Reviewer’s report

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

Version: 2 Date: 24 July 2009

Reviewer: David McCormick

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Major compulsory revisions: None.

Minor essential revisions: Abstract line 12. I don’t think you can state that the weight showed a marked increase compared to height.

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

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

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.

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.

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.

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

Page 8, third line from bottom. You mean "...reduction in z score for height".

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.

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.

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.

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, should you say that the children as a whole were healthier, 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.

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.