Health programme pilot for children with cystic fibrosis has benefits and cost savings

Children with moderate to severe cystic fibrosis enrolled on a programme offering physiotherapy, dietary support and personal training sessions at their local gym, spent less time in hospital receiving antibiotics and boosted their exercise capacity. The pilot study at Great Ormond Street Hospital estimated that the programme also saved around £7000 per patient per year (Ledger et al, 2013).

Sean Ledger, Specialist Physiotherapist, Great Ormond Street Hospital, London

The 12-month pilot Frequent Flyer Programme followed 14 children and young people (aged 4–15 years) who had spent more than 40 days in hospital receiving intravenous antibiotics in the year before the study started. Free access to their local gym was arranged, where a specialist physiotherapist provided weekly supervised, personal training sessions along with a regular review of their home physiotherapy regimen. A specialist dietitian provided regular nutritional support and education.

The study resulted in a 21% reduction in the total number of days patients received intravenous antibiotic treatment at Great Ormond Street Hospital, from a total of 619 days in the preceding year to 478 days in the pilot year, along with a 20% reduction in home intravenous antibiotic treatment from 304 to 243 days collectively for all patients.

The children also showed a significant increase in their exercise capacity, Overall, the study estimated a mean cost saving per patient of £13 700, where the average cost per patient was £60 200 before the study compared to £46 500 in the pilot year. After factoring in set-up costs for the programme and estimated annual gym memberships, the average cost per patient would be £53 100, suggesting an overall cost saving of £7100 per patient.

Sean Ledger, Specialist Physiotherapist at Great Ormond Street Hospital and lead author of the study, said: 'This was a small-scale trial with promising results, and we have now launched a larger randomised controlled trial, called INSPIRE-CF, to validate the results and recruit more children onto our tailored fitness programme.'

He continued: 'If our positive results could be replicated in other hospitals across the UK, the implications for cost savings to the NHS, along with improving the quality of life for children living with cystic fibrosis, would be extensive.'

Ledger SJ, Owen E, Prasad SA, Goldman A, Willams J, Aurora P (2013) A pilot outreach physiotherapy and dietetic quality improvement initiative reduces IV-antibiotic requirements in children with moderate-severe cystic fibrosis. *J Cyst Fibros* Feb 17 (Epub ahead of print)

Most babies slow to grow catch up by early teens

New research from the University of Bristol (Ud Din et al, 2013) shows that most babies who are slow to put on weight in the first 9 months of life have caught up to within the normal range by the age of 13 years, but remain lighter and shorter than many of their peers. There are significant differences in the pattern of 'catchup', depending on the infant's age when the slow weight gain occurs.

These findings are based on data from Children of the 90s (Avon Longitudinal Study of Parents and Children; ALSPAC). The study found that, of the 11 499 infants born at term, 507 were slow to put on weight before the age of 8 weeks ('early group') and 480 were slow to gain weight between 8 weeks and 9 months ('late group'). Thirty children were common to both groups.

Infants in the early group recovered quickly and had almost caught up in weight by the age of 2 years, whereas those in the later group gained weight slowly until the age of 7 years, then had a 'spurt' between 7 and 10 years.

Ud Din Z, Emmett P, Steer C, Emond A (2013) Growth Outcomes of Weight Faltering in Infancy in ALSPAC. *Pediatrics* Feb 25 (Epub ahead of print)

Side effects cause 25% of patients to stop niacin treatment

The largest randomized study of niacin in patients with occlusive arterial disease has shown a substantial increase in adverse side effects when it is combined with statin treatment.

The HPS2-THRIVE study investigated whether combining extended-release niacin with laropiprant, given in addition to simvastatin, could reduce the risk of cardiovascular problems in people at high risk as a result of existing occlusive arterial disease.

A total of 25 673 patients from China, the UK and Scandinavia were randomized between April 2007 and July 2010 to receive either 2 g of extended release niacin plus 40 mg of laropiprant or matching placebo. All participants received intensive therapy with simvastatin (with or without ezetimibe).

By the end of the study, 25% of patients taking extended-release niacin with laropiprant had stopped their treatment, compared with 17% of patients taking placebo. The main reason for stopping treatment was adverse side effects, such as itching, rashes, flushing, indigestion and diarrhoea.

HPS2-THRIVE Collaborative Group (2013) HPS2-THRIVE randomized placebo-controlled trial in 25 673 high-risk patients of ER niacin/laropiprant: trial design, pre-specified muscle, and liver outcomes and reasons for stopping study treatment. *Eur Heart J* Feb 26 (Epub ahead of print)