primary studies - published RCT

Electronic home monitoring of children with cystic fibrosis to detect and treat acute pulmonary exacerbations and its effect on 1-year FEV(1).

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

randomised prospective study

Participants

Children with CF between 6 and 18 years of age.

Interventions

Subjects were randomised into home spirometry group (HSG) and usual care group (UCG).

Outcome measures

Children in HSG performed two pulmonary function tests (PFT) per week. Data regarding acute pulmonary exacerbations (PEx) was obtained from patients' records. At baseline and 12th month, health related quality of life questionnaire for CF patients (CFQ-R) and lung clearance index (LCI) were performed.

Main results

60 children were recruited with a median (IQR) age of 13.3 (11.4-15.4) years. Absolute change in FEV(1)pp from baseline to 12th month as median (IQR) was +1% (-6.75-9.75) in HSG and -2.50% (-7.50-3.25) in UCG (p = 0.10). Sensitivity analysis including only adherent children in HSG (n = 22), yielded an increase of 5% (-3.50-12) in HSG and a decrease of 2.50% (-7.50-3.25) in UCG (p = 0.009). A total of 29 (96.7%) subjects in HSG and 23 (76.7%) in UCG had PEx (p = 0.05). Absolute change in median (IQR) LCI(2.5) from baseline to the 12th month was -1.6 [-2.9-0] (p

Authors' conclusions

Electronic home monitoring of children with CF by spirometry may result in improvement in lung function.

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See also

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Keywords

hild; Home Care Services; non pharmacological intervention - psyco-soc-edu-org; Organization;