primary studies - published RCT

Effects of inspiratory muscle training on postural stability, pulmonary function and functional capacity in children with cystic fibrosis: A randomised controlled trial.

Code: PM30827470 **Year:** 2019 **Date:** 2019 **Author:** Zeren M

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

RCT

Participants

Thirty-six children aged between 8 and 18 years with CF

Interventions

Patients were randomly allocated to either "comprehensive chest PT" group (PT) or "IMT alongside comprehensive chest PT" group (PT+IMT). Both groups trained for 8 weeks.

Outcome measures

Dynamic and static postural stability tests on Biodex Balance system((R)), spirometry, respiratory muscle strength and 6-min walk distance (6MWD) was assessed at baseline and after 8 weeks of training. Determinants of postural stability was also analysed on baseline values.

Main results

Maximum expiratory pressure (MEP) was found to be an independent predictor for overall limits of stability (LOS) score explaining %26 of variance (R=0.514, p=0.003). Overall LOS score, FVC, FEV1, peak expiratory flow, MEP and 6MWD significantly improved in both groups, with no significant differences between groups. Maximum inspiratory pressure (MIP) also improved in both groups but the magnitude of improvement in MIP was greater in PT+IMT group (38 cmH2O vs 13 cmH2O; p

Authors' conclusions

Combining IMT with chest PT failed to provide further improvements, except for MIP, suggesting that a comprehensive chest PT program may be individually effective in improving overall LOS score, spirometry, respiratory muscle strength and 6MWD. .

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See also

Respir Med. 2019 Mar;148:24-30. doi: 10.1016/j.rmed.2019.01.013. Epub 2019 Jan 28.

Keywords

Aerobic training; Airway clearance technique; Chest physiotherapy; exercise; inspiratory muscle training; intervention - devices OR physiotherapy; non pharmacological intervention - psyco-soc-edu-org; Respiratory Tract Diseases; strength training; training;