primary studies - published RCT

A comparison of the therapeutic effectiveness of and preference for postural drainage and percussion, intrapulmonary percussive ventilation, and high-frequency chest wall compression in hospitalized cystic fibrosis patients.

Code: PM12556258 **Year:** 2003 **Date:** 2003 **Author:** Varekojis SM

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

non-blinded crossover study

Participants

24 CF patients were studied. The participants were hospitalized CF patients > 12 years old.

Interventions

postural drainage and percussion (PD&P), intrapulmonary percussive ventilation (IPV), and high-frequency chest wall compression (HFCWC). In random order, each patient received 2 consecutive days of each therapy, delivered 3 times daily for 30 minutes.

Outcome measures

Effectiveness was evaluated by measuring the wet and dry weights of sputum obtained with each method. Sputum was collected during and for 15 minutes after each treatment, weighed wet, then dried and weighed again. Participants rated their preferences using a Likert-type scale. Mean weights and preferences were compared using analysis of variance with repeated measures. Patient preferences were compared using Freidman's test.

Main results

The mean +/- SD wet sputum weights were 5.53 +/- 5.69 g with PD&P, 6.84 +/- 5.41 g with IPV, and 4.77 +/- 3.29 g with HFCWC. The mean wet sputum weights differed significantly (p = 0.035). Wet sputum weights from IPV were significantly greater than those from HFCWC (p

Authors' conclusions

HFCWC and IPV are at least as effective as vigorous, professionally administered PD&P for hospitalized CF patients, and the 3 modalities were equally acceptable to them. A hospitalized CF patient should try each therapy and choose his or her preferred modality.
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See also

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Keywords

Adolescent; Adult; Airway clearance technique; Artificial Ventilation; Drainage; Hospitalization; Hospital care; Intrapulmonary; Intrapulmonary Percussive Ventilation; non pharmacological intervention - devices OR physiotherapy; non pharmacological intervention - psyco-soc-edu-org; Percussion; Postural Drainage; Ventilators; High Frequency Chest Wall Oscillation -HFCWO-; VEST Airway Clearance System; oscillating devices; Chest physiotherapy; Organization;