Reviewer’s report

Title: Telephone-Based Motivational Interviewing versus Usual Care in Primary Care to Increase Physical Activity: A Randomized Pilot Study

Version: 0 Date: 01 Aug 2018

Reviewer: Jemma Hawkins

Reviewer's report:

This is an interesting and concise manuscript, however in places it is lacking in sufficient detail. In order to improve this I have some suggested minor revisions as follows:

The abstract does not contain details of the participants eligible for the trial, all I can ascertain from the abstract is that participants were diabetic or prediabetic, and this is an inference from what is written in the background section of the abstract. According to the CONSORT guidance for reporting pilot and feasibility studies, the abstract should specify eligibility criteria (i.e. that participants needed to be physical inactive and aged between 18 and 74 years). The abstract also does not specify the randomisation procedure, blinding, or numbers analysed (which is required by the CONSORT guidance).

The background section should introduce that the intervention involves telephone MI and briefly highlight the current knowledge about the potential efficacy/effectiveness of the use of this approach in i) physical activity interventions, ii) primary care settings, and iii) with diabetic populations.

On lines 165-166 the authors note that 'methods to remind providers to clear patients were identified and tools were created' - it would be helpful if these were described in the text and reflected on explicitly in the results/discussion as to their utility (i.e. what did the interview data suggest was useful or not about these reminders/tools), as this might be an important learning for other studies based in the primary care setting.

The measure of 'physical activity self-regulation' described sounds like the 'Behavioural Regulations in Exercise Questionnaire' (http://pages.bangor.ac.uk/~pes004/exercise_motivation/breq/breq.htm) based on the description and associated citations. If this is the case, please specify this in the text and report which version of the questionnaire was used. The internal consistency for this scale should also be reported, in keeping with the description of the other measures.

The methods section does not outline how the psychosocial measures were collected at baseline and follow-up, I assume this was a postal questionnaire (perhaps mailed with the accelerometer?), but this is not specified.
CONSORT guidelines for pilot studies specify the inclusion of a rational for the sample size used, this is not mentioned in the manuscript, other than in the abstract where the target sample size is specified but no rationale given. The manuscript is also lacking in detail required by CONSORT guidelines with regards detail of randomisation (sequence generation, allocation concealment, implementation and blinding). Was randomisation conducted before or after baseline data was collected? This is not clear from the text or the flow chart.

In the description of the intervention, a link should be drawn between the conceptual model of SDT and the use of MI for this purpose, highlighting the overlaps between the aims of MI and the description of how autonomous self-regulation can be promoted. See the following papers for appropriate citations to underpin this link:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3310779/

Also, in the description of the intervention, the role and background of the interventionist should be described - was it a member of the research team or was it a health care practitioner? Where were they based and what was their existing training and knowledge with regards diabetes and physical activity? This is important for future replications of this approach.

The description of the qualitative assessment does not specify how many physicians/clinic staff were interviewed, and whether or not all participants were interviewed or a subsample. This information is included in the results but there could be some detail in this section with regards how interview participants were recruited/selected. This section also comes a little bit out of the blue as the use of qualitative interviews is not detailed in the study design section or in the abstract (except for in the results section of the abstract).

The discussion section does not include a limitations section. One limitation that I feel is important to include here is that there was no measure of the fidelity of the telephone MI. An important component of much MI intervention research is the assessment of whether the delivery of MI is consistent with the key principles of MI and also that it does not feature any MI-inconsistent aspects (there are several validated assessment tools for conducting such an assessment). This is important because a lot of previous research has shown that short MI training (e.g. 2-days) without appropriate follow-on supervision is not necessarily sufficient to result in efficacious MI practice. Without a fidelity assessment no conclusion can be made about the active ingredients of this intervention (i.e. if the calls were not MI-consistent then there may be something else going on that was involved in the improvements observed, e.g. telephone counselling alone may be sufficient to bring about these improvements with or without MI). Any
future effectiveness trial of this intervention should ensure that a proportion of the telephone calls are recorded and an independent fidelity assessment is conducted.

There are also some typos that need correcting, as follows:

Line 72 (in abstract conclusion) - remove comma after the word support
Lines 103-104 - remove repeated 'are needed'
Line 127 - replace the word 'abstracted' with 'extracted'
Line 232 - capitalise the word 'relative' (as in Relative Autonomy Index)

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