Author's response to reviews

Title: A 5A's Communication Intervention to Promote Physical Activity in Underserved Populations

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Author's response to reviews: see over
Dear Reviewers and Editorial Staff:

Thank you for the opportunity to revise and resubmit our manuscript “Study Protocol: A 5As Communication Intervention to Promote Physical Activity in Underserved Populations.” Reviewer 2’s comments were extremely helpful in guiding our revisions. Each critique is copied and pasted below along with a description of our responses and actions taken to address each item. As requested from the Editorial Office, all revisions and new text are highlighted (green) in the manuscript.

My main concern still relates to the discussion of the conceptual framework underpinning the study. Moving the conceptual framework to the introduction has strengthened the rationale for the study, however, I wonder if it would be better placed prior to outlining the purpose of the study. As it is written, the concepts of perceived competence, autonomy support are given in the purpose statement before an explanation of their importance to the study is described. We have moved the conceptual framework so that it is now placed prior to the purpose.

As the over-arching theory for the study, SDT is given a very cursory overview on page 5. The authors state that ‘they use SDT in the design of the intervention and choice of measures’ (p.5) but the components of SDT that are underpinning the study (i.e. perceived competence, autonomy support) are not defined nor why they are important components for behaviour change. We have added information describing SDT in more detail (specifically perceived competence and autonomy support) and why they are important for behavior change. (p.3-4)

The authors also state that ‘patients undertake behaviour change when they experience internal motivation rather than external control’ (p.5) but yet SDT proposes that guilt driven motivation (which is internal) is not positive for behaviour change. We have revised this sentence to read, ‘patients undertake behaviour change when they experience autonomous motivation rather than external control’.

Furthermore, the theoretical overview provides a great description of the 5A’s and PCC but does not explain the relationships with SDT. Table 1 simply presents the intervention components in terms of SDT, 5A’s and PCC it does not state how SDT informs the 5A’s/PCC or how the 5A’s/PCC informs SDT, so doesn’t present how they inter-relate in the project. We have added information describing how SDT, the 5A’s, and PCC inter-relate in the project, giving examples for both the design and analysis. (p.5-6)

1. Abstract: Suggest rewording, ‘changes in patients and clinicians beliefs regarding reduction in pertinent barriers to promoting exercise’ to ‘patients and clinicians beliefs regarding whether pertinent barriers to promoting exercise have been reduced’. Also I think ‘aggregates’ should read ‘aggregate’. We made the aforementioned changes.
2. Page 4, paragraph 2: Should this sentence read, ‘during visits WITH underserved patients in the post-intervention period (immediately post and at one year) compared to baseline’? Suggest also rewording this sentence to, ‘Clinicians who complete the communication intervention will increase their use of all 5As for all visits in which the topic of physical activity is raised as judged by COMPARING THE audio-recordings of office visits in the post-intervention period (immediately post and at six months) to baseline’. **We have revised this sentence accordingly.**

3. H4: The rationale for this hypothesis has not been presented in the introduction. There is only a description of the 5A’s not the importance of each component for behaviour change. **We have provided additional description of how each A is important for behaviour change. (p.4-5)**

4. Page 5, Paragraph 2: Typo in self-determination. **This has been corrected.**

5. Page 6, study design: Think this sentence should read, ‘The intention OF training focuses…’ **This has been corrected.**

6. Page 7, paragraph 1: At the moment, perceived competence, autonomy support and barriers are described as secondary outcomes and then other exploratory outcomes are proposed as potential mediators of the interventions effect. Aren’t perceived competence, autonomy support and barriers also potential mediators? They are described as such in the outcome measures section on page 14. **Yes, Reviewer 2 is correct. We revised the sentence to reflect that perceived competence, autonomy support and barriers are both secondary outcomes and mediators. (p.9)**

7. Page 8, section 2.4: I might have missed something - but if the baseline data collection is assessing clinicians discussion of physical activity and not all appointments with patients will result in a discussion of PA, how do the authors know that recording 10 patient visits at baseline and 15 at post-intervention will provide the relevant information - what if none of those 10 visits result in a discussion of PA? **We have added the following sentence to clarify: 'Based on estimates from a previous pilot project, we anticipate a 10 patient visits at baseline should be sufficient; however, if the visits do not contain any discussions of physical activity, clinicians are told that the baseline assessment may consist of >10 visits.’ (p.10)**

8. Page 10, Clinician Training session 1: The authors state that ‘Consistent with self-determination theory, the discussion seeks to enhance clinicians’ understanding of their patients’ personal and social contexts for physical activity via counseling skills to elicit patient motivation for physical activity’ - however, it is not clear how understanding the patients personal and social contexts for PA is consistent with SDT? What aspects of the theory are being promoted? **We have added the following sentence to clarify these questions (p.13): 'The rationale for this is that understanding the patients’ personal and social contexts for PA is consistent with supporting patient autonomy (by eliciting and acknowledging their...**
feelings and perspectives about how their contexts might support or impede change) and competence (eg whether one’s own context influences their feelings of effectiveness in achieving their exercise goals.)’

9. Page 13, PCS: Suggest rewording to: ‘The PCS is administered to patients at baseline, post-intervention and follow-up as part of the post-visit survey’. We have re-worded this sentence as suggested.

10. Page 15, last sentence: change to ‘visits in the post-intervention period (immediately post and at one year) compared to baseline. This should also be changed in other places where the brackets referring to times of post-intervention are used. We have changed this phrase as suggested in this sentence and elsewhere to be consistent throughout the manuscript.

11. Page 17: The authors state ‘The measurements consist of a total of 25 audio-recorded patient visits from each clinician distributed evenly across each of the evaluation points’. However, it is stated previously that there are 10 recordings at baseline and then 15 split evenly across the post-intervention period which means 7 or 8 immediately post and 7 or 8, 6 months post - this doesn’t appear to be an even distribution. We have corrected this sentence and deleted the word “even”; Reviewer 2 is correct about the distribution of the audiorecordings.

12. Page 18: A reference is needed for the grounded theory approach to the qualitative analysis. We have provided references.

We appreciate the time and effort devoted by the editorial staff and reviewers and the opportunity to improve the quality of the manuscript. Thanks especially to Reviewer 2 for her extra time and interest reviewing this manuscript.

Thank you for your consideration of this revised paper. We look forward to your reply.

Sincerely,

The authors