Physical activity and exercise behaviours of peritoneal dialysis patients in England: results from a multi-centre observational trial

Dr Courtney Lightfoot[1], Dr Thomas Wilkinson[1], Mr Daniel Nixon[1], Professor Alice Smith[1]
[1]Leicester Kidney Lifestyle Team, University of Leicester, Leicester, United Kingdom

Purpose:
Despite numerous studies demonstrating the benefits of physical activity (PA) and exercise (1), patients with renal conditions are predominantly physically inactive. Exercise uptake and adherence requires a high level of self-efficacy (i.e. one's belief to accomplish a task, especially in difficult circumstances) (2). The balance between self-efficacy and temptation to engage in undesirable behaviours (e.g. inactivity) is important when progressing through the Transtheoretical Model (TTM) stages of change. Whilst there is growing evidence and application of behaviour change theories in the development of exercise interventions for renal patients, there is a dearth of evidence on those receiving peritoneal dialysis (PD). Prior to developing interventions addressing physical inactivity in PD patients, their behaviours to PA and exercise needs to be better understood.

Method:
Physical activity and exercise behaviours of patients receiving PD were assessed. Physical activity status was evaluated using the 'General practice physical activity questionnaire' (GPPAQ); the 'Physical Activity Index' defined patients as either 'Active', 'Moderately Active', 'Moderately Inactive' and 'Inactive', and time spent performing different activities was recorded. Self-efficacy was assessed using an 'Exercise Self-Efficacy Questionnaire' (SEQ): scored 1-5 where 5 equates to a greater confidence in exercising during various preventive scenarios (e.g., when tired). The TTM was used to identify patients' stage of change (pre-contemplation (i.e. not ready), contemplation (i.e. getting ready), preparation (i.e. ready), action, maintenance) for exercise-based behaviour. Data are presented as median and interquartile range unless stated. Logistic regression was used to calculate variables associated with being defined as 'Active'.

Results:
Data from 184 PD patients [age: 64.0 (22.0) years; males: 122 (67%); white British: 103 (66%); Hb: 10.9 (2.2) g/dL; albumin: 34.0 (9.0) g/L; total number of additional comorbidities: 1.0 (2.0)] were collected from 16 secondary care sites across England.

Physical inactivity was highly prevalent with only 3% of patients defined as 'Active' using the GPPAQ. 9% of patients were classified as 'Moderately Active' and 14% as 'Moderately Inactive'. 72% of patients were 'Inactive'. Consequently, 97% of patients were deemed insufficiently active for health. The most common physical activity (at least ≥1 hour per week) reported was walking (reported by 45% of patients) followed by housework/childcare (39%) and gardening/DIY (15%). No patients reported cycling whilst just 6% reported doing physical exercise (e.g., going to the gym).

The majority of patients (38%) were in a pre-contemplation stage of change, with 25% in a contemplation stage. 19% of patients were in the preparation stage, 4% in action, and 13% in a maintenance phase. The median self-efficacy score was 1.6 (1.7) indicating a general lack of confidence in exercising when faced with difficult scenarios. 'Active' patients had higher self-efficacy for exercise [Exp(β)=2.29 (95CI 1.15 to 4.54), P=.018].

Conclusion:

Despite an increased opportunity for PA and exercise participation compared to patients receiving haemodialysis, PD patients are extremely inactive which can partly be explained by low self-efficacy. Most patients are at a stage where they are not ready to change and interventions targeting exercise self-efficacy may help them transition through the stages of change and increase PA behaviour.