Reviewer's report

Title: Height, weight and BMI percentiles and nutritional indicators relative to the international growth references among Pakistani school-aged children

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Reviewer: Carla Pedrosa

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Research Paper: 'Height, weight and BMI percentiles and nutritional indicators relative to the international growth references among Pakistani school-aged children'

This is a cross-sectional study with a representative sample of schoolchildren aged 5-12 years-old from Lahore, Pakistan. The study presents smoothed percentiles and curves for height, weight and BMI and compare it with international growth references, namely CDC and WHO. Comparisons with references methods are essential in understanding and comparing findings across studies, and are of value for researchers and clinicians.

The English is acceptable, with some language mistakes that should be corrected.

Major Compulsory Revisions

1. A major methodological error is the BMI calculation: the authors calculated the BMI by dividing weight (kg) by height (m), and not weight (kg) by square of height (m²). According to that, there are major errors of interpretation with wrong statements and conclusions along the manuscript. For instance, how can the Pakistani children have almost the same height, weigh less and have higher BMI (???) than the WHO and CDC references? This is mathematical impossible. The data must be re-analysed and re-interpreted, and in accordance the Results and Discussion sections must be re-written.

2. The Abstract should be shortened. The use of the IOTF cut-offs should be added to the design. The results should be more clearly stated.

3. Why the use of both the CDC and WHO charts, based on US nationally representative sample of children, and not just one for comparison with the smoothed percentiles obtained?

4. For determination of the nutritional status, the authors added the IOTF cut-offs based on an international sample of children. This should be discussed and interpreted in the manuscript.

5. The description of the results is confused and some statements are not correct. For instance, the authors say that BMI “was higher than the WHO and CDC references being relatively closer to the WHO”, besides the fact that BMI of Pakistani children is not higher than the references used (as stated above), also it is not close to the WHO reference.
6. Most studies have found that IOTF yields more overweight and less obesity prevalence than CDC and WHO, which yield a higher percentage of obese. In the present study the opposite was found and with a major difference. Is this due to the mistake in BMI calculation? Or if not, how can the authors explain it?

7. The Discussion must be improved and re-interpreted in light of the new results and the previous research.

Minor Essential Revisions

8. The term “nutritional indicators” should be corrected to “nutritional status”.

9. The median age should be presented in Years, in order to facilitate the interpretation.

10. The “all P<0.001” should be corrected to “P<0.001”

11. In the “Discussion” the authors repeat the description of some results, which is not correct.

12. What ethnic groups were evaluated? Were there any differences found?

13. Were there any differences between the nutritional status of children related with the socioeconomic status?

14. The P values presented in Table 5 were obtained by the differences between the study data compared to the references? It should be stated in the legend.

15. Figures 5 to 7 seem to show similar results as Figures 2 to 4, with only another type of presentation. The values presented related to what? It should be stated in the legend.

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

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 declare that I have no competing interests.