Reviewer's report

Title: Socioeconomic and demographic factors associated with dietary patterns in a cohort of young Brazilian adults

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Reviewer: Maria João Fonseca

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Reviewer's comments

This is a study based on the Ribeirão Preto birth cohort (São Paulo, Brazil). This cohort started in 1978-79 and participants had 23-25 years old at the time of the follow-up. The authors used socioeconomic and demographic data from the baseline and from the 4th follow-up of the cohort (2002-04). At this follow-up, participants answered a food frequency questionnaire, applied by a nutritionist with the help of a photograph album to estimate portion sizes. The aim of this study was to identify the main dietary patterns among young adults and to investigate their association with socioeconomic and demographic factors at present and with social mobility between birth and 23-25 years old.

The abstract reflects the content of the manuscript but it should be slightly modified. The background summarizes relevant research to provide context, and states clearly the problem being investigated. The content of materials and methods section identifies properly the procedures followed and the results are clearly laid out and in a logical sequence. The discussion is also adequate. However, I have concerns regarding some aspects of the manuscript that I will try to explain below.

- Major Compulsory Revisions

Abstract

1) 2nd paragraph ("methods") - The authors only described how they found the dietary patterns. In my opinion, the methods should be extended. How and when were the other variables collected? Since socioeconomic and demographic factors and social mobility are the author’s main variables, along with the dietary patterns, it should be more detailed in the abstract.

2) 3rd paragraph ("results") - the authors should show the prevalence ratios and its 95% confidence intervals, so the readers could have an idea of the magnitude and significance of the associations and of what has been compared (the reference categories and the others).

Methods
3) 2nd and 3rd paragraphs (study population) - In my opinion, the description of the study sample selection should be more detailed. As I understood, 9,067 children were born at the maternities, corresponding to 98% of all live births. This percentage (98%) corresponds to all the live births that were born in Ribeirão Preto? So where do the other 2% born? At maternities outside Ribeirão Preto, in Ribeirão Preto but at home? I think the denominator of that percentage should be clarified. Of those 9,067, 3.5% refused to participate or had an early discharge. The authors should report how many they were not able to contact (early discharge) and how many refuse. Besides, if this 3.5% refused or had an early discharge they did not participate in the study, so the authors cannot state “A total of 9,067 children … participated in the study”. I suggest the authors to write something like this: “in the study period, there were n live births in Ribeirão Preto, of those n (98%) were born in the maternities. Of those that were born in the maternities, we were not able to contact n (%) due to early discharge. Of the invited, n (%) agreed to participate in the study. Then we excluded children whose families did not reside in the municipality (2,094) and twins (146), being the baseline sample 6,827 singletons. In 2004, 343 subjects have died and we were not able to contact 819.” Then, I cannot understand how the authors go from 5,665 potential participants to 2,061. I realize that the authors have selected a sub-sample. But I do not understand if it was a sub-sample only for this study analysis or if the 2,061 were the only participants that went to the 4th follow-up of the Ribeirãp Preto birth cohort. The authors also did not report how many potential participants were selected, and of those how many they were able to invite, and of those how many refuse. So, all the selection of the study population should be clarified.

4) The data used in this study is from the 4th follow-up, which occurred in 2002 – 2004. Do the authors collected information regarding food frequency questionnaires in the other previous follow-ups? If yes, were the results the same as in the present study? As 10 years have passed since the 4th follow-up, has a 5th follow-up been made? If yes, have the authors tried this analysis with data from that follow-up?

5) 5th paragraph (explanatory variables) - Family income consisted of the sum of the income of all family members residing in the household, converted to multiples of the Brazilian minimum wages for each period. So, as I understand, a family of 3 people who gains 3 minimum wages is in the same category as a family of 7 people who also gains 3 minimum wages. Have the authors tried to divide the income for the family members? Were the results the same?

- Minor Essential Revisions

Abstract

6) 1st paragraph (“background”) - Punctuation is missing and instead of “their association with socioeconomic, demographic factors and social mobility” it should be written “their association with socioeconomic and demographic factors, and social mobility”.

