Reviewer's report

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

Version: 2  Date: 20 May 2014

Reviewer: Colette Kabrita

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Overall, though basic, this is an interesting study in the sense that it addresses the value of physical activity on promoting mental health in a cultural and gender specific manner. I; however, have the following comments to make:

Major compulsory revisions:

1. As one reads through the introduction noticeable is the reiteration of ideas (i.e. many statements conveying the same idea or briefing on similar scientific findings are used) and which reflect a superficial coverage of the pertinent literature. There’s even unarticulated presentation of ideas in certain parts. A similar style is also evident in the body of the discussion. I suggest that the authors revisit these sections (introduction and discussion) and provide a wealthier coverage of the literature and a more stringent comparative approach with other related studies.

2. I kindly advise that the manuscript is submitted for further editing (in view of the overt grammatical and punctuation errors).

3. Table 1 is unclear (abbreviations need to be explained somewhere). I suggest that the table is more elaborated on in the results section (body of the text) so when better understands how physical activity improved throughout the experimental period and makes relevance to the respective table.

Minor essential revisions:

1. The authors should be more systematic when using abbreviations pertinent to the used tests and should capitalize the first letters to the tests. Example: p. 5, line 81: “attention span test” should be “Attention Span Test” (AST), then AST can be used in the rest of the document instead of the full name of the test (similarly for the other tests).

2. Some abbreviations should be avoided. Example: “no.” used on p. 7, line 107, as well as in the tables (x-axis) should read number.

3. On p. 7, line 107, I see no need to re-state the mean values of age and height as these parameters should supposedly remain constant throughout the study. In addition (related to this part), I see it very questionable that the mean values of body weight and BMI remained the same (compared to baseline) throughout the 3-week motivational program! This part of the results needs to be reconsidered.

4. The authors measured pre- and post- mean values of BMI and body weight of
their subjects, but I see no comments made on the potential correlations of these physiological parameters and each of AST, BDI and ISI. I understand that their goal was to assess the impact of PA on mental health; however, it would’ve been just as meaningful of an argument to present regarding potential influences of BMI and body weight changes (observed throughout the experimental period) on AST, BDI and ISI. Metabolic changes are one of the physiological dimensions implicated in the benefits of physical activity on psychological well-being.

5. I believe the authors should indicate the mean values of the following parameters following the 3-week motivational program (as it’s not clearly depicted in the results):
   - body weight and BMI
   - number of steps

6. Were subjects asked about their self-perceived sleep quality before and after the study?

7. The following statement on p. 9, line 152, is unclear:
   “…for a moderate, vigorous physical activity…” : the use of the comma between moderate & vigorous is misleading. Do the authors mean this type and that, or this type or that? The sentence needs to be rephrased.

8. P.10, line 167: add “current” before findings.

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

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I have no competing interests to declare.