

primary studies - published RCT

Feasibility and Impact of a Coached Home-Based Exercise Program on Cardiorespiratory Fitness in Adults With Cystic Fibrosis on Highly Effective Modulator Therapy.

Code: PM42729704

Year: 2026 Date:

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

Randomized controlled pilot study

Participants

People with cystic fibrosis (PwCF) on highly effective modulator therapy (HEMT) (stable elexacaftor/tezacaftor/ivacaftor)

Interventions

Participants were randomized to a 12-week coached home-based exercise intervention or standard care. Intervention participants received weekly coaching and progressed to 180 min/wk of moderate-intensity exercise.

Outcome measures

Primary outcome was change in cardiorespiratory fitness measured by the Incremental Shuttle Walk Test. Secondary outcomes included adherence, changes in lung function (FEV(1) % predicted), health-related quality of life (Cystic Fibrosis Questionnaire-Revised), perceived barriers to physical activity, and ventilation defect percent measured by hyperpolarized xenon-129 MRI scan.

Main results

Twenty-one PwCF were enrolled, with 14 participants completing the study (intervention: n = 8; control: n = 6). The intervention group demonstrated a significant improvement in Incremental Shuttle Walk Test distance compared with the control group (76.3 ± 98.4 m vs -66.7 ± 93.3 m, respectively). The between-group difference favored the intervention by 14.3 m (95% CI, 2.96-25.63; P = .03). No significant changes were observed in FEV(1) % predicted, Cystic Fibrosis Questionnaire-Revised total score, barrier scores, or ventilation defect percent.

Authors' conclusions

Our results show that a personalized, coached home-based exercise program significantly improved cardiorespiratory fitness in PwCF on HEMT but had no measurable impact on lung function or quality of life. These findings support the feasibility of a home-based exercise coaching program.

<http://dx.doi.org/10.1016/j.chpulm.2026.100252>

See also

CHEST Pulm. 2026 Mar 9;4(3):100252. doi: 10.1016/j.chpulm.2026.100252. eCollection 2026 Sep.

Keywords

exercise; Home; Home Care Services; non pharmacological intervention - devices OR physiotherapy; non pharmacological intervention - psyco-soc-edu-org; Ventilators; Organization;