TP 059

'IS TELEHEALTH AS EFFECTIVE AS FACE TO FACE THERAPY FOR DELIVERY OF WHOLE BODY VIBRATION TRAINING (WBVT) AS AN ADJUNCT TO PHYSIOTHERAPY IN CHILDREN AND YOUNG PEOPLE WITH CYSTIC FIBROSIS (CF)?'.

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Introduction/Aim: An increased life expectancy of individuals with cystic fibrosis (CF), now recognises bone mineral deficits and reduced muscle mass (sarcopenia), as long term health concerns. Importantly, muscle mass has been shown as an independent predictor of bone accrual in individuals with CF.

Whole body vibration training (WBVT) has shown a therapeutic impact on bone and muscle response in adults, and some paediatric cohorts, with CF. Our project aimed to demonstrate the utility of telehealth-supported home treatments with WBVT via a model of service delivery which reduces travel time, costs, and negative impacts on quality of life (QOL), while providing an efficacious clinical intervention.

Methods: 15 pre-pubertal outpatients with CF, mean age 7.94 $\pm$ 1.35 years, were randomised to WBVT (n = 9) or usual care (n = 6, control). Individuals in WBVT cohort performed a 12 week standardised WBVT program (20 minutes, 5 times per week), combined with normal physiotherapy airway clearance. Rreviews either face-to-face (n = 3) or via telehealth (n = 6) were provided over the 12 weeks. The control cohort continued normal physiotherapy airway clearance. Anthropometric data and primary outcome measures of total body lean body mass (LBM) via dual-energy X-ray absorptiometry (DXA) were taken at baseline and 12 weeks. Secondary outcome measures include Cystic Fibrosis Quality of Life Questionnaire-Revised (CFQ-R), spirometry and bone parameters (DXA) were collected at these time points.

Results: Baseline data were not different between groups, and while both groups showed increases in height and weight, they were not different between groups. Compared to usual care, over 12 weeks of intervention, the WBVT group showed: increased bone mineral content adjusted for height ($P = 0.046$) and bone mineral content for the amount of LBM ($P = 0.041$). Interestingly, upward trends in bone mineral content considered for LBM, fat mass, height and age seen in the WBVT group were not observed in the control group. There were no significant changes in QoL measures for either group.

Conclusions: WBVT showed increased lean mass and bone mineral content for the individual's size that may imply a positive functional change in muscle and bone response. Further, the WBVT did not add a burden of care, as indicated by unchanged QoL scores. Our pilot study, with a small sample size, implies physiological changes that warrants further investigation.

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TP 060

'RECOVERY TO BASELINE PULMONARY FUNCTION AFTER EXACERBATION IN CYSTIC FIBROSIS PATIENTS AT THE PRINCE CHARLES HOSPITAL

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Introduction/Aim: Pulmonary exacerbations (PEXs) occur intermittently in patients with cystic fibrosis (CF). Up to 25% fail to recover their baseline lung function following treatment. The aim of this study was to determine what proportion of patients recover their baseline lung function.

Methods: Retrospective chart audit of every CF PEX admission to The Prince Charles Hospital in 2017. Recovery to baseline lung function was deemed to have occurred if the patient's best FEV1 in the 3 months post discharge equalled or was greater than 90% of the patients best FEV1 in the 6 months prior to admission.

Results: A total of 133 patients experienced 304 admissions for PEX during 2017. Admissions were excluded from analysis if patients received a lung transplant or died in the three months following PEX. Twenty-two admissions had insufficient data to determine recovery.

A total of 268 admissions from 118 patients were included in analyses. The study population were 58.5% males, mean age 31 years. The median number of admissions for each patient was two.

For their first admission in the study period 105 patients (89%) recovered lung function (95% CI: 82-94%). Patients who failed to recover had higher length of stay (15 versus 13 days), initial CRP (33 versus 9) and lower initial FEV1 (1.26L versus1.93L) (Figure 1). Overall, lung function recovered in 222 of 268 (83%) admissions (95% CI: 77-88%). The most common combination of antibiotics used was Tobramycin and Ceftazidime (48.5%).

Recovery was less likely if Fosfomycin or Aztreonam were used or if Aspergillus or Achromobacter species were present in sputum. A diagnosis of pancreatic insufficiency, CF related diabetes or CF related liver disease did not differ between recovered and non-recovered patients.

Conclusion: Overall, lung function recovered in 83% of admissions. This recovery rate is greater than that reported in the literature.

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