Reviewer's report

Title: The development of an intervention for diabetes prevention among people with impaired glucose regulation: Feasibility and acceptability of an intervention component

Version: 0 Date: 31 Jan 2019

Reviewer: Lindsey Gray

Reviewer's report:

This is an interesting and commendable study and I have no reservations recommending publication of the work given that you are able to make the recommended changes.

Specific comments:

Page 5, Line 18 - delete "Arguably".

Page 6, Line 4-5 - maybe add in a little bit of yours and the patient's rationale for taking this approach. For example, "...together we reasoned that direct self-monitoring of blood glucose after eating foods that patients considered healthy or unhealthy could lead to greater awareness of the impact of these foods on their wellbeing".

Page 7, Line 10 - do you need the capital "P" on "Practice"?

Page 7, Line 13 - should you start the "General practitioners" instead of the abbreviation? Usually you don't start a sentient with an acronym etc. Probably depends on the journal's requirements.

Page 7, Line 45 - suggest change to, "...if convenient to them".

Page 9, Line 28 - do you expand on why she did not find the testing useful elsewhere in the paper? This could be informative and could shed-light on limitations in your pre-intervention education and why there was a lack of targeted experimentation by your participants. Her case could provide a study on how to improve the pre-intervention education and how to better emphasise the usefulness of the experimental approach in future.

Page 9, Line 32 - suggest a comma after "only".

Page 9, Line 33 - suggest "pre-operative" or "pre-operation". Whatever word "op" is short for, I would write in full.

Page 10, Line 1 - there may be an extra space before "All".
Can you be more specific here? At first it sounds as though you are stating that they were able to "relate results to foods eaten and exercise taken", but then you explain that they didn't understand things in terms of the "longer term". Could you perhaps make this clearer by giving an example of what your expectations were for the longer term development their understanding through the intervention? For example, you could say, "while participants were able to relate results to foods eaten an exercise taken, they were unable to conceptualise what these results meant with respect to their longer term health. For example, participants did not show an understanding that reducing the frequency of the blood sugar 'spikes' that they observed throughout the day on the meter (e.g. following eating white bread) would lead to better insulin sensitivity over the next few months". Obviously you will give a real example from the study. Also, you go on to say, (Page 10, line 41), that some participants have become more aware of their food-intake dependent health outcomes going forward - evidence that the intervention could lead to understanding across the longer term. Even though one male "put things to the back of his mind" (Page 11, Line 2) not all the participants stated this. In fact you go on to give quotes and examples of participants that did comment that they were now more aware of how certain foods influenced their blood sugar. I'm not sure you should use the accounts of two different people who make contrary statements. This sort of discredits the potential longer-term positive influence of the intervention, especially as in the next section "Behaviour Change" (Page 11) you give examples of participants whose attitudes have changed as a direct result of the intervention.

Page 10, Line 53, given my above comments, I think that you should change the line to, "However, for some participants, this effect subsided after they stopped testing, but not for all" - or something like that.

Page 11, Line 27 - how do you know these changes were "short lived"? I haven't got to the Discussion yet, but it might be nice to discuss the behavioural changes or thinking pattern changes achieved through your intervention in the context of the Trans-theoretical Behavioural Change Model. You have probably managed to push the positioning of several participants along within the model. Maybe from "pre-contemplation" to "contemplation" at least? I think you should put your findings in the context of behaviour change literature.

Page 11, Line 13 - you should elaborate on what it was about the meter, or the pre-intervention education, that inhibited this participant from being able to use the meter - this could be important for future workers considering making a similar intervention.

Page 12, Line 17 - should the reference "9" appear at the end of the sentence?

General Comments:

This is a very worthy piece of pilot work and I look forward to seeing it published. I think you need to add in a few small details though, and re-write some of the results section where you sort of contradict yourself when you discuss the long-term implications of the intervention on participant behaviour. I also think you could go into more detail about the pre-intervention education you provided (you touch on the fact that this may have been insufficient in the Discussion briefly - please expand) and give more details about the meter itself and it's usage. I
also think you should emphasise the potential utility of your intervention by discussing the behaviour changes achieved in the context of the Trans-theoretical model.

All the best!

Methods:

I think you need to explain the meter itself and its use by patients better in the Methods. In the results you evaluate the physicality and acceptability of the meter to participants, but you have not previously outlined it's usage.

How do patients use the meters? What kind of data read-out does it have? Can the patients chart/graph the results over time digitally? Does it offer a print-out for self-evaluation (which may be more user friend for older participants)?

I also think you need to go into more detail about the kind of pre-intervention education you provided. Was this the limiting factor in terms of the limited "cognitive engagement"?

Results:

You provide a quote from a participant about the cost of the meter. Could you detail these costs in the Methods?

Discussion:

Did your ethics approval allow for the participants to connect with one another? I understand that their demographic may not be ideal for this, but could social-media or email connectivity with one another enhance the participant experience and engagement and reinforce understanding?

References:

The formatting needs to be carefully double-checked. Sometimes there are spaces after semi-colons and sometimes there are not. Same goes for the parentheses around the year that various papers were published. Full stops are missing places also - eg reference 4. Spaces are missing sometimes also, see reference 5 "PrenticeHall". Also some parts of book titles are capitlalised, some aren't - carefully check the formatting requirements of the journal and edit to meet the requirements. Also, sometimes you abbreviate the journal title, some times not. Be consistent.

Figure:

I might be missing something - but where is the figure caption, or reference to the figure in the MS main body? This needs to be included and then reviewed by the editor. Also the text in the
figure may be too small for readability when it is published. Please carefully check the journal's requirements.

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