Reviewer's report

Title: Concurrent validity of the non-exercise based VO2max prediction equation using % body fat as a variable in Asian Indian adults.

Version: 1 Date: 18 June 2011

Reviewer number: 1

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The development of a non-exercise VO2max prediction equation for Asian Indian adult population is an idea that has an important potential use. Nevertheless after reading the paper, I have several concerns regarding its state in the present form.

Major strengths:
This is an important and interesting topic.

Major Compulsory Revisions:
1. The objective of the article is not clearly stated. In page 5 three objectives are presented but mainly objective No.1, seems not to correspond with the title of the paper.
2. In the background chapter, the purpose of the study considers the analysis of the concurrent validity of only one author whereas that three are considered in the text.
3. Methods chapter in the abstract seems incomplete.
4. In Results chapter “All three equations” are not mentioned. Additionally, the correlation coefficient is not mentioned in the text.
5. Third paragraph of Background chapter seems to have two different ideas. Moreover, in the last sentence, valid models available should be mentioned.
6. Fifth paragraph of Background chapter: equations that used % body fat in the estimation of VO2max must be mentioned at this point.
7. Bibliography of Physical Activity Readiness Questionnaire must be provided (Methods 2nd paragraph).
8. Physical Activity Recall Questionnaire should be better described in Methods chapter. It is important because obtained values are used in the equation.
9. All equipment used for measurements must be fully described (weight scale).
10. Concerning the criteria of having achieved the maximal oxygen consumption during the test, the primary criterion was not taken into account. HR, RER and RPE are secondary criteria.
11. The way “history of physical activity (0-7)” was measured, is not described in the text.
12. The first paragraph of Statistics chapter, correspond to the Results chapter. The same for results mentioned in the next paragraph.

13. According to the first paragraph of the Results-Discussion chapter, the study only analyzed the validity of Jackson et al equation.

14. ANOVA tables should be provided.

15. Document presents the models but does not provide the validation of the model assumptions (multicollinearity, homocedasticity and errors distribution). R^2 value is not supplied in the text. The significance of the model coefficients must be also submitted.

16. It is necessary to expand the discussion chapter. It is mentioned that a specific VO2max prediction equation for Indian people is necessary but it is not clear why.

Minor Essential Revisions:
1. Several sections are difficult to understand due to errors in grammar and writing. The writing throughout the manuscript seems disjointed and confusing.
2. Tables are not clear and are hardly readable. * sign must be used to understand tables. In table II (inter class correlation) only the first row of data is necessary. Additionally, the current style of tables is not used in scientific journals.
3. Please rewrite the manuscript for clarity and cohesiveness.
4. References must be mentioned in order in the text.
5. Maybe the full description of the Bruce protocol is not necessary.

In summary, the question posed by the authors is new but is not well defined. Methods are appropriate but are not well described. The data are well controlled; nevertheless the manuscript does not adhere to the relevant standards for reporting and data deposition. Discussion must be expanded. Finally, the abstract does not convey the findings.

I realize that this study was a great deal of work but in the actual form I consider that the manuscript should be reassessed after major revision.

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.