

## ER-WCPT16 Abstract

### **Use of an 'adapted Zelen' design in a randomised controlled trial of a physiotherapist-led exercise intervention in patients with myeloma**

#### Relevance:

This report outlines methodology that will interest academic and clinical physiotherapists who seek to increase the strength of evidence-base through use of intervention trials.

#### Purpose:

Contamination of control groups (CG) can introduce bias and threaten internal validity in exercise intervention trials, where blinding of participants to their allocation is not possible. Participants in cancer exercise interventions are often highly motivated and randomisation to a CG may lead to distress. Additionally, if participants believe that exercise 'may' be beneficial, those randomised to the CG may seek out and enrol on other exercise programmes, which could dilute the intervention effect. Ways of minimising contamination in CG include offering the intervention to the controls after the intervention group (IG) 'wait list control', or offering alternative intervention. However, these methods require additional levels of funding and staffing that are not always possible. Another method which could minimise contamination is use of the 'Zelen' design, reversing the traditional research process to conduct randomisation prior to consent. The Zelen design has been used successfully in behavioural and exercise interventions trials and was adapted to a two-stage consent design for this study.

#### Approach/Evaluation:

An 'adapted Zelen' design involving a double consent process was employed in a randomised control trial (RCT) of a physiotherapist-led exercise intervention in patients with myeloma in stable plateau phase. The study is a RCT embedded within a lifestyle cohort study.

Participants were initially approached and consented to a cohort study aimed at understanding lifestyle behaviours and their relationship with fatigue and quality of life. Once consented to the cohort study and baseline assessments completed, participants were randomised to either an IG or 'remain in cohort' (control) group. Those allocated to the intervention were then approached again about a second study evaluating an exercise intervention, and consented for a second time. Those allocated to the CG were not informed about the exercise trial or randomisation process. Full ethical approval for this method was provided by the NRES Committee London – Queen Square (13/LO/1105).

#### Outcome:

Marked differences in uptake between cohort and IG were evident. Initial uptake to the study was strong with 66.67% of those approached being enrolled. Uptake, however, was lower in those randomised and approached for the exercise trial (44.74%). Detailed experiences of using this design in practice will be discussed, including blinding, considerations for analysis (intention to treat and per protocol analysis), and adjustments to study design.

#### Discussion & Conclusions:

This approach may be a useful way to avoid contamination in exercise or therapy intervention trials, where blinding to group allocation is impossible. Future studies using this design should consider ways of ascertaining participants' likelihood of agreeing to the intervention being tested prior to approach for a cohort study, without introducing selection bias.

This study will conclude in June 2017 when full statistical analysis of the intervention and

the usefulness of this 'adapted Zelen' approach will be known.

**Impact & Implications:**

- This report highlights methodological considerations for physiotherapy interventions trials where treatment effect is at risk from contamination of controls.
- Development of methods to strengthen the physiotherapy evidence base are key to promoting the profession.

3 Key Words:

Randomised Controlled Trial | Zelen design | Exercise

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