Author's response to reviews

Title: Study of trunk asymmetry in normal children and adolescent

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RESPONSE TO THE REVIEWERS’ COMMENTS

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Study of trunk asymmetry in normal children and adolescent
Theodoros B Grivas, Elias Vasiliadis, Georgios Koufopoulos, Dimitrios
Segos and Georgios Triantafilopoulos

Dear Chief-Editor,

We wish to express our appreciation to the reviewers for the great assist they gave us to increase the quality of our paper, and for the kind and encouraging comments done for our research study and prepositions.

In accordance with the reviewers’ comments the paper has been edited. We hope that the edition made and the answers to the reviewers’ queries have been dealt with adequately.

We would like to highlight that the general comments of the reviewer are considered very constructive and helpful for the improvement of the paper and have been incorporated in the discussion.

Reviewer: Tomasz Kotwicki

Minor Essential Revisions

Reviewer’s comment:
In the Methods section “seven degrees or more” should be used instead of “more than 7 degrees”. Otherwise the 7 degrees ATR children are not included in any group.
Answer:
In the Methods section the phrase “more than 7 degrees” was replaced with the phrase “seven degrees or more”.

Reviewer’s comment:
The suitable algebraic symbols should be used in the legends for tables 3 and 4.
Answer:
The algebraic symbols were corrected in the legends of tables 3 and 4.

Reviewer: Martha Hawes

General

Reviewer’s comment:
Range of leg length inequality was reported to be 0.5 to 3.2 cm. Is this the 50 children referred for LLI, or the total sample? The sample of 50 children was referred to as a ‘random sample.’ It is not clear how this sample was randomized.
The range of leg length inequality was 0.5 to 3.2 cm. These values are concerning all the referred children. This explanation is added in the text. Among the referred children and adolescents, 50 had LLI. These 50 children are the sample, which is mentioned as “random”. The whole sentence is revised and the word “random” is deleted.

**Reviewer's comment:**
*What happened to the demographic and body morphology data?*

**Answer:**
Demographic data, somatometric characteristics and handedness were recorded during the school-screening program as part of a wider survey. They are simply mentioned in the text, but they are irrelevant to the present study and they were not analysed. Body morphology data is the back shape morphology, which is presented and analysed, in the present study.

**Reviewer's comment:**
*All of the data should be presented comprehensively, for example as scatter plots, with the statistical renderings provided as an adjunct. We need to know what the data are, not just their statistical significance.*

**Answer:**
The data are presented comprehensively (see figure 1 and 2)

**Reviewer's comment:**
*The results section is much too succinct, and needs to be written in a more comprehensive manner, with a paragraph to explain what each data set show. To some extent this can be dealt with by bringing more of the 'discussion' into the 'results' section.*

**Answer:**
The results section is re-written in a more comprehensive manner, mostly by bringing more of the 'discussion' into the 'results' section as it is suggested.

**Reviewer's comment:**
*Some of the writing needs to be worked over a bit, as well. For example, the sentence 'However, the level of the spine where this rotation mainly occurs and the mechanism by which this is done; it is hitherto a question to be answered,' could be made simpler and more direct. As it is, the meaning is obscure.*

**Answer:**
The sentence 'However, the level of the spine where this rotation mainly occurs and the mechanism by which this is done; it is hitherto a question to be answered,' is changed.

**Reviewer's comment:**
*Table 2 provides error ratings--I assume these values reflect error for individual patient readings? The 'Methods' do not explain how many scoliometer measurement replications were used to obtain these values--how many reps, taken at what intervals, with re-assumption of the positions after return to neutrality, or while the child remains in the forward bending position? 'Methods' also indicate that a single recorder took the measurements, so it is not clear how inter-observer values were obtained.*
A new paragraph analysing the reliability study is added in the “Methods” section.

**Reviewer’s comment:**
*Information about radiological measurements is needed. The authors indicate that a separate paper will be published on the radiological information, but some data are needed in order to judge the correlation between the 7 degree ATR and the presence of a spinal curvature with Cobb angle of >10 degrees.*

**Answer:**
Such information is provided in the last two paragraphs of the Results section. An additional reference is also provided; see reference [38], as requested.

**Reviewer’s comment:**
*I think it is reasonable to conclude that these observations warrant additional research to explore the hypothesis that a sitting position for screening protocols is a good idea. I don’t think it is reasonable to propose changes to existing protocols, based on a small sample size.*

**Answer:**
The relative paragraph is revised in the discussion section. The phrase “The results of the current study warrant additional research to explore the hypothesis that the standard sitting forward bending position for examining the rib or loin hump during school screening demonstrates the best correlation with the spinal deformity” is added, as requested.

**Reviewer’s comment:**
*I also agree that these data support the hypothesis that spinal curvatures occur secondary to other clinical problems, but if the statement regarding compatibility with the Nottingham theory for pathogenesis of scoliosis is to be used, the authors need to fill out what they mean by this.*

**Answer:**
A new paragraph, which explains the compatibility of the findings of the present study and the Nottingham theory, is added in the discussion section.

**Reviewer’s comment:**
*References need to be proofed, as there are some spelling and format errors.*

**Answer:**
Reference list is revised and additional references are provided as requested.