Reviewer’s report

Title: Muscle building supplement use in Australian adolescent boys: Relationships with body image, weight lifting, and sports engagement

Version: 0 Date: 17 Sep 2019

Reviewer: Ricardo Agostineti

Reviewer's report:

Please include all comments for the authors in this box rather than uploading your report as an attachment. Please only upload as attachments annotated versions of manuscripts, graphs, supporting materials or other aspects of your report which cannot be included in a text format.

Please overwrite this text when adding your comments to the authors.

Introduction:

The authors made a strong introduction; however, it is very long and are presented information that could be showed in the discussion. I suggest that the introduction be finalized on page 4 (make adjustments to generate coherence) + objective and hypothesis.

The information about appearance motivations or enhance the performance and comparations with US studies should be presented in the discussion section after the results indicate theses variables as predictors.

Besides that, what is the main innovative points of the study compared to Yager's study published in 2014? The authors need present this innovation in the introduction.


Methods

In methods was presented that the studies of two successive cohorts with aged between 15 and 16 years old, however following the methods and abstract the authors showed that the sample was composed by adolescents aged 14 and 16 years old. What is correct?

The data from this study is the baseline of an intervention "the Athletes Learning and Training to Avoid Steroids". About the questionnaire applied, was it validated and reproducible tested?

About the sports participation, the adolescents were asked only about which sport they are involved. Wouldn't it be more correct to ask the adolescent which sport he practiced periodically and with the presence of a coach? My concern is that in this question the adolescent has also considered the recreational sport and this point needs to be addressed by the authors.
The authors cite in the methods the accomplishment of important methodological care in the statistical analysis as the multicollinearity analysis among the predictor variables. Perhaps it would be interesting to insert a supplementary table with just this information.

Please, insert in the statistic section information about the correlation's analysis (person or sperman?) and please, insert information about the cutoff of effect size of correlations.

Results

Didn't the authors come up with hierarchical regression analyzes on anabolic steroids and creatine use due to the low percentage among adolescents?

The use of the linear and logistic model is correct, but I was unsure why the authors applied linear regression for intent and logistics the current use.

The authors perform the interpretation of the odds ratio results correctly, but please also insert the odds ratio interpretation of the significant variables from step 2 (Muscularity [beliefs]).

I believe that with the results presented, the authors should adjust the objectives and first paragraph of the discussion, it is not made the analysis of the creatine and anabolic steroids predictors, only of the protein powder.

Limitation

In the limitation section the authors explain about the low consuming creatine and anabolic steroids, but one must consider that adolescents might be afraid to be honest about using mainly asteroid hormones.

Conclusion

Given that the authors have a specific topic for Implications for Research and Practice, I think the conclusion should be more concise and straightforward.

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

Yes

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

Yes

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

Yes
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:

Needs some language corrections before being published

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal