Determinants of exercise participation for adults with cystic fibrosis

T.J. Dwyer1,2, B. Griffin3, Z.J. McKeough4, J.T. Byco5, J.A. Allison1,2. 1University of Sydney, Discipline of Physiotherapy, Sydney, NSW, Australia; 2Royal Prince Alfred Hospital, Respiratory Medicine, Sydney, NSW, Australia; 3Macquarie University, Department of Psychology, Sydney, Australia

Exercise is considered integral to CF management, yet adherence to exercise regimens is generally poor. No in-depth study of exercise behaviour in an adult CF population has been reported. We aimed to identify determinants of exercise participation in CF adults in order to develop strategies to enhance adherence. 109 (17−62 yr; 61 male; FEV1 15–110%) of the 126 CF adults who attended the RPAH CF Clinic from May 2007 to May 2008 participated in a quantitative questionnaire study (6 missed to recruitment, 11 excluded: 3 poor comprehension skills; 8 respiratory exacerbations). Participants completed an un-named questionnaire when clinically stable (Time 1). Items assessed intended exercise participation; attitude, social pressure and perceived control to exercise; self-efficacy; exercise treatment priority and personality. Participants reported moderate/strenuous exercise participation 3 months later (Time 2). 101 (93%) Time 1 and 74 (68%) Time 2 questionnaires were returned. Time 1 exercise intention predicted Time 2 exercise participation (r = .42, p = .001), however this association was significantly stronger for those with higher lung function, self-efficacy and exercise priority. Self-efficacy (6%) and lung function (4%) were significant independent predictors of exercise intention. Perceived control (9%), exercise priority (9%) and self-efficacy (6%) were significant independent predictors of exercise participation. Attitude, social pressure, personality and demographics did not predict exercise intention or participation. Strategies to improve self-efficacy, perceived control and exercise priority may have the potential to increase exercise participation in CF adults.

Activity levels of adults with cystic fibrosis

F.A. Haynes1. 1Nottingham University Hospitals, Physiotherapy Department, Nottingham, United Kingdom

Advances in the management of cystic fibrosis (CF) have increased life expectancy well into adulthood, with substantial and increasing numbers of adult patients. It is important for these patients to maintain sufficient levels of physical activity to optimise lung function and exercise tolerance. This pilot study aimed to examine the relationships between levels of physical activity, lung function and exercise capacity in a sample of adult CF patients. 16 participants were recruited from annual review clinics. In addition to routine lung function and shuttle walk tests, each participant completed a physical activity questionnaire and wore a pedometer for 2 weeks, recording the number of steps taken each day. Ratings of physical activity differed between questionnaire reported and pedometer, the former indicating an over-reporting of activity. However, significant correlations were found between the majority of key variables showing that participants with higher levels of physical activity had better lung function and exercise capacity. Pedometer measured levels of physical activity indicate the study population to be largely ‘sedentary’ or ‘slqso,low activity’ and increased levels of physical activity should be encouraged in these individuals. Further study would increase the evidence base, allowing more specific recommendations of optimal type and level of physical activity.

Physical activity in children and adolescents with cystic fibrosis

M. Laurens1, S. Leger2, H. Doisy3, P. Morez3, A. Hallard1, J-F. Duhamel1, T. Brouard1 1CHU Caen, Caen, France; 2STAPS Caen, Caen, France; 3STAPS Caen, Caen, France

While regular participation in physical activity and exercise has been promoted as part of the management of children with cystic fibrosis (CF), adherence to exercise in this population can be poor. The aim of this pilot study was to evaluate the effects of adapted physical activity. Six patients with CF aged 6 to 20 were enrolled for 8 weeks. Patients training aeroberically 2 x 30 min per week at home and 75 min per week in their CF clinic with a coach. Body composition, pulmonary function, habitual physical activity and quality of life were evaluated at the end of the training program and again after a 8 week follow-up period. Results: Patients improved their aerobic performance, lean body mass and quality of life. No significant changes were seen in others parameters. After the follow-up period, only lean body mass and quality of life were significantly higher compared to pretraining values. Cystic fibrosis patients have confirmed that they felt a subjective improvement in their physical capacity and quality of life after having followed a training program. Increased endurance, stronger muscles, greater syability in lung function and better drainage of secretions therefore contribute to significant improvement in the quality of life of these patients.

An assessment of cystic fibrosis children’s activity levels and their views on preferred forms of exercise during inpatient stays

R. Joslin1, S. Payne1, C. Zilka1, G. Connell1. 1Southampton General Hospital, Regional Paediatric CF Service, Southampton, United Kingdom

Background: The benefits of exercise, preventing postural problems and improving fitness levels in CF are well documented. The consequences of postural problems and decreased fitness on respiratory function and quality of life are becoming more evident among CF adults. Such issues might usefully be addressed during childhood. Methods: We questioned 22 CF children (aged 5–18 years) to ascertain levels of exercise at home and practical options for in-patient activities. Results: Children routinely spent 3–6 hours/day in front of either a computer screen or TV. 64% were either members of a sports club or attended structured sports activities and carried out at least 2–3, 30-minute sessions of exercise/week. 22% did not partake because they did not enjoy exercise, 13% and 9% reported exercise limitations because of cough and breathlessness respectively. All stated they would be keen to participate in an exercise programme during hospital admissions. 7% were interested in postural exercise, 39% were interested in gym based and 19% gym ball based programmes. 33% indicated preferences for games and sports. Initiating these exercises with a physiotherapist until confident, and having written information to take away, was the preferred option. 73% stated they might be able to continue their programme at home. Conclusion: Despite outpatient interventions one third of our patients do not exercise regularly. This survey identified an expressed willingness to address exercise needs during hospital admissions. Further studies might usefully address how successfully this can be achieved for individuals requiring in-patient treatment.