

P109

## P109 -Lighting a SPARK: Feasibility testing of a theory-driven intervention to increase physical activity (PA) in non-dialysis chronic kidney disease.

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### Introduction

People living with non-dialysis CKD are often not active enough to gain the health benefits that PA can provide. A theory-driven intervention (SPARK) has been iteratively developed with patients and professionals to address this issue. This phase of the project conducted feasibility testing to investigate patient acceptability of the intervention.

### Methods

The SPARK intervention comprised an 8 week walking and strength training based programme, grounded in the Theory of Planned Behaviour, delivered using Motivational Interviewing and supported by written educational material and telephone calls to facilitate progression and engagement.

The primary outcome measures are recruitment, retention and engagement. Engagement was measured using PA diary completion.

Secondary outcomes measured included PA behaviour, physical function, strength, symptom burden, health-related quality of life (HRQoL), anthropometry and theory constructs the intervention addressed, using the kidney knowledge survey and walking self-efficacy.

Patients were recruited from primary and secondary care. For primary care, letters and a brief Patient Information Sheet were sent to eligible patients. In secondary care, patients were approached in Nephrology clinics.

### Results

27 patients were recruited (mean age=68.40[11.37]years; 11 male(40.7%); mean eGFR=54[15.04] mL/min/1.73m<sup>2</sup>), from 2 secondary care sites (n=8) and 4 primary care practices (n=20). 23(85%) were overweight/obese (mean BMI=28.50[3.99]; % body fat=37.04[8.66]); diabetes prevalence was 14.8%(n=4); 56% had a smoking history (14ex-smokers +1 current smoker) and 41%(n=11) had previously had a cardiovascular event.

Recruitment from primary care was poor (378 letters sent;52 replies received; 20 consented=5.29% consent rate), but more successful in secondary care (30 approached, 8 consented=27% consent rate).

Retention rates were good with only 3 participants withdrawing and 1 being excluded, yielding a retention rate of 85%.

Engagement data was encouraging, 24 participants (89%) returned PA diaries with a mean completion rate=84% days of the intervention period (range:38-100% days).

Secondary outcome measures showed a trend towards positive changes in PA behaviour (International PA Questionnaire score mean change=+0.73[54.58]), functional ability (mean change Timed-Up-And-Go(TUAG)=-0.44[2.23]s; mean change 4m gait speed=+0.08s), disease knowledge (Kidney Knowledge Survey

score mean change= +3.25[5.02]), symptom burden (FACIT fatigue score mean change=-1.95[6.61] and HRQoL (EQ-5D-5L VAS=+3.35[14.01]; EQ-5D-5L Index value=+0.03[0.11]).

Despite the small sample, significant changes were seen in Incremental Shuttle Walk test (ISWT) mean change = 34.58m[67.31] (p=0.019), Endurance Shuttle Walk Test (ESWT) mean change=2min 39s[4min58s](p=0.007) and %body fat mean change=-1.07%[2.13] (p=0.01)

#### Discussion

This feasibility testing has shown that the intervention is acceptable to patients, as the retention and engagement rates are positive however recruitment strategy needs to be improved, particularly in primary care.

Secondary outcome measures demonstrate positive trends and statistically significant differences in ISWT, ESWT and %body fat, despite the trial not being adequately powered. A change of 0.1m/s in gait speed has been shown to be associated with a 26% reduction in mortality risk (Roshanravan et al 2013) and thus the 0.08m/s difference seen in this feasibility testing is encouraging. Although a statistically significant change is seen in the ISWT, this does not reach the minimal clinically important difference of +45m.

This promising intervention should be evaluated in an efficacy trial after improvements in recruitment strategy.