Reviewer's report

Title: Examining the influence of a text message-based sleep and physical activity intervention among young adult smokers in the United States: a randomized controlled trial

Version: 1 Date: 16 May 2015

Reviewer: Susan Buchholz

Reviewer's report:

Thank you for giving me the opportunity to review this interesting manuscript “Examining the influence of a text message-based sleep and physical activity intervention among young adult smokers in the United States: a randomized controlled trial”.

Major Compulsory Revisions:

Abstract:
1. In the background, it is somewhat unclear what you are examining in this paper, with the first read through. Perhaps it would be helpful to allude to the link between sleep and physical activity with smoking cessation. Then you can go on to clarify that text message-based interventions have been used to promote smoking cessation and physical activity, however they have not been used to improve sleep. This would more adequately set the stage for your sentence where you note that this intervention was used as an active control in a smoking cessation study. Then you can stress that the purpose of this paper is to examine the sleep and physical activity results in the active control group.

2. In methods, noting that this is a secondary data analysis of the SMS USA randomized controlled trial would be helpful.

3. In the conclusion, it might provide clarity to frame this from the perspective of the young adult smoker, bringing the reader back around to the overarching purpose of the larger study that these results were from.

Background:
1. This is an interesting paper. However it needs to be clear from the beginning that what is being presented is part of a larger study that examined a smoking cessation text message program. I understand that these results have already been presented, but this is still a secondary data analysis – so needs to be presented as such and clear from the beginning. This is no way diminishes the importance of these findings, but provides a proper context in which to understand them.

2. If in the beginning paragraph – instead of talking about emerging adulthood, which is distracting, it would be helpful if the authors could do some minor
reorganization of their background. Perhaps if they start right off with discussing the importance of promoting specific healthy behaviors in young adults it would flow better. For example they could begin their introduction with the importance of 1) Promoting smoking cessation programs in young adults, 2) Improved sleep behaviors in this population (which they already provide a useful introduction for), and 3) Improved physical behavior in this population (which they already provide a useful introduction of this literature).

3. Then I think it would be helpful to discuss how sleep and physical activity impact and are impacted by smoking and smoking cessation. In the paper that they reference [16], the paragraph on the control group notes that “Message content was aimed at improving one’s sleep and exercise habits within the context of how it would help the participant quit smoking”. However as the background is currently written, it is difficult to quickly understand that foundational context. Brief additional information here, would strengthen the rationale for the design of this study and presentation of these particular findings.

4. If the authors could rewrite the next section to provide a discussion on what is known about text messaging with each of these areas, with a brief section on smoking text messages – since that is what is being compared to in this group, sleep promotion (and granted, the sleep text messaging background would be very limited, hence the importance of this study), and then physical activity text messages (which they already discuss), that would be helpful.

5. After the text messaging discussion, they could provide a paragraph about why active controls or attention control groups in text messaging studies are so important. Organizing it in this way would lead nicely to the gap in the literature that they point out.

Methods:
1. Overall – I found the Methods section to be relatively clear. The sentence on why follow-up rate differs from previous reports – was helpful – thank you for providing that. However often missing in text messaging papers are how the text message database was developed, the total number of text messages in the database, and how it was determined when text messages would be sent out, as well as which text messages were chosen to be used. If you could elaborate on each of these issues, it would make the paper much richer from a text message research perspective.

2. Measures - Please provide psychometrics for both the sleep and physical activity measures.

Results:
1. Overall I found the Results section to be relatively clear. It is an interesting finding in baseline results – that the sleep/activity group had significantly less sleep quantity then did the smoking cessation group, although their sleep quality score difference was insignificant.

Discussion:
1. In the first sentence, keep to the order you have established - with 1) sleep, and 2) physical activity (in the first sentence you state activity and then sleep hygiene). However overall, I found the Discussion section to be well thought out, discussing the important points and plausible explanations of the findings.

2. In the limitations section – important limitations were pointed out. In addition, speaking briefly to the modest sample size would be helpful, as well as the use of Craigslist recruitment.

Thank you for providing me with the opportunity to review this interesting study.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.