Reviewer's report

**Title:** Age-Period-Cohort Analysis for Trends in Body Mass Index in Ireland

**Version:** 1  **Date:** 26 April 2013

**Reviewer:** Augusto Cesar de Moraes

**Reviewer's report:**

Reviewer's report
1. Minor Essential Revisions

ABSTRACT
1. In abstract only to introduce the information that the analyzes were stratified by sex.

INTRODUCTION
1. The introduction is extensive, I think it should be redone introduction, in order to be more direct and incisive the assumption that the paper intends to test.

METHODS
Sample
1. Introduce the information from loss percentages by gender as well.

2. Why was excluded the person with the characteristics that the author's describe on the last paragraph of the section: Cohort Information?

3. In the last paragraph of the section: Partial Least Square, the authors describe: "We select the number of components based on small changes in R2 Resulting from the inclusion of an additional component (see appendix for Further Details)."

4. I suggest that it was the cutoff for the R2, to change or to include the component...

RESULTS
1. Remove the word DISCUSSION title in this middle section.

2. Include a table of descriptive characteristics of the cohort per year, with information on age, gender, socioeconomic level, level of physical activity, eating patterns, etc.. As well as perform a statistical analysis to check for change, over the years, these characteristics.

DISCUSSION
1. To show the informations about the dietary patterns and physical activity, on the results section.
REFERENCES
1. Only 7.7% of the references are to articles published in the last two years. I suggest that the authors update their references (there is much literature on the subject in the last two years), especially the references that assist in the validation of the data presented in this manuscript (discussion), because there is only one article in 2011 and another in 2012 (which is in press, but it was posted, so update the description), the others are publications before 2009.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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