primary studies - published, non RCT

Pilot trial of spirometer games for airway clearance practice in cystic fibrosis.

Code: PM22348602 **Year:** 2012 **Date:** 2012 **Author:** Bingham PM

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

pilot trial

Participants

13 adolescents with CF

Interventions

spirometer games. Subjects were provided with digital spirometers and computers set up as "game only" or "control" devices. After the first of 2 periods (each > 2 weeks), the computer was set-up for the alternate condition for period 2.

Outcome measures

use, number of expiratory high flow events (HFEs), and change in PFTs

Main results

Interviews disclosed minimal awareness of ACTs among our pediatric CF patients. Subjects used games and control software a similar percentage of days during the game (26%) and control periods (32%). There was a trend toward more minutes with the game versus control setup (P = .07), though HFE count did not differ between the 2 conditions (P = .71). Game play showed no overall effect on FEV(1), though correlation analysis showed a modest relation between minutes of play and change in FEV(1) from baseline (r = 0.50, P = .09). The game period showed a trend to increased vital capacity (P = .05).

Authors' conclusions

Spirometer games elicit forced expiratory breath maneuvers in pediatric CF patients. Improvement in PFTs may be due to improved test performance technique, though improved obstructive/restrictive lung function due to game play cannot be excluded. A formal clinical trial of this approach is planned.

http://dx.doi.org/10.4187/respcare.01263

See also

Respir Care. 2012 Aug;57(8):1278-84. Epub 2012 Feb 17.

Keywords

Child; non pharmacological intervention - psyco-soc-edu-org; Respiratory Tract Diseases; Games- Experimental;