primary studies - published RCT

Nasal high-flow therapy as an adjunct to exercise in patients with cystic fibrosis: A pilot feasibility trial.

Code: PM33814320 **Year:** 2021 **Date:** 2021 **Author:** Spoletini G

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

Pilot, open-label, randomized crossover trial

Participants

23 participants with CF and severe lung disease.

Interventions

Nasal high-flow therapy (NHFT). Participants completed two treadmill walking test (TWT) with and without NHFT at 24-48 h interval.

Outcome measures

Primary outcome was trial feasibility, and exploratory outcomes were TWT distance (TWTD), SpO(2), transcutaneous CO(2), dyspnoea and comfort.

Main results

Recruitment rate was 2.4 subjects/month with 1.3:1 screening-to-randomization ratio. No adverse events caused by NHFT were observed. Tolerability was good and data completion rate was 100%. Twenty subjects (91%) were included in the exploratory study. Mean difference in TWTD on NHFT was 19 m (95% CI [4.8 - 33.1]). S(p)O(2) was similar, but respiratory rate and mean tcCO(2) were lower on NHFT (mean difference = -3.9 breaths/min 95% CI [-5.9 - -1.9] and -0.22 kPa 95% CI [-0.4 - 0.04]). NHFT reduced exercise-induced dyspnoea and discomfort.

Authors' conclusions

Trials using NHFT in patients with CF during exercise are feasible. NHFT appears to improve walking distance, control respiratory rate, CO(2), dyspnoea and improve comfort. A larger trial with a longer intervention is feasible and warranted to confirm the impact of NHFT in training programmes for patients with CF.

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See also

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Keywords

non pharmacological intervention - devices OR physiotherapy; Oxygen;