

Other Reviews - - Other Review

Exercise programs for children with cystic fibrosis: a systematic review of randomized controlled trials

Code:

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

Studies in English; RCT; subjects diagnosed as having CF; children or adolescents aged 6â€"18 years; exercise training intervention lasting at least 2 weeks. A control group had to be present.

List of included studies (4)

Schneiderman-Walker 2000; Selvadurai 2002; Klijn 2004; Orenstein 2004

Participants

4 RCT: Schneiderman-Walker et al. (control=36; aerobic=36); Selvadurai et al. (control=21; aerobic=21, resistance=22); Klijn et al. (control=9; anaerobic=11); Orenstein et al. (control=26; strength=30)

Interventions

exercise intervention

Outcome measures

pulmonary function (FEV1; FVC) and fitness outcomes (VO2; leg strength; peak power)

Main results

Four RCTs were included (n=212, range 20 to 72). All studies met criteria for randomisation, allocation concealment, baseline comparability and reporting of effect estimates, drop-outs and intervention details. Eligibility criteria and compliance rate were reported in three RCTs each. Blinding and ITT analysis were reported in two RCTs each. Pulmonary function (four RCTs): One RCT found that FEV1% was significantly improved from baseline by short-term aerobic exercise (p

Authors' conclusions

The review concluded that both aerobic exercise and strength training may benefit pulmonary function, aerobic fitness and strength among children with cystic fibrosis. Factors that limited the review included the small amount of evidence available and inconsistencies between studies. Therefore, the author's conclusions may require cautious interpretation. Both aerobic exercise and strength training may benefit pulmonary function, aerobic fitness and strength among children with cystic fibrosis. - The author stated that children with mild to severe cystic fibrosis may benefit from exercise training, especially in an in-patient setting. Both short-term and long-term strength programmes were effective, even in prepubertal children. - The author stated that research was needed into the most effective exercise programme for children with cystic fibrosis. Research needed to include which exercise modalities (or combinations) and what intensity, duration and dose of exercise were most effective. The author recommended research (RCTs included) of home-delivered exercise, strength training and anaerobic exercise that reported outcomes such as quality of life, need for chest physiotherapy, recurrent infection rate, nutritional status and physiological end points.

<http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?ID=12010001367>

See also

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Keywords

Adolescent; Child; exercise; Infant; non pharmacological intervention - devices OR physiotherapy; strength training;

