Author’s response to reviews

Title: A pilot study of the S-MAP (Solutions for Medication Adherence Problems) intervention for older adults prescribed polypharmacy in primary care: Study protocol

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Version: 2 Date: 21 Aug 2019

Author’s response to reviews:

Dear Dr Diniz,

Thank you for considering our manuscript “A pilot study of the S-MAP (Solutions for Medication Adherence Problems) intervention for older adults prescribed polypharmacy in primary care: Study protocol” for publication in Pilot & Feasibility studies. There appears to be one remaining comment from Reviewer 2 which requires a response which we have supplied below:

Reviewer 2 comment

Comment 1: I do not understand how the authors can state so affirmatively that previous attempts to improve medication adherence were not based on any theory. Initially, I thought that I was not aware of a specific meaning of "not being based on theory". However, according to the revised manuscript, the authors used "theory" with its original meaning, which is quite broad and so much so that can include any kind of theoretical model. I strongly suggest authors rethink the rationale of their study so they do not need to use such a weak justification.
Response: This comment does not reflect is outlined in this manuscript. We have not stated that previous attempts to improve medication adherence were not based on any theory. We have stated that a limited number of previous studies have reported using theory, based on the findings of a previous systematic review (Patton et al. Drugs Aging. 2017; 34(2): 97–113).

Please see lines 51-54 of current manuscript: “This has been highlighted in a systematic review of adherence interventions delivered to older patients prescribed polypharmacy, which reported that only a limited number of studies used theory to guide intervention development [7].”

This is not the same as stating affirmatively that previous attempts to improve medication adherence “were not based on any theory”.

The systematic review that is cited in the manuscript was conducted by members of the research team and focussed on theory-based interventions aimed at improving medication adherence in older adults prescribed polypharmacy. Eight electronic databases were searched for studies involving a comparative evaluation of a theory-based intervention.

Only five studies met inclusion criteria (one RCT and four pilot RCTs). The extent of theory use in each included study was evaluated using the Theory Coding Scheme which provides a method for determining the extent to which interventions are ‘theory based’. The Theory Coding Scheme (Michie and Prestwich. Health Psychol. 2010;29:1–8) consists of 19 items, each of which falls into at least one of six categories. Categories 1–3 deal with the extent to which the intervention has been based on theory, whereas categories 4–6 relate to theory testing and refinement. The five studies included in the systematic review demonstrated that, even when cited, theory appeared to be under-utilised when designing interventions targeting medication adherence in older adults.

The study outlined in the current manuscript seeks to address this gap by testing the feasibility of an intervention that is based on robust, and previously published, intervention development work involving application of the Theoretical Domains Framework (Patton et al. Health Expect. 2018;21(1):138-148).

Please note that we have not made any further changes to the manuscript.

We hope that we have addressed this comment sufficiently and look forward to hearing from you,

Yours sincerely,

Prof. Carmel Hughes, Head of School, School of Pharmacy, Queen’s University Belfast