primary studies - published RCT

Short-term comparative study of high frequency chest wall oscillation and European airway clearance techniques in patients with cystic fibrosis.

Code: PM19703826 **Year:** 2010 **Date:** 2010 **Author:** Osman LP

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

Single centre UK study. RCT of cross-over design.

Participants

Mean age: 29.7 years. Mean FEV1: 37.7 % 30 participants recruited (22 males).

Interventions

4 days duration of study. Participants received either HFCWO on days 1 and 3 and the "usual" ACT on days 2 and 4 or vice versa. ACT session were 2x daily for 30 min. 83% of "usual" therapy was described as ACBT.

Outcome measures

Wet weight of expectorated sputum, respiratory function, oxygen saturation monitoring, perceived efficacy and preference were measured.

Main results

29 patients (72% male) of mean (SD) age 29.4 (8.4) years and mean (SD) forced expiratory volume in 1 s (FEV(1)) percentage predicted (FEV(1)%) 38 (16.7) completed the study. Significantly more sputum was expectorated during a single treatment session and over a 24 h period (mean difference 4.4 g and 6.9 g, respectively) with usual ACTs than with HFCWO (p

Authors' conclusions

During both a finite treatment period and over 24 h, less sputum was cleared using HFCWO than usual ACT. HFCWO does not appear to cause any adverse physiological effects and may influence adherence.

http://dx.doi.org/10.1136/thx.2008.111492

See also

Thorax. 2010 Mar;65(3):196-200. Epub 2009 Aug 23.

Keywords

Adult; Airway clearance technique; Chest Wall Oscillation; non pharmacological intervention - devices OR physiotherapy; Exacerbation; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Bacterial Infections; High Frequency Chest Wall Oscillation -HFCWO-; Active Cycle of Breathing Technique -ACBT-; Chest physiotherapy; VEST Airway Clearance System; oscillating devices;