NHSEED - - Economic Study or Review

Effects of a supervised, outpatient exercise and physiotherapy programme in children with cystic fibrosis

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

Interventional study, non randomized

Participants

Children with CF. Subjects with CF aged â‰¥10 years who had received â‰¥4 courses of IV antibiotics in 2009 were enrolled. 12 subjects (6 female) were enrolled with mean (95% CI) age of 13.3 (11.8-14.6) years at study entry.

Interventions

A year-long supervised outpatient exercise and physiotherapy programme. Subjects enrolled were seen fortnightly for supervised exercise and physiotherapy throughout 2010. In addition, they were expected to exercise three times weekly, and if unwell complete additional physiotherapy sessions extra to usual chest physiotherapy.

Outcome measures

Assessments of exercise capacity using the Modified Shuttle Test (MST) and quality of life (QOL; CFQ-UK) were recorded at baseline and after 1 year. Regular spirometry was performed before and throughout the study. Data were collected on IV antibiotic days.

Main results

A significant reduction in IV antibiotic days from 60 (56-64) days in 2009 to 50 (44-56) in 2010 (P = 0.02) was noted, along with improved MST distance (m) [735 (603-867) vs. 943 (725-1,161), P = 0.04] and level attained [9.4 (8.4-10.5) vs. 11.1 (9.6-12.6), P = 0.04]. Significant improvements in CFQ-UK scores for physical [59 (47-72) vs. 83 (74-92), P = 0.001], emotional [63 (55-72) vs. 84 (74-93), P

Authors' conclusions

Supervised, outpatient exercise and physiotherapy are associated with improvements in QOL and exercise tolerance, a reduction in IV antibiotic days, and a trend towards reducing lung function decline in children with CF. The cost of IV antibiotics was reduced by £66,384 ($104,000) in 2010 when compared with 2009. Such cost-benefit may have implications for workforce planning and service provision.

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See also

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Keywords

Adolescent; Adult; Child; exercise; non pharmacological intervention - devices OR physiotherapy; training; non pharmacological intervention - psyco-soc-edu-org; Chest physiotherapy;