7) 2nd paragraph (“methods”) - The authors wrote “a total of 2,061 young adults
(23-25 years) participating in the follow-up of the Ribeirão Preto birth cohort, São Paulo, Brazil, started in 1978-79 had investigated the food consumption using a food frequency questionnaire”. This sentence is too long and confusing because the subject does not match the verb (that was not the “young adults” that “had investigated the food consumption”, “young adults” were the object of investigation). So, it needs to be rephrased.

8) 3rd paragraph (“results”) - The authors called high income to #20 minimum wages and to #5 minimum wages. Those are very different incomes. Please name them differently, for example “high” and “intermediate”.

Background

9) 6th paragraph - Instead of “the association of socioeconomic, demographic factors and social mobility”, it should be written “the association of socioeconomic and demographic factors, and social mobility”.

Methods

10) 2nd paragraph (study population) – As a Portuguese speaker, I understand what the authors mean by “were left”. However, that expression is not common in English. Please replace it for “were included” for example.

11) 2nd and 3rd paragraphs (study population) – If it is a birth cohort with participants recruited in 1978-79, how come the participants were 23-35 years old in 2004? I think it is an error and it should be written 23-25 years instead of 23-35 years.

Results

12) 1st paragraph – Please replace “group” for “study sample”.

13) Table 1 – In men and women, the authors should also show the absolute number and not just the percentage, as they did for the total sample. Also, they could write both (absolute number and percentage) in the same column as n (%). Thereby, the authors would have one column for the characteristics, one for men, one for women and one for total sample. Also in this table, for an easily reading, the p-values should be at the bottom and not at the top.

14) Tables 1, 3 and 4 - Where it is written “MW, minimum wages: family income at birth (1978) – US$84.0, current family income (2003) – US$ 89.8” and I think it should be written “MW, minimum wages. MW at birth (1978) – US$84.0, current MW (2003) – US$89.8”, because US$84.0 and US$89.8 are the minimum wages in 1978 and in 2003, respectively, and not the mean family income. Please correct me if I misunderstood.

15) Tables 1-6 – The authors wrote the symbols in the legend (*, †, ‡), but they did not write it on the table, so the reader cannot see what corresponds to that legend. If it corresponds to the entire table (not specific to a part of the table), the authors should remove the symbols and just write it on the bottom.

16) Table 5 and 6 – In these two tables there is a complete mismatch between the symbols written on the table and on the legend. In table 5, the authors use * in “Social Mobility*” and in “Adjusted PR*”, but as I understand correctly instead
of “Adjusted PR‡”, it should be “Adjusted PR‡”. In table 6, it is impossible to understand which variables were included in each model, since the authors wrote “Adjusted PR‡” and “Adjusted PR¶” and then in the legend * indicates the sample size and ** does not even exist. The authors should match the symbols written in the table with the ones written in the legend.

Discussion
17) 7th paragraph - The sentence “Subjects with black and brown skin color showed more adherence to the traditional Brazilian pattern, as also reported in other studies [3,16] which explained this as being due to the fact that beans are the most important food in this pattern, representing the principal component of the diet for the low SES population during the colonial period of Brazil” is too long and confusing. The authors should rephrase it.

- Discretionary Revisions

Background
18) I think the background could be improved by exploring a little bit more the importance of this study. The authors describe the importance in the 4th and 5th paragraph, but they may extend this issue.

Methods
19) Regarding the household, the authors explored “married/cohabitating” vs. “single”. Do the authors have information regarding other household characteristics? It would be interesting to analyze other characteristics of the household, for example, “with children” vs. “without children”, “living with parents” vs. “not living with parents” or “higher number of members” vs. “lower number of members”.

Results
20) Tables 3 and 4 - I suggest the authors to merge table 3 and 4 into only one table. Instead of having 4 columns in each pattern the table can have only 2, by writing PR (95% IC), for example 0.79 (0.68-0.92), in just one column.

Discussion
21) 1st paragