

primary studies - published RCT

Evaluation of the PEP mask in cystic fibrosis.

Code: PM2028789

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

Cross-over design. Randomised controlled trial.

Participants

28 participants (gender unspecified); mean age 14 years, range 8 - 21 years; mean FEV1 68, range 15 - 114% predicted; mean Schwachman score 65, range 33 - 91 points. CF confirmed by sweat tests.

Interventions

1. PEP treatment. Pressure 10 - 15 cm H₂O. Seated participants exhaled 10 - 15 times through an Astra or Vitapep mask, followed by forced expiration and cough, if required. This cycle was then repeated; 2. PEP & FET intervention. The following was added to the above technique: 1 or 2 forced expirations with an open glottis from mid-lung volume to low-lung volume followed by a period of relaxed diaphragmatic breathing (FET); 3. PDP & FET intervention. Participants received percussion in postural drainage positions, with FET; 4. 5PEP-PDP & FET intervention. Participants performed PEP (position not defined) for 5 minutes, followed by PDP&FET. Frequency and duration of treatment sessions was not specified. There was no washout period between months.

Outcome measures

FEV1 and FVC were measured at the start and finish of each month. At the end of each month, the wet weight of expectorated sputum over a 2-hour period which included a treatment with that month's intervention was measured. At the end of the study period

Main results

At the end of the trial, no significant difference was found between the programmes as regards growth, Shwachman score, Crispin-Norman score or pulmonary function tests. Twenty-three patients chose to continue using the PEP mask in conjunction with FET long-term as their chest physiotherapy programme as they felt it was an effective treatment allowing increased independence, with postural drainage being kept to a minimum.

<http://dx.doi.org/10.1111/j.1651-2227.1991.tb11729.x>

See also

Acta Paediatr Scand. 1991 Jan;80(1):51-6.

Keywords

Adolescent; Adult; Airway clearance technique; Child; Drainage; non pharmacological intervention - devices OR physiotherapy; mask; Postural Drainage; Positive-Pressure Respiration- PEP- pep mask; percussion; Chest physiotherapy; forced expiration technique; Active Cycle of Breathing Technique -ACBT-;