.doi.org/10.1016/S1836-9553(12)70125-X

See also

J Physiother. 2012;58(4):241-7. doi: 10.1016/S1836-9553(12)70125-X.

Keywords

Child; exercise; non pharmacological intervention - devices OR physiotherapy; Airway clearance technique; forced expiration technique; Active Cycle of Breathing Technique -ACBT-;