Reviewer’s report

Title: Evaluation and refinement of the PRESTARt tool for identifying 12-14 year olds at high lifetime risk of developing type 2 diabetes compared to a clinicians assessment of risk: a cross-sectional study

Version: 1 Date: 12 Dec 2018

Reviewer: Isabel Arrieta-Cruz

Reviewer's report:

The present study tried to validate a tool for identifying risk factors associated with the development of Type 2 Diabetes Mellitus in adolescents from five European countries.

Major comments

Title: The authors must modify the title to reflect the essence of the study. For example, include the name of the studied tool.

Background: Some information in this section: please, see lines 12 to 26 and 33 to 43 are part of the methods. The authors could include information regarding to similar tools published in the scientific literature, but not describe how their study was performed, it must be placed in the appropriated section.

Methods: The authors indicated that they collected data from 636 adolescents aged 12-14 years from five European countries in the abstract, but they did not say it in the methods section. The authors only said: "The target sample size was 500 adolescents (100 per country)…" how was calculated the sample size to be representative for the interest group, in this case for adolescents?

The authors stated in the manuscript: "they planned to sample across the BMI distribution with over sampling at the higher BMI percentiles to ensure they recruited high risk participants." What was the rationale to plan it in this way, however, the findings shown in the study did not support this observation?

The authors must clarify accurate the inclusion, exclusion and elimination criterions used in the performance of the study.

In the Biological maturity status: the authors said that the questionnaire to evaluate this status was not administered at the Portuguese site, and then the authors must explain how this data were management in comparison with the countries where this status was measured?
Results: It is highly recommendable to elaborate a flow chart to show the experimental design of the study. It will help too much to understand how the selection of the participants was and all features evaluated along of the study.

To paste the prestart form used in the study in the figure 1 without edit it is not convenient for the presentation of the data of the study. The authors need to modify the form to present it adequately in the manuscript.

Why there were many missing values in the analysis please see table 1? For example, in the Ethnicity category for Portugal and Greece the 100% of the sample is missing.

Minor comments:

The title of all tables must be rewritten, titles are very brief. In the table 3: describe PPV and NPV.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Unable to assess

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable
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