Reviewer's report

Title: Association between physical activity and psychological status among Saudi female students

Version: 2 Date: 19 May 2014

Reviewer: Makalani Myrtveit

Reviewer's report:

General comments:
In this study, female Saudi students are encouraged to walk more. Then the association between walking and the participants’ psychological status is investigated, using measures of depression, insomnia and attention span. This is an interesting topic in a population little studied. I am therefore most happy to receive this study for review, but am a bit concerned about write-up of the article. The current write-up is hard to read and in some places hard to understand. I suggest that the authors work more closely with someone with more knowledge of academic English or consider professional proof reading.

-Major compulsory revisions:
Rewrite and structure the introduction, statistical analyses and discussion. Details described below. For the discussion include summary of findings, a structured discussion on findings in light of previous research, and a section for strengths and limitations.

- Minor Essential Revisions and Minor issues not for publication (I mark the latter points with *)

Abstract, Background:

• *First line: “Physical activity is more common among….” What does this “more” refer too? More than men? More than women in other populations? Clarify or take “more” out.
• *Consider changing second sentence to “The aim of the present study was to determine…”
• *Consider adding a sentence about the association between physical activity and mental health?

Abstract, Method;

• *Consider adding “participants” to last sentence: “Pedometers were given and participants advised to take at least…”

Abstract, Results:
• The information on tests used, like paired sample t-tests, belong in the method section, please move
• Present changes in psychological measures more clearly

Abstract, Conclusion:
• The first sentence might belong in background, as this is not what you have showed in your study. Consider moving. The last sentence of the conclusion might be enough for this section. Or consider reformulate to something like “in female Saudi students, higher levels of physical activity is associated with…”

Main manuscript, Background:
• I suggest the authors include more references, for instance on the very first sentence, and on the sentences starting on line 26 and 27.
• The information on measures belongs in the methods part rather than the introduction. Maybe also consider moving details on the pedometer to the methods section.
• Include references for the statements in line 47-50, on the sentences starting in line 51 and 52 and in the description of the Beck Depression Inventory (and move this last part to Methods”
• Clarify aim: motivation program? Please describe what the participants are motivated to do.

Main manuscript, Subjects and methods:
• Is this study clearly cross sectional? Are you not following participants over 3 weeks?
• *The sentence starting in line 80 should be split and reformulated, too long and hard to read. Consider presenting the information on the log only one place.
• The section on line 91-99 on measures should have references. Consider moving some of the information on measures from the introduction to this section.
• Consider dividing this section into “sample” and “statistical analyses”

Main manuscript, results:
• Consider dividing the results section into two parts: descriptive information on the sample, and then your main findings on physical activity and psychological status.
• Is the sentence starting on line 107 a pure repetition of the one starting on line 102?
• Clarify that attention span, symptoms of depression and insomnia are assessed both at baseline and after 3 weeks.
• I do not totally understand the sentence starting on line 113, please consider clarifying.
• As the reader I think I have interpreted table 2 as your main finding? Please
make sure these findings are properly presented – maybe also in a summary of findings at the start of the discussion.

Main manuscript, discussion:
• Consider including a sentence first, describing the aim of the study and the main findings.
• Consider moving the information on drop-put to a separate section; strengths and limitations.
• Consider not repeating the sentence starting on line 146, as it is presented in results.
• I suggest rewriting the discussion; first present the main findings, then discuss how these fit with current knowledge. Also include a Strengths and limitations section.
• Consider moving details on number of steps recommended to methods?
• Consider moving the last sentence in the conclusion to strengths and limitations.
• The sentence starting in 174 is very informative and clear! This is the main message as I see it, and I would like to see this more clearly stated, earlier in the manuscript.

Questions from Editor:
1. Is the question posed by the authors well defined?
The research question should be clarified, especially in the main manuscript.

2. Are the methods appropriate and well described?
The methods should be clarified, maybe as suggested above in a separate part of Subjects and methods

3. Are the data sound?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
I suggest that the authors adhere to the STROBE Statement—checklist of items that should be included in reports of observational studies

5. Are the discussion and conclusions well balanced and adequately supported by the data?
More research in this field should be referred to. Too many statements stand without references, in both background and discussion.

6. Are limitations of the work clearly stated?
Some limitations are stated, but might be better to get the overview of them, if gathered in a section under strengths and limitations.
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

I am not sure.

8. Do the title and abstract accurately convey what has been found?

Yes.

9. Is the writing acceptable?

The writing should be improved. I suggest that the authors work more closely with someone with more knowledge of academic English or consider professional proof reading.

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

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests