Author's response to reviews

Title: Prevalence and socioeconomic correlates of overweight and obesity among Pakistani primary school children

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Author's response to reviews: see over
Honorable

Editor-in-Chief

BMC Public Health

We are pleased to submit the revision for our manuscript numbered MS 9342972256037760 titled “Prevalence and socioeconomic differentials of overweight and obesity among Pakistani primary school children.”

The paper has been updated in guidance of the reviewers’ comments and we hope the revised version will be up to the editorial standards of publications.

Following changes requested by the editorial office has also been made:

1. The objective section of abstract has been renamed as "Background" and context information has been updated.

2. Title page of the manuscript file has been updated as suggested.

3. The manuscript has been proofread carefully for language issues. The paper had been written in US English and was reviewed by a native English speaker from United States for accuracy of language.

Tables for the means and SD of weight, height and BMI, prevalence statistics, and linear regression analysis have also been included. Figures are updated.

For your convenience, we have marked the major changes made in red. The article has been carefully revised and formatted according to the journal requirements. Some of the formatting and style changes including references may not be highlighted.

It has been a great experience to publish with you and we highly appreciate the time and efforts of the editorial team. We believe that this paper will be valuable addition in literature, and it highlights the urgent need to address the issue of rapidly increasing pediatric obesity epidemic in the developing countries like Pakistan especially amongst the urban affluent stratum of population.

Regards

Authors

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Response to reviewer’s comments: Reviewer 2

Dear Prof. Dr. Kenan Kocabay

We would like to acknowledge your valuable time and thank you for considering the paper up to the publication standards without revision.
Response to reviewer’s comments: Reviewer 3

Dear Carina Novais

We are highly grateful for your valuable comments and considering the paper up to the publication standards.

The clarifications to the concerns raised are:

1. School heads and class teachers were contacted before the work of survey team and explained about the study. They obtained consent from the parents of sampled students and only the students whose parents were willing were included in the study. We, however, had no encounter with parents and obtained consent from school principals and teachers, as they are usually considered guardians in school-based initiatives in South Asia.

2. The discussion on grade- and gender-specific and area/SES- and gender-specific trend has been included and the manuscript has been updated accordingly as under:

   “More boys were overweight than girls but the association was not statistically significant, however, obesity prevalence was significantly higher among boys than girls in line with the results reported in urban India, Brazil, Finland, Canada, and Asian-Americans in United States [33-37]. Grade- and gender- specific prevalence trend showed that more boys were overweight in grades one and two while more girls were overweight in grades three to five. Moreover, the mean BMI was higher in boys in grades one and two as compared to girls while in grades four and five a higher BMI in girls was observed. Higher prevalence among girls in higher grades may be due to genetic factors and pubertal growth spurt. More boys were overweight in the urban area with high SES where highest obesity prevalence was observed. A possible explanation for higher body fatness among boys might be the socio-cultural matrix in South Asia where parents prioritize boys, especially in the younger age groups, in feeding practices. Parents are less likely to encourage sons to lose weight, perhaps because of the larger and more muscular ideal male body shape [38].”

Response to reviewer’s comments: Reviewer 1

Dear Dieu Huynh

We are highly grateful for your valuable comments and time to improve to manuscript.

Discretionary Revisions

We have tried our best to address the concerns raised, and hope the revised version is suitable for publication:
Methods:

Design, setting and sample:

1. The list of the public and private primary schools for each stratum was created for random selection of schools based on the geographic area and monthly fee structure of the school. Following four strata were formed:
   a. urban with high SES (urban area and school fee >2500 PKR/month)
   b. urban with middle SES (urban area and school fee =1000-2500 PKR/month)
   c. urban with low SES (urban area and school fee <1000 PKR/month)
   d. rural with low/disadvantaged SES (rural area and school fee ~100 PKR/month or free)

   The former two strata included private (including public-private mix) schools and the later two strata included public schools. The reason for that was public schools cater low SES urban and rural population in Pakistan. High and middle SES urban population is educated in the private and public-private mix schools.

   Manuscript has been updated accordingly for clarity.

2. The word “class” has been used instead of “section” as suggested. Section was used because grade is usually referred as “class” and classes in a grade are usually referred as “section” in Pakistan.

   For each school, a list of all classes in the five grades (one to five) was obtained, and one class in each grade was randomly selected. Manuscript has been updated accordingly for clarity.

Data Collection:

3. The study was not funded by any agency and was conducted with a minimal financial support from Allama Iqbal Medical College, Lahore, Pakistan (Approx. US $ 650). The survey was made possible by personal expense and untiring efforts of the investigators and technical support from the Punjab Departments of Health and Education and Allama Iqbal Medical College, Lahore, Pakistan. The scales used for routine growth monitoring in pediatric and primary care clinics at all tertiary, secondary and primary care health facilities in Punjab, Pakistan were used for the survey. These have an accuracy of 0.5 kg and that is mentioned in the methods with reference to the manufacturer’s website.

Statistical analysis:

4. Parental education and income are associated with childhood obesity but including that and other factors in analysis and associated discussion is out of the scope and aims of current paper.
5. Anthropometric measures with the means and standard deviation (SD) have been included in the paper as suggested and manuscript has been updated in the relevant sections.

Results:

6. Age has been presented in years as suggested.

   A table summarizing the means and SD of weight, height and BMI of children by age group and gender has been included for international comparison of growth patterns as suggested.

   A table for prevalence statistics has also been included.

7. Figures 2-4 have been described in text.

8. Table for linear regression analysis has been included.

Discussion:

9. Figure 4 showing the rapidly increasing trend over time in prevalence of overweight and obesity in Pakistani children has been described in the result section as suggested.

10. Prevalence by IOTF classification system has been discussed.

11. The discussion on grade- and gender-specific and area/SES- and gender-specific trend has been included and the manuscript has been updated accordingly as under:

    “More boys were overweight than girls but the association was not statistically significant, however, obesity prevalence was significantly higher among boys than girls in line with the results reported in urban India, Brazil, Finland, Canada, and Asian-Americans in United States [33-37]. Grade- and gender- specific prevalence trend showed that more boys were overweight in grades one and two while more girls were overweight in grades three to five. Moreover, the mean BMI was higher in boys in grades one and two as compared to girls while in grades four and five a higher BMI in girls was observed. Higher prevalence among girls in higher grades may be due to genetic factors and pubertal growth spurt. More boys were overweight in the urban area with high SES where highest obesity prevalence was observed. A possible explanation for higher body fatness among boys might be the socio-cultural matrix in South Asia where parents prioritize boys, especially in the younger age groups, in the feeding practices. Parents are less likely to encourage sons to lose weight, perhaps because of the larger, more muscular ideal male body shape [38].”

12. It explains the area and socioeconomic disparities in obesity prevalence. Since the schools were selected at random from the strata based on geographic area and fee structure that indirectly depicts the children from respective socioeconomic strata in the community.

Tables:
13. Table 1 (now Table 3) – Title is updated. Uppercase letter (a) has been removed.

14. Table 2 – regression analysis for grade has been updated as suggested.

Thanks again for your time and comments to make this manuscript much more clear and comprehensive.

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