Reviewer's report

Title: OPTIMAL, an Occupational Therapy Led Self-management Support Programme for People with Multimorbidity in Primary Care: A Randomized Controlled Trial

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Reviewer: Peter Alan Coventry

Reviewer's report:

This is an interesting paper that describes a brief intervention in primary care to support self-management in a population with complex healthcare needs. The authors have good experience in this area having already reviewed the evidence about interventions that work in multimorbidity and this trial reports findings that show that using occupational therapists to in a sense to guide and coach multimorbid patients to engage in more activity and develop confidence around self-management is a possible step forward - the results were broadly positive and there is now a need for further testing in a larger trial.

I have some comments that might improve the reporting and discussion of this trial:

1. It is a small trial that comes off the back of some pilot work and there is a view that now they want to move to a definitive trial so is this trial better described as a pilot or feasibility trial?

2. Can the authors say something more about what they mean by activity engagement? In the abstract I wasn’t sure what frequency of activity engagement was and initially thought it was about healthcare activity as opposed to just a measure of patients’ engagement with domestic, non-domestic activity, ADLs etc.

3. The abstract also alludes to the idea that the intervention was ‘manageable’ but this is not discussed - this implies some level of acceptability to patients which is important given what we know about the need to balance interventions with the need to take into account patient’s desire for minimally disruptive medicine (see for example http://www.bmj.com/content/339/bmj.b2803). Also, how was this measured?

4. The introduction and discussion might also benefit by contextualising their findings in relation to what we know about patient and professional attitudes to self-management. This trial shows that self-management can be achieved despite the back drop of data on the limited scope of GPs and nurses to activate patients to self-care and the idea that multimorbid patients’ attitudes to self-care vary between those who see it as a priority and those who don’t (e.g. http://www.ncbi.nlm.nih.gov/pubmed/25367263 and http://smo.sagepub.com/content/1/2050312113510001.abstract)

5. Can they say a bit more about the rationale about the choice of FAI as the primary outcome as opposed to measuring physical activity per se?
6. There are lots of secondary outcomes which the trial would not have been powered to detect and what was the theory about including all these in a piece of pilot work?

7. The analysis is described as ITT but they say they only used data from complete cases which sounds like a complete case analysis. Can the authors be clear if missing data were imputed.

8. How does the data on drop out and completion in this OT intervention compare with OT interventions in other populations?

9. Can the mean difference in outcomes with 95% CIs be presented so we can get a sense of the clinical as well as statistical relevance of the outcomes.

10. What does the outcome mean for patients? The idea that they are more active, e.g. by doing housework, is a marker that they are more engaged in daily activities and not being sedentary etc. but does this suggest a shift in health behaviours? Are the outcome likely to be linked to health gains down stream?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests'