Author's response to reviews

Title: Dynamics of growth and weight transitions in a pediatric cohort from India.

Authors:

Manu Raj (drmanuraj@gmail.com)
Karimassery Ramaiyer Sundaram (krsundaram@aims.amrita.edu)
Mary Paul (marypaulo@rediffmail.com)
Abish Sudhakar (abishsudhakar08@gmail.com)
Raman Krishna Kumar (rkrishnakumar@aims.amrita.edu)

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Author's response to reviews: see over
From
Dr. Manu Raj
Clinical Assistant Professor (Pediatrics)
Division of Pediatric Cardiology
Amrita Institute of Medical Sciences and Research Centre
Kochi, Kerala, India.

To
Dr. Nehme Gabriel,
Editor-in-Chief,
Nutrition Journal.

Dear Dr. Gabriel,

We have gone through the reviewer’s comments and are submitting a revised version of our manuscript of the original work done titled ‘Dynamics of growth and weight transitions in a pediatric cohort from India’ to the Nutrition Journal.

We are also attaching point-to point response for the issues raised by the reviewers.

Regards,

Dr. Manu Raj
Reviewer 1

1. Abstract line 12. I don't think you can state that the weight showed a marked increase compared to height.

Response: The above said line was deleted from the abstract.

2. Page 4. Line seven. Should read "...according to the number of children...."

Response: The correction was done in the revised version.

3. Page 5. Statistical analysis, line one, should read "The data were analyzed...."

Response: The correction was done in the revised version.

4. Results. Line two. Normal weight. You can not state that 95% were normal weight, since a number of the children must have been underweight both at the first and last measurements.

Response: In the revised version, the data are divided into four categories - underweight, normal weight, overweight and obese and the percentages are given accordingly.

5. Page 6, line two. The difference in categories of weight status between 2003 and 2005 was statistically significant, but in not clinically significant, because 3.7 to 4.8 percent and 1.3 to 1.7 percent are not clinically significant changes over that time frame.

Response: We accept that the change in percentage values could be clinically insignificant. We did comment from a public health point of view considering the actual number of children who became overweight in the study period if we extrapolate the results to the overall pediatric population over the described time frame.

6. Page 6. Last line, you do not mean that the girls demonstrated a significant reduction in height, otherwise they would be shrinking. You mean that they had different mean z scores for height. The difference between -0.83 and -0.85 is not clinically significant.

Response: We meant that the Z scores for height decreased for girls at the end of the study. We have made the necessary corrections in the sentence.

7. Page 7, second paragraph, line two, changed "clubbed" to "grouped".

Response: The word ‘clubbed’ was changed to ‘grouped’ in the same.
8. Page 8, third line from bottom. You mean "...reduction in z score for height".

Response: We meant a reduction in Z score of height for girls. We have made the necessary corrections in the same.

9. Conclusion, the change could not be considered and "explosion", and can hardly be called a "burden", since the percent obese in this population is very small as are the increments in percent overweight and obese.

Response: The words 'explosion' and 'burden' were removed from the conclusion.

10. Also, regarding children whose status decreased from obese to overweight, and from overweight to normal: This can in part be attributed to a regression to the mean phenomenon.

Response: It is possible that the change is partly due to regression to the mean. But changes in the data cannot be attributed in total to the above said reason. We hope retaining this suggestion is acceptable.

11. Something should be stated regarding the mean z-scores for weight and height of the population studied. For instance, the rural children weigh at 1.5 standard deviation below the mean at the 2003 measurement time. This suggests there is a considerable likelihood of malnutrition in the population, when comparing the data to CDC norms. You should comment on this; and this brings me to my suggestions for discretionary revisions.

Response: The data were re-analysed after determining the underweight population in the study sample. The changes in underweight population are also discussed.

12. a. Discretionary revisions: I would suggest a reanalysis of the data before publication. The groups should be divided into the following percentiles by z score of the BMI. Less than 5th percentile, 5th to 15th, 15th to 85th, 85th to 95th, and over 95th: by group, 2003 and 2005. First do this with boys and girls together. It would be very interesting for the reader to see how these groups changed over time. Did the numbers of children in the very underweight group (less than 5th percentile weight) increase or decrease between the first and second measurement? Over time, did the underweight children tend to improve their nutritional status. Then, looking at the entire population, would you say that the children as a whole were heathier, regarding growth, at the 2005 time frame than at the 2003 time frame? In this population, given the mean BMI z-scores
falling in the negative, I would be worried more about the sufficiency of nutrition at this time than excess of nutrient intake.

Response: The groups were divided into four and the data were re-analysed. We hope that the revised analysis and corresponding discussion addresses the issues mentioned above.

Reviewer 2

1. Because this will be read by an international audience the authors need to make clearer their thinking regarding the measures on socioeconomic status. They have used government and private schools, and urban and rural as important subgroup parameters. These need more description. For example, is the urban group in this study a reflection of the urban “rich” or urban “poor”. This is not clear from the manuscript. The urban group is getting taller and heavier, and more are overweight, but is this because of poverty or affluence? Same concern is raised about the government vs. private schools. This confusion made reviewing the discussion section difficult.

Response: The socio-economic status of various subgroups is added to the discussion section of the revised version.

2. I have two measurement concerns:
   a. The first is a technical point but important when working with children data and determining weight states. Age of child when measured is not described. I am assuming that age in months (that is, interview date minus the birth date) was used in the determination of BMI percentiles and Z scores as that is what is required in the CDC program. The authors need to address this in the methods section. I would like to see mean BMI percentiles included on table 1.

   Response: The reviewer observation is correct. We have measured the child’s age in months and determined the BMI percentiles and Z scores using age in months. We have used the CDC reference for this Z score conversion. We have included this detail in the revised methods section.

   b. The analysis should include underweight as a group. Part of the transition that may be occurring in the z scores is a movement in children from underweight to normal weight (a good thing). The fact that heights are not increasing in the rural and government groups may speak to poor nutrition; some recognition of this should be included.
Response: The revised analysis includes an underweight population as well as transitions of the same.