Author's response to reviews

Title: Association between fruit and vegetable intake and frequency of breakfast and snacks consumption: cross-sectional study

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Author's response to reviews: see over
Reviewer's report

Title: Association between fruit and vegetable intake and frequency of breakfast and snacks consumption: cross-sectional study
Version: 1 Date: 3 May 2013
Reviewer: Lieke Raaijmakers
Reviewer’s report:

General comments

You conducted a study on an interesting topic. I recognize the importance of conducting studies into the prevalence of certain risk behaviors and associations between these behaviors in specific populations. Strength of your study is the large sample. The methods lack a clear description of your statistical analyses. The content of your results section is not well structured and the description of the results needs some revisions. In your discussion section you elaborate on the findings of your study, which is interesting, but try to compare your findings with previous studies or refer to comparable studies more often.

Major compulsory revisions

In general the paper needs editing on English spelling and grammar, since I notice quite some spelling errors, errors in the formulation of the sentences and sloppiness in general.

Done

Introduction

- I miss information on the prevalence of the dietary behaviors among the research population of your study or more general in your country/worldwide.

We added this sentence: Another study on 9-year-olds children, carried out by Lazzeri et al. (2006) in our Region showed that the frequency of breakfast decreased with increase the mother’s BMI classes and their education level.

- I think it is valuable to make clear in the introduction that no previous studies were conducted in your country and that there is lack of consistent evidence on the topic based on international studies.

We added this sentence: No previous studies were conducted in our country and that there is lack of consistent evidence on the topic based on international studies

Methods

- I prefer to report the response and demographic characteristics in the results section

Done

- In the paragraph on independent variables you refer to study number 34, when stating that there are no clear guidelines defining regular meal intake (page 6). What is the point of your statement? I would either write that there are no clear recommendations available in Italy or refer to an international
recommendation. Now, you refer to recommendations for Nordic countries and I am missing the direct relevance of this reference. Moreover, dietary habits and recommendations appear to differ between countries. You continue with explaining the definition of regular meal intake, which is confusing. Please reconsider relevant studies and rewrite this part of your methods section.

I’m sorry for the mistake, we agree with observation. We changed the sentence and refer 34: When breakfast was consumed on “3 weekdays or less” and not having snacks both “midmorning” and “afternoon”, we considered as irregular behaviour, even if the Italian guidelines for a healthy diet advice to have breakfast and two snacks every day [34].

- The structure of the description of the covariates is missing. Please restructure the paragraph and describe the measures in the same sequences as you mention the covariates in your first sentence.
  Done
- In the paragraph on statistical analyses I miss information concerning the use of the statistical program and descriptive statistics.
  Done
- The description of the different logistic regression analyses is confusing, please explain your analyses in more detail and rewrite this part, cause I am not sure what exactly you did in the analyses.
  Done

Results

- Please rewrite the results on page 8 from ‘The ratio of boys....’ onwards, since it is quite unstructured and described and in general a repetition of numbers from the tables. I think it would be more interesting to interpret the OR and report the results in terms of low level of....was associated with...like you did in the abstract of the manuscript. This comment also applies for parts of the results description on page 9
  Done
- Furthermore, you only report the p-values of the Chi$^2$ test, while I would report the test value as well. You can also choose to include an extra table with the results of the univariate analyses.
  We put in the text the values of chi square
- I cannot trace the reported OR’s on page 8 of your results. Are they included in table 2 and 3? If not, I would add another table to structure the section.
  They are not included. They are described on the text specifying that the data are not reported in any table

Discussion

- Your paragraph on strengths and limitations is quite extensive, try and be more concise if possible
  Done
- You mention that only weekdays were considered in the measure of frequency of breakfast. However the measure for fruit and vegetables is measured for every day of the week. I am wondering whether this leads to a bias in your results. Did you correct for this difference in assessment?

Since the analysis is based on the dichotomy of the variables mentioned this does not involve any distortion in the estimates (breakfast consumption > 3 days). This cut-point was chosen in order to analyze high-risk breakfast habits.

- You do not describe any interventions focusing on irregular intake, are they already available. It could be interested to mention.

There are interventions at the local level but not based on evidence-based

Minor essential revisions

Abstract

Conclusion:
- you do not mention recommendations related to the differences in age and gender

Done

Background
- The reference numbering is not in consecutive order

Done
- A reference for your second reason for the importance of fruit and vegetable consumption in childhood and adolescence is missing in the first paragraph

Sorry for the mistake- Done
- The last sentence of the first paragraph is unclear to me

We changed the sentence in: Such age brackets are therefore a more fertile ground for promote the fruit and vegetable consumption.
- Please add the age of your target population in the aim of your study.

Done

Methods
- The sentence ‘The institutional review board.....was not returned‘ is confusing and includes spellings errors

We changed the sentence in: The Ethics Committee of the National Institute of Health, which approved the protocol, agreed to the use of an opt-out consent form, in which parents were asked to explicitly refuse participation and the lack of a returned form was taken to imply consent to their child’s participation.

- Does the HBSC use one or multiple questionnaires? In the sentence ‘The HBSC study.....distributed in schools’ you mention questionnaires, but in the following sentences you write about ‘the questionnaire’. Please check for inconsistencies.
You are right there is only one questionnaire.

- Please remove the limitation of self-reported weight and height to the discussion section. It is not common to already mention limitations in your methods section.
  Done
- I would prefer to remove the reference to table 1 to the results section
  Done
- The structure of the paragraph on statistics is not clear. Transpose the final sentence of the paragraph on statistics to the beginning. Furthermore, I advise to describe the descriptive statistics before multivariate statistical analyses.
  Done

Results
- Please refer to table 1 in the first paragraph of your results section
  Done
- Please rewrite the second sentence on low fruit consumption on page 8
  Done

Discussion
- I prefer to repeat the aim of the study in the beginning of the discussion section
  Done

Reviewer's report

Overall impression
The manuscript explored the relationship of meal patterns and FV consumption. The research question was clearly defined. The dataset was from a large cross-sectional study with appropriate data collection methods. The data analyses and data reports were however confusing. Some of the discussion points contradicted the results and conclusion. The abstract was not clearly written.

The overall writing needs a lot of work (e.g., grammatical errors and poor logical flow).
  Done

Major Compulsory Revisions
Abstract:
• The method section should include information re FV and meal pattern measurement instruments
  Done
• Gender and age showed to be “modifying factors” – should be “moderators”
  Done

Introduction:
• Confusing sentences - please rewrite “The variables in this research such as fruit intake and vegetable intake and frequency of snacks and breakfast consumption, were observed separately in order to permit for possible variations in the associations between fruit and vegetables and meal type.”

We have changed the sentence in: “The variables in this research such as fruit and vegetable intake and frequency of snacks and breakfast consumption were observed separately because associations may vary by fruit and vegetable and by meal type”

Data analysis:

• Please justify why “Low frequency of fruit and vegetable consumption” was used as a parameter when applying the multivariate logistic regression analyses, which included covariates.

We changed the sentence in: Multivariate logistic regression analyses were used to study the association between meal intake (breakfast and snacks) and low fruit and vegetable consumption. For us, the low intake of fruit and vegetable represents the incorrect behavior and we want to see at which factors risk and/or protection is associated.

Results

• The data presentation needs to be reworded to improve clarity

Done

• “modifying factor” – should be “MODERATOR”

Done

Discussions:

Misinterpretation of the results - “Breakfast did not seem to be determinant of vegetables intake.” Your result indicated that “A significant association between irregular breakfast intake and low frequency of vegetables consumption were found (OR=1.31 (1.07-1.60))”

You are right we corrected our mistake