Reviewer’s report

Title: "The influence of gender and body mass index on the FPI-6 evaluated foot posture of 10- to 14-year-old school children in São Paulo, Brazil: A cross-sectional study"

Version: 1 Date: 03 Nov 2016

Reviewer: Stephanie Messner

Reviewer's report:

In my previous review I omitted the introductory statement as a result of a poorly executed cut and paste maneuver. I would therefore like to retrospectively thank the authors for submitting their manuscript for review. Furthermore, I am grateful for the opportunity to review the manuscript in question for a second time. I hope the authors find my comments useful in ameliorating the manuscript prior to publication.

Guidance for the authors: I will refer to page numbers and physical in-text line numbers (headings will count as a line), as and when needed for clarification of comments I make.

The comments included below would be my suggestions for a first revision and for the authors to utilise as they see fit.

Page 5:
Line 5-7: Your hypothesis could be more clearly defined as you have more than one.

H1: you anticipate differences in FPI-6 values depending on age, gender and BMI.

H2: you anticipate a greater prevalence of pronated feet in male adolescents with a high BMI aged between 10 and 11. I am not sure how this hypothesis can be set based on your introductory argument. Your introduction doesn't seem to clearly pull this point out of the literary argument you portray. This hypothesis is not explored in your results nor is this being addressed in your discussion section. You comment on age ranges of 10-14 and specific differences found in 11 vs. 13 year olds.

Perhaps "our hypotheses were only partially confirmed........." this section is a little vague page 9 6-9. The idea of hypothesizing a prevalence means that you would be interested in finding a % based on the sample population. % of pronated feet in males with a higher BMI in 10 year old and 11 year olds.

Line 20: change to "For BMI classification the Cole index was used [20,21]."
Page 6:

Line 9: What did the authors base their sample size calculation on? "A number of combinations….." perhaps a more definitive sentence would be more appropriate.

Line 14: change sex with gender.

Line: 21: re-word to remove "their" academic prose

Page 7:

Line 3: change "are" for "were"

Line 14: start with sentence with Inter and intra-rater reliability.

Line 19: change "have" for "had"

Page 8:

Line 2: remove "for"

Page 11:

Line 3: "a high BMI did not ….." clarify sentence as it currently does do not mean what you want it to mean and change "more prone foot posture" to "pronated foot type"

Tables:

I notice that you have included CI's in your tables. Are these confidence intervals set at 95%? As this is not indicated. Are they based on the mean or SD?

Could you elaborate on how these were calculated? As all the CI's seem rather large and perhaps incorrect. Also what is the purpose of including these if they are not discussed in any section of the paper?

Table 2 CI label missing, this is inconsistent.

General comment if "(n=…..)" is added at the end of the table title then only % can be included next to age categories within the table. This would make the table less busy. Readers can work out age group N based on % and total N
General comment linked to conclusion


Referenced above, is an article that might be of value reporting on and referencing in the authors current manuscript, perhaps in the discussion section. The authors will find substantial similarities between their study and the study referenced above. The main difference is the age of the population which in the study above is 6-11 years. Gijon-Nogueron and the team aim at arriving at normative FPI values for the paediatric population in their chosen age bracket and make some suggestions as to cut off points.

Within your conclusion you state that your study will "contribute to current literature by reporting normative FPI-6 values for the school children population" yet no normative values are suggested within your paper.

You discuss inter and intra-rater reliability which is good to know, however this is a side step to the main aim of your study and illustrates validation of your raters skills.

Your statistical analysis uses parametric testing to identify statistical differences at p<0.05 within your paediatric population based on foot posture in relation to age, gender and BMI. You discuss any statistical findings within your 5 generated tables but do not comment on normative values.

The reference below may further inform your discussion with regards to your findings.


**Level of interest**

Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

**Quality of written English**

Please indicate the quality of language in the manuscript:

Acceptable

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