Reviewer's report

Title: The relationship of body composition with physical fitness in the 14 years adolescents residing within the Tlokwe municipality, South Africa: The PAHL-Study

Version: 2 Date: 23 December 2011

Reviewer: Rimke Vos

Reviewer's report:

Remarks to the author:

I have read with interest the manuscript of “The PAHL-Study” by Monyeki et al. It addresses an important public health issue of our modern society. Of special interest are the studied participants. Up till now, most published study addressing the effect of body composition on health, were based on data of children or adolescents from developed countries. However, there are several aspects that need to be revised before the manuscript can be published.

In general, it is recommended to rewrite some parts of the article. For example the last sentence of the ‘subjects and methods’ section; the last part of the ‘Procedures’ section [Prior the study…, the participating school]; several sentences’ of the ‘Discussion’; page 7 [the results show…, were less strong]; page 8 [however, because overweight adolescents….]; page 9 [nevertheless, this cross-sectional study….]; page 9 ‘Conclusion’ [Girls were more…]. of the ‘Discussion’ contact a native speaking English person to rewrite the article.

Background; I agree with the authors this study is relevant because it presents the results of the South African adolescents. Only it was not clear to me why especially the Tlokwe municipality of South Africa is of particularly interest. I think this should be mentioned in the background section. In addition, if this particularly target population is special, it is strange that the studied participant ‘…may not be considered to be representative of the adolescents’ population either of Tlokwe municipality or south Africa in general’

Results: In the results section it is presented that a strong significant positive relationship is found between physical fitness and BMI for the underweight girls with high physical fitness scores. The 95% CI interval is large have the authors any though on the reason?

Discussion; I advice the authors to critically read their discussion. The results of the PAHL-Study are compare with previously found results, however little is mentioned of these previous studies. This makes the interpretation and comparability of the current findings difficult. Also the primary aim of the study was to analyze the relationship between body composition and physical fitness. Although %BF is calculated based on the sum of 2 skinfolds, the BMI is used in the analyses to answer the primary aim. BMI is a common used measure to
determine underweight, normal weight and overweight, it is however not similar to body composition. I would recommend, either to present the results of the relationship between %BF and physical fitness or to use the term BMI instead of body composition the in discussion when referring to the results of the multinomial logistic regression analyses.

Table 1: I would prefer if the upper part of table 1 also mention which part represents the results of the boys and which part the results of the girls.

Table 3; In the print I received the columns are shift.

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

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

During my research period on childhood obesity I was working in the Juliana Children’s Hospital/ HagaHospital, where I am still working part-time. However since January 2011 I am also working as postdoc researcher at the VU Medical Center Amsterdam. The research in the VU medical center addresses another topic in Public Health (activity and participation in subjects with Cerebral Palsy). However, for some analyses of this VU medical center research J. Twisk (one of the authors) is consulted for statistical advice. Jos Twisk is not involved in my appointment as postdoc researcher at the VU Medical Center.

I have reviewed the PAHL-study manuscript from the obesity knowledge point of view.