Reviewer's report


Version: 14 Date: 16 April 2007

Reviewer: Arja Rimpelä

Reviewer's report:

General
The paper has improved but there are still some inadequacies to be corrected.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

- abstract methods: the numbers of the first study are missing
- abstract results: a significant decrease does not concern all age and sex groups, only 14-year old girls and 18-year-old boys (and 16-yr old boys in the lowest percentile
- the conclusion (both abstract and text): The minimal decrease in the lowest percentiles DOES NOT implicate that underweight can be a problem among adolescents. There are of course a few adolescents for who it is a problem and it is well known (anorexia nervosa). But what the authors seem to mean here is that it is an increasing problem. But they do not present any absolute figures showing that some adolescents has so low BMI that it is a risk for health. The decrease in the BMI of the 2.5 percentile in the population does not yet have any implications for health. A decrease in other percentiles (5%, 10%) should not be any problem on the population level. Maybe it is just a change to a healthier direction, less problematic?
- results concerning the lower bmi percentiles they need to look at the absolute figures in the result section in order to show what does this decrease really mean.
- method: NHs study has not been adequately described. who were the drop-outs, who were the participants. foreigners cannot know that this NHS is Norway means.
- method: age. If the truncated age was used in the data or if this was the only available, there could be marked differences in the ages in the two studies if the measurements during the calendar year were distributed unevenly in the studies or if the measurements were taken at a different time of the year. From an uneven distributions it follows that the mean age of the children in the two studies is not the same. A few months difference in the mean age may cause the observed decrease in the lower percentiles. This must be described in the method section.
- discussion: it is hard to understand why there were no secular changes during each survey period. This is what the authors say in the discussion but no figures of this has been presented. What is the relevance of this to be presented in the Discussion but not in the results or methods.concerning the comparison of the study, the above mentioned possible problems in the comparability should be discussed and if adequate information is not available, to be honest and say this.
- Conclusion: concerning the literature, the authors have tried to find studies that show no increase in BMI without assessing the credibility and scientific value of those studies at all. In addition, they ignore the time frame e.g. studies from the 50s to 70s with studies from the 2000s are presented as if they were parallel. The only adequate comparison with they own results is the same time frame. Obesity increase hardly started before 1970s and the starting point can vary by country. concerning other studies showing decrease in lower percentiles, they refer e.g to a Finnish study. In this study there was seen just one very small decrease in one age-sex group which might be chance variation. I had no time to check the others, but a more precise description is needed.
- The literature: have the authors checked the latest literature at all

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)
What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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