primary studies - published RCT

Interval versus constant-load exercise training in adults with Cystic Fibrosis.

Code: PM33618051 **Year:** 2021 **Date:** 2021 **Author:** Kaltsakas G

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

Randomised controlled trial

Participants

24r adults with CF

Interventions

Interval exercise (IE) compared to constant-load exercise (CLE) training. Patients were randomised to 30-min IE (100 % peak work capacity (WRpeak) for 30-s alternated with 40 % WRpeak for 30-s; nâ€¯=â€¯12) or 30-min CLE (70 % WRpeak; nâ€¯=â€¯12) training, 3 times weekly, for 12 weeks.

Outcome measures

Isometric quadriceps muscle strength was assessed using a strain gauge Myometer.

Main results

The magnitude of improvement in quadriceps muscle strength was greater (pâ€¯=â€¯0.037) in the IE (by 32â€¯Â±â€¯13 Nm) compared to the CLE (by 23â€¯Â±â€¯12 Nm) groups. Maximum inspiratory and expiratory mouth pressures were significantly improved only in the IE group (by 30â€¯Â±â€¯10 cmH(2)O; pâ€¯=â€¯0.009 and 13â€¯Â±â€¯4 cmH(2)O; pâ€¯=â€¯0.007, respectively). Arterial oxygen saturation during training was higher (pâ€¯=â€¯0.002) for IE (94â€¯Â±â€¯1%) compared to CLE (91â€¯Â±â€¯1%), whereas dyspnoea scores were lower (pâ€¯=â€¯0.001) for IE (3.8â€¯Â±â€¯0.7) compared to CLE (5.9â€¯Â±â€¯0.8)

Authors' conclusions

IE is superior to CLE in improving peripheral and respiratory muscle strength and preferable to CLE because it is associated with lower exercise-induced arterial oxygen desaturation and breathlessness.

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See also

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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;