Author's response to reviews

Title: The spinal posture of computing adolescents in a real-life setting

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Version: 2 Date: 21 May 2014

Author's response to reviews: see over
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Version: 2 Date: 21 May 2014

Author's response to reviews: please see pages 2-5
Reviewer 1
Title: The spinal posture of computing adolescents in a real-life setting
Version: 1 Date: 3 April 2014
Reviewer: Gali Dar
Reviewer’s report: Major revision
Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published
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

Background
1. “neutral posture” in sitting is described as- “minimum strain on active and passive spinal structures...”.
Need to expand the description of “neutral posture” in sitting. Is there any information in regard to spinal curvature angles? Joints angles? Etc..
In our manuscript it is stated that neutral posture is associated with “minimum strain...” and does not define neutral sitting posture. What defines neutral posture is stated in the first sentence.

2. “re-education” (line 63) – refer to my first comment. What is considered to be a good posture during sitting and how do you re-educate for a good sitting?
The methods used to re-educate posture is based on the assumption that good posture is equivalent to a neutral spinal alignment. We did not elaborate on the exact methods, as it is not the focus of the manuscript.

3. “sitting height...” (line 66) is not related to the next sentence. What is the importance of this information? Are there any normal references in the literature?
We delete this sentence from the text as it seems redundant.

4. “This may well relate to the lack of clear understanding of what good” (line 76) – if there is no information at all in regard to “good posture” – you should write it earlier in the text, and this will answer my first comments.
This sentence outlines the definitional and measurement issues related to posture measurement

Methods
1. Eligibility: please write the “positive” as well = add an “inclusion criteria” part.
We did not write the inclusion (positive) and exclusion (negative) criteria separately as it leads to an unnecessary amount of word-use which does not result in a better description of the sample. The inclusion criteria are described within the sub-sections “Study population” and “Eligibility”.

2. “also reported as BMI” (line 159) – do you mean you calculated the BMI from height and weight data? Please clarify.
Under “Data processing” line 190-191 it is stated that BMI was calculated using height and weight.

3. Line 197 the abbreviation “HF, NF, TF, CC, and HLB” are not described earlier in the text (although you have the table of abbreviation please add in the text as well).
We added the full names to the text.

Results
1. You focus on the statistical analysis instead on the results and there meaning. For example: “The multiple linear regression analysis...”(line 255) – you should start your paragraphs, along the whole result part, with the finding and add the statistical use to calculate it in percentage at the end of the sentence. You had a statistical part section and it is enough, now you should shoe your results.
Thank you for this reminder. We have revised the results section as suggested. For instance line 265: “The associations between each postural angle, and each covariate,....”
Similar refocusing changes were made to the text in line 273, 279-282 and 286-287.

2. Whole of this part is very difficult to understand due to the large use of abbreviations without explain the data. Need to be clarified.
All angular abbreviations were changed to the full names in the entire manuscript.

Table 1:
The mean height and weight of males and females is very similar. Please re-check this data? Females and males at this age are already having different body composition.
Checked the entire table and rectified the incorrect values

Figures:
You should add a picture of the measurement instruments, or how it measures the angles... this will add to the understanding of your method.
We added a schematic illustration of the postural angles (Figure 1) as well as the set-up of the measurement instrument in the classroom (Figure 2)
General: This is an interesting research on the relationship between the postural angles during sitting and age, gender, height, weight and computer use in adolescent population. I find the research well conducted. However, the manuscript itself is not well written, it is very complicated to read and understand, ungainly and too long. I think you should re-write most of it.

Reviewer 2
Title: The spinal posture of computing adolescents in a real-life setting
Version: 1 Date: 16 April 2014
Reviewer: Debora Alperovich
Reviewer's report: Generally the article is clearly written, yet quite difficult to understand concerning the angles included in the study. I believe that an illustration to describe the angles considered in the study can facilitate the understanding of the methods and results, even if a certain illustration exists in an earlier study of the authors. An illustration of the relationship between the different head-neck angles would contribute to the understanding.

We revised Figure 1 to include schematic illustrations of the five angles along with their definitions.

I suggest including as well the definition of canthus, trachus, cyclops and OCI. I still wonder if OCI has to do with Obliquus Capitis Inferior muscle insertion. I do not know and could not find its interpretation.

We included the definitions for OC1 and Cyclops in Figure 1 and for trachus and canthus in lines 158-160.

Regarding the methods, line 173 is not clear to me (Postural evaluation took approximately 7 minutes to complete). What do those seven minutes include.

We added a phrase to elaborate on what is included in the 7 minutes.

In addition, with regard to methods, I believe that sight variables (using eyeglasses, short-sighted) might explain or even change some results.

Less than 2% of the group wore spectacles/contact lenses therefore the influence thereof on the results could not be investigated in this study and it was not included as an aim for this study.

Reviewer 3
Title: The spinal posture of computing adolescents in a real-life setting
Version: 1 Date: 16 April 2014
Reviewer: Ella Been
Reviewer's report: Minor Essential Revisions
1. LINE 76 - NOT CLEAR, PLEASE REPRESS - This may well relate to the lack of clear understanding of what
good (or neutral) adolescent posture is, particularly how best to measure it, whether there is a range of
‘good’ posture, and what the markers for abnormal (poor) posture are
We revised the sentence to improve clarity

2. UNFORTUNATELY I WAS NOT ABLE TO SEE FIGURE 1 AND 2 SO I HAVE NO IDEA IF THEY ARE GOOD OR
NOT. THERE SHOULD BE AT LEAST 2 FIGURES - ONE THAT SHOWS THE SETTING AND A SECOND ON THAT
SHOWS ALL THE ANGULAR MEASUREMENTS.
We revised Figure 1 to include schematic illustrations of the five angles along with their definitions. We
added Figure 2 showing the 3D-PAT set-up in the school classroom.

3. LINES 150-151. PLEASE PROVIDE THE DETAILS FROM (23). Preparation of classroom and students:
Postural evaluation took place in the computer classroom. Details of the set-up and calibration procedures
of the 3D-PAT are reported elsewhere [23]
A section was added to this paragraph explaining more of the set-up and calibration procedures. However a
description of more detailed particulars of the instrument is better understood when reading the reference
document.

4. LINES 155-156. PLEASE PROVIDE AN EXPLANATION AND A FIGURE THAT WOULD HELP TO UNDERSTAND.
Reflective markers were placed on nine anatomical landmarks (both canthi; both tragi, C7 spinous process
(SP)
A figure was added to help illustrate the marker placement (see Figure 2)

5. TABLE 1: PLEASE MAKE SURE THE LINES ARE AT THE SAME LEVEL. NOTE THE DIFFERENCE BETWEEN THE
3RD AND 4TH COLUMNS.
The lines were adjusted to the same level

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable
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