Author's response to reviews

Title: Family-based factors associated with overweight and obesity among Pakistani primary school children

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Author's response to reviews: see over
Dear Hayley Henderson, PhD

Re: MS # 9943618885627500 revision

We are pleased to submit the revision for our manuscript titled “Family-based factors associated with overweight and obesity among Pakistani primary school children.”

The paper has been thoroughly revised according to the reviewers’ and editorial comments. We have tried our best to address all the comments and queries. Some minor revisions and additions that we felt necessary have also been made to make the manuscript more comprehensive and clear. For your convenience, we have marked the major changes made in red; however, some of the changes may not be marked as the paper has been extensively revised.

I am deeply moved by your kind words in condolence of Ubeera Shahid. She was a great human being and a talented young investigator. It was a tragic loss, and was very hard to live on for everyone who knew her. All my work will always be dedicated to her and she will always live in our hearts and prayers.

- Copy edit: We are extremely sorry for poor quality of English in the earlier version of the manuscript. 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.

- Title Page: Title page and email addresses are formatted as suggested.

- Abstract: The abstract is structured as suggested.

- Competing Interests: The statement interests has been changed from 'none declared' to 'the author(s) declare that they have no competing interests' as suggested.

- Authors’ Contributions: Author contributions are changed as suggested.

- The revised manuscript confirms to the journal style and all files are correctly formatted.

We are indebted to you for your time, comments and kind words. We believe that this paper will be valuable addition in literature. It has been a great experience to publish with you and we highly appreciate the time and efforts of the editorial team.
Response to reviewer’s comments: Reviewer 1

Thank you for considering the potential importance of the findings reported. We are highly grateful for your valuable time and comments for the improvement of this manuscript. We have tried our best to address the concerns raised and the manuscript has been thoroughly revised.

Major Changes

1. Previously overweight included children having a BMI-for-age z-score >+1SD (including obese children), and obesity was defined as >+2SD BMI-for-age z-score. We have revised table 1 and results. Now bivariate analysis, using the chi-square test, comparing thin (<-1SD BMI-for-age z-score), normal (-1SD to +1SD BMI-for-age z-score), overweight (>+1SD to +2SD BMI-for-age z-score) and obese children (>+2SD BMI-for-age z-score) with respect to family-based factors is presented as suggested. Since the paper focuses on overweight and obesity, detailed description about thinness is out of the scope of the paper. Other sections of the manuscript have been updated accordingly.

2. Results section is reworked and the data presented in tables in not repeated as suggested.

3. Table 10: There are only three tables in the paper and we think that you referred to table 3 that presented logistic regression results and odds ratios. Odds ratio was not calculated only for overweight and obese children, it included the whole population. Logistic regression analysis estimated the effect of the family-based factors as independent variables, and the dependent variable was overweight including obese vs. not overweight population and the reference was those who were not overweight. However, the analyses have been updated and now the dependent variable is overweight including obese vs. normal BMI (excluding those with <-1SD BMI-for-age z-score), and the reference is the normal BMI category as suggested. We are sorry for the confusion that was raised because the results were not appropriately presented. Tables have been revised accordingly and we hope it is clear now.
4. Discussion: It is pointed out that higher education was associated with overweight when compared with children of parents having high school or lower education as suggested. Regression analyses have been updated excluding those with z-score of BMI-for-age lower than – 1SD, and the manuscript has been updated accordingly as suggested.

5. Discussion: Parental status and number of persons in child’s living room adjusted ORs were not statistically significant at 95% level, and it is noted in this section as suggested.

6. Discussion: The probable reasons for inconsistent results with the higher prevalence of obesity among low income and migrant children in developed countries or among children from migrant parents within developing countries have been explained as suggested.

7. Discussion re-written as suggested.

8. The whole discussion section is reworked as suggested. We hope that it is much clear and comprehensive now.

9. Logistic regression analysis is done as suggested. Level of parental education is now compared with high school level as a reference.

10. The figure is excluded as suggested. Two new figures have been incorporated that describe the gender specific trend in association of family-based factors with overweight.

**Minor Changes**

11. Last sentence of introduction is moved to the discussion section as suggested.

12. The sentence (said…and “children not willing to participate” were excluded) is removed as suggested.

We are extremely sorry for poor quality of English in the earlier version of the manuscript. 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.

We are indebted to you for your time and comments to make this manuscript much more clear and comprehensive.
Response to reviewer’s comments: Reviewer 2

Thank you for considering the potential importance of the findings reported. We are highly grateful for your valuable time and comments to improve the manuscript. The paper has been thoroughly revised according to your comments.

Major Compulsory Revisions

1. We are extremely sorry for poor quality of English in the earlier version of the manuscript. The whole paper 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.

2. Methods section: Page 6: Participation of children in the study was voluntary and it has been clarified in methods section. School heads and class teachers were contacted before the work of survey team and were 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. However, we had no encounter with the parents and obtained consent from the school principals and teachers as they are usually considered guardians in school-based initiatives in South Asia.

Methods section: Degree of children’s sexual maturation (i.e. assessed by Tanner Stage) has affects overweight and obesity among children but we did not examine the effect due to school-based design and socio-cultural and methodological constraints. This has been included as a limitation in the revised manuscript as suggested.

3. Materials and Method section: Non-participation of children in the study did not affect the results. We included 31 children from each grade and if a child refused to participate, next child on class attendance register was enrolled. In this way, we were able to measure and interview 1860 children and we do not speculate any systemic or large difference in findings.

4. Discussion section, Page 13, Paragraph 2: Comments on the applicability of the proposed prevention and treatment initiatives (i.e. family and school-based interventions) in the case of Pakistan are added as suggested. These interventions have been implemented in the developed countries, and need to be tested in the resource-poor developing country settings. In Pakistan, public health infrastructure is available to support family- and school-based interventions but no interventions have
been implemented in the country regarding childhood obesity. A National preventive strategy for childhood obesity should be developed and a pilot preventive program should be initiated taking into consideration the impact of family-based factors associated with childhood overweight and obesity. School Health and Nutrition Supervisors working under Pakistan’s National Maternal, Newborn, and Child Health (MNCH) Program could be involved for implementing school-based initiatives and Lady Health Workers (LHWs) working under Pakistan’s National Program for Family Planning and Primary Health Care (NP for FP & PHC) could be involved for implementing family-based initiatives.

5. Discussion section: “Conclusions” are added as suggested.

6. Table 3: There were not few (10) illiterate people in the analysis, it included 366 illiterate people of whole ten were overweight. Odds ratio was not calculated only for overweight and obese children, it included the whole population. Logistic regression analysis estimated the effect of the family-based factors as independent variables, and the dependent variable was overweight including obese vs. not overweight population and the reference was those who were not overweight. However, the analyses have been updated and now the dependent variable is overweight including obese vs. normal BMI (excluding those with <-1SD BMI-for-age z-score), and the reference is the normal BMI category. We are sorry for the confusion that was raised because the results were not appropriately presented. Tables have been revised accordingly and we hope it is clear now.

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