

primary studies - published RCT

Tezacaftor-Ivacaftor in Residual-Function Heterozygotes with Cystic Fibrosis.

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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 (WR_{peak}) for 30-s alternated with 40 % WR_{peak} for 30-s; n=12) or 30-min CLE (70 % WR_{peak}; n=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 (p=0.037) in the IE (by 32±13 Nm) compared to the CLE (by 23±12 Nm) groups. Maximum inspiratory and expiratory mouth pressures were significantly improved only in the IE group (by 30±10 cmH₂O; p=0.009 and 13±4 cmH₂O; p=0.007, respectively). Arterial oxygen saturation during training was higher (p=0.002) for IE (94±1%) compared to CLE (91±1%), whereas dyspnoea scores were lower (p=0.001) for IE (3.8±0.7) compared to CLE (5.9±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 - psycho-soc-edu-org; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; training; inspiratory muscle training; exercise; Chest physiotherapy;