SUCCESS OF AN OUTPATIENT EXERCISE PROGRAMME FOR KIDNEY TRANSPLANT PATIENTS

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PURPOSE: To introduce an outpatient exercise programme for patients with CKD stage 5, and evaluate the effect on patients' exercise capacity and functional performance. We also explored patients' satisfaction with the programme, and resource use.

DESIGN: Based on a pulmonary rehabilitation model. We invited participation by mailing 114 transplanted and CAPD patients in the York area, and from the respondents recruited 11 transplanted patients (5 females, 6 males), mean age of 59 (range, 46-70 years) who were an average of 69 months post transplant (range, 4-208 months). Two patients (1 transplant, 1 CAPD) were excluded at initial assessment due to inability to execute the planned group exercises. The exercises were delivered twice weekly in outpatient sessions of one hour duration for 12 weeks under supervision of a specialist physiotherapist and physiotherapy assistant. Each session consisted of a warm-up; 12 circuit-style exercises mixing resistance and aerobic exercise, with focus on proximal muscle strengthening, functional activities and exercise tolerance; and a cool-down. There was no educational element included.
Physical function was assessed by sit-to-stand 10 (STS10), 3m timed-up-and-go (TU&G) and shuttle walk tests, and quality of life by the SF-12 questionnaire, before and after the programme. Feedback on the programme was obtained by a questionnaire.

FINDINGS: One patient withdrew at 6 weeks due to new employment; 1 erratic attendance (10 out of 24 sessions) was considered a withdrawal due to health problems; 1 patient attended all 24 sessions; 2 patients were able to attend only once weekly. The findings include the scores from the 6 week drop-out who was reassessed at that point. Mean STS10 improved from 35.4 seconds to 25.1 seconds, and mean TU&G from 10.3 seconds to 7.6 seconds ($p<=0.006$ and $p<=0.002$, using Wilcoxon matched pairs, one-way test). Mean shuttle improved from 44 shuttles to 48 shuttles (not statistically significant). SF-12 data showed no significant change pre- and post-exercise in either the physical or mental component scores. All patients enjoyed the programme and responded positively to questions relating to benefit gained, suitability of the exercises, and efficiency and professionalism of the programme. Overall, the programme was rated as 'excellent' (n=7) or 'good' (n=3).
Input from the physiotherapy staff totalled 5 hours/week over the 12 weeks of the course, excluding administration time and that for the assessments.

CONCLUSIONS: We have shown significant improvements in tests of muscle power (STS10 and TU&G) after 12 weeks of exercise. Where the objective measure focused on aerobic capacity (shuttle test) 2 patients with respiratory infections at the time of retesting had negative results compared to the other 8 who showed an increase in the distance covered. Accounts of improvement in activities of daily living were given by the majority (7/10). All the participants, who were keen to exercise, welcomed the programme and rated it highly. We have also shown that it is possible to introduce patients to the exercise habit using physical resources available in many physiotherapy departments, with modest but sustained input from physiotherapy staff.

RELEVANCE: Embracing the current drive to promote and deliver exercise to those with chronic disease in a patient-friendly, effective, resource-acceptable way, this exercise programme has shown that the current model of pulmonary rehabilitation needs only minimal adaptation to be effective in improving function and be applied successfully to those with chronic kidney disease. As with pulmonary rehabilitation we consider that physiotherapists are key in the delivery of such programmes.