The primary aim of this pilot study was to ascertain whether non-ambulant children with Cerebral Palsy (CP) could use running-bikes and if it was an enjoyable mode of exercise for them. Secondary aims included investigating changes in gross motor function, bone health and quality of life.

Fifteen children with CP (aged 4 – 12 years; GMFCS levels IV & V) used the running-bikes three times weekly for 12 weeks, assisted by their physiotherapists.

Ability to use the running-bike, gross motor function, bone health and quality of life were assessed at baseline and 12 weeks. Children and physiotherapists were interviewed to obtain their views and experiences of using the running-bikes.

Both the ability to use the running-bike and bone health scores significantly increased. There was no significant difference in gross motor function or quality of life scores. Qualitative interview data confirmed the children enjoyed using the running-bikes.

This pilot study has shown that despite their level of disability, running-bikes are a feasible and enjoyable mode of exercise for this group of children. Positive signs of improvement were found in bone health over the short follow up period which is encouraging.

Why was this innovative?
This is a highly innovative project with the potential to benefit an often overlooked group of children with special needs.

There has been no other research (UK or worldwide) investigating the effect of running-bike use on bone strength, gross motor function or quality of life.

What were the key outcomes?
We have identified a novel simple mode of exercise for these children to undertake in school, at home and in the community.

The pilot study highlighted the potential therapeutic benefits of running-bike use for young children with cerebral palsy.

What's next?
We are seeking further funding to carry out a randomised controlled trial investigating the impact of a running-bike intervention on bone mineral density in children with severe Cerebral Palsy.

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