Reviewer's report

Title: Prevalence of thinness in children and adolescents in the Seychelles: comparison of two international growth references

Version: 1 Date: 13 January 2011

Reviewer: Maria Alice de Assis

Reviewer's report:

Prevalence of thinness in children and adolescents in the Seychelles: comparison of two international growth references.

Major Compulsory Revisions

ABSTRACT

Results: Please rephrase lines 2-3 to correct the information “The prevalence of the thinness categories tended to change according to age.” According to the results presented by authors, using the IS reference the prevalence of the thinness categories tended to change according to age for both sexes. Using the WHO reference this trend is confirmed only for girls.

Conclusion: I suggest delete the last phrase “Universal cut-offs...thinness categories”, as this statement cannot be concluded with the analysis and results of the present article. This phrase sounds like a suggestion not as a conclusion.

METHODS AND POPULATION

The most important concern refers to the statistical methods used: to compare the prevalence of thinness using the WHO and IS references I suggest a concordance test, for example the kappa statistic. To evaluate the differences in prevalence between the categories of thinness, with the use of the different references, by chi square test or ICs, does not mean that the same children were classified in one of the categories using the two international references. So it is not possible to conclude that there were no differences between certain categories of thinness using the statistical tests described in this article.

Do the authors take into account the fact that the same child may have had an examination at different time points across 1998 and 2004?

Last paragraph: In the results section (Figures 3 and 4) the authors commented the differences in prevalence of thinness using IS and WHO references. This description is lacking in the Methods section. Please, describe the statistical analysis used to access the differences in prevalence of thinness using IS and WHO references, across genders and ages.

If the authors choose to present the Figures 1 and 2 (whose figures I suggest to delete from the article), please describe why and how these figures are important to the article in the methods section.

Please insert indications of the software used for data entering and statistical
analyses, and the adopted level of statistical significance.

RESULTS

Third paragraph: It is not clear how the Figures 1 and 2 help to understand the findings of the article. I suggest delete these figures. If the authors chose to present these figure, please provide explanations in the methods section and appropriate comments in the results and discussion sections.

Fourth paragraph: The authors state that “…no marked difference was observed with the second (6.7% vs. 21.4%) and third (1.2% vs. 2.0%) thinness categories with either cut-offs.” Please rephrase as the ICs are showing differences in the prevalence accessed by the IS and WHO references in the third thinness categories for girls, which influenced the differences showed for the total population (Table 2). Rephrase also the last line of the paragraph as the readers could see the ICs showing differences between sexes.

DISCUSSION

The discussion section does not address adequately the objective and the results of the article. Firstly, the objective of the study is to compare the prevalence of three categories of thinness with the use of two international references, so the authors need to focus the discussion according to the objective. Secondly, the application of an appropriate statistical method that allows for comparisons of agreement between the two references (eg, the kappa statistic) could enrich the discussion. Thirdly, the authors need to discuss further the findings of the study, comparing the results with those of other African countries. I suggest to search studies in PUBMED showing the prevalence of thinness using at least one of the two references used in the present article. Besides the comparison or the reporting the findings of studies in other African countries, there is the possibility of making comparisons with studies in other developing countries.

First paragraph: I suggest delete the paragraph because the first six lines repeated the description of IS and WHO references (described in the methods section). The remaining lines of this paragraph repeat the results described in the results section. An important question that was not evident in the discussion section (neither in the results section) refers to the high prevalence of thinness grade 1 using both references. I suggest discuss the findings and contextualizing its occurrence in a country in epidemiological transition, where undernutrition coexists with obesity (compare, for example the prevalence of thinness grade 1 with the prevalence of overweight found in Seychelles). I consider very important to discuss the differences found for the prevalence of grade 1 thinness between the IS and WHO: what could it mean for a public health service in Seychelles that uses both references and the need to do a screening of children classified as thinness? Does the present study presented data to conclude about the quality of the references used or further studies should be conducted to make recommendations (eg diagnostic criteria for BMI, using anthropometric measurements as reference or gold standard to access thinness, for example skinfolds, DEXA, etc. ...).
Finally, the question of the clinical value of the categories of thinness should be discussed in the context of the results found. The authors describe the issue of clinical value in general, without making the connection with the results.

TABLES AND FIGURES
Table 1 – Please delete the last column referred to Overweight (including obesity) as it is not the objective of the article.
Table 2 – Please insert indications of the statistical test to access differences in prevalence of thinness.
Figures 1 and 2 – Please delete these figures or clarify the importance in methods, results and discussion methods.

What the study adds
First phrase needs to be rephrased as readers could see differences when the ICs are interpreted.
Second phrase: rephrase adding …using IS references for both sexes, but only for girls, using the WHO references.
Last phrase: I suggest delete this phrase, as it sounds like a recommendation. This statement was not found with the analysis and results of the article.

Minor Essential Revisions

ABSTRACT
Background: OK.
Methods: Please delete the first phrase which is repeated in the fourth line. In order to clarify, please rephrase the statement “as part of an annual national school-based survey, in 1998-2004”.
Conclusion: I suggest begin this topic focusing the comments on the high prevalence of thinness grade 1 using both references, and outlining the differences found between the references, then comment on findings about thinness grades 2 and 3.

BACKGROUND
The relevance of the article was outlined. In the third paragraph I suggest include comments and references about the problem of child undernutrition in African countries, because this is a real and still problem in Africa.

RESULTS
Second paragraph: I suggest delete the last column of Table 1, which is showing the prevalence of overweight (including obesity), because this is not the focus of the study. If the authors choose to keep the data in this column, they should write comments in the discussion section of the article; for example, comparing the prevalence of overweight (including obesity) with the prevalence of grade 1 thinness, and contextualizing similar findings in other countries with similar
socioeconomic characteristics.

Fifth paragraph: Figures 3 and 4 are not suitable for the purpose of the article ("comparison of two international growth references). I suggest that Figure 3 shows the prevalence of the categories of thinness for girls, using both references. Similarly, Figure 4 should show the prevalence of the categories of thinness for boys. It seems that authors presented results based on virtual interpretation of the figures 3 and 4, comparing the absolute prevalence without any statistical method. I suggest present these results based on statistic methods, for example, the construction of different graphs with the inclusion of the ICs in bars (or something else). The last phrase should be rephrased, because readers would see that differences occur for girls, using the WHO references.

DISCUSSION

Second paragraph is also not in line with the results of the article, I suggest delete or rewrite the paragraph.

Last paragraph: I suggest rewriting the last sentence, since to compare the prevalence between populations is important to consider ethnic differences that might influence the categories of thinness, when using the BMI as an indicator.

CONCLUSION

In the first line, I suggest to include comments on the high prevalence of thinness grade 1, using both references, and the differences between them, as well.

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

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' below.