primary studies - published RCT

Comparison of expectorated sputum after manual chest physical therapy and high-frequency chest compression.

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

RCT.

Participants

12 CF patients

Interventions

Six subjects routinely used manual CPT and six routinely used the HFCC. chest compression (HFCC) and standard chest physical therapy (CPT). Two certified respiratory therapists alternated subjects and CPT vs HFCC order during the two weeks of the matched study.

Outcome measures

For all sessions, the expectorated sputum was collected in preweighed cups, which were reweighed immediately after collection and again after evaporation to dryness.

Main results

The wet and dry weights of the sputum produced as a result of the two techniques were significantly different, with HFCC having greater weight. Regardless of the mode of therapy, the sputum produced by the subjects who regularly received HFCC had greater water content than did the sputum produced by those subjects who regularly received CPT. No significant difference was found between the two therapists regarding sputum expectorated by the subjects during CPT.

Authors' conclusions

These results show that sputum production by subjects with CF who receive CPT by certified respiratory therapists can be as great as the sputum produced by the same subjects who receive HFCC. The results also suggest that unknown factors attributed to the therapists may produce different levels of effort from time to time that may decrease the respiratory therapists' effectiveness, whereas the HFCC therapy may be more consistently effective because it is entirely machine based.

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See also

Biomed Instrum Technol. 2004 Nov-Dec;38(6):470-5.

Keywords

Airway clearance technique; Chest Wall Oscillation; non pharmacological intervention - devices OR physiotherapy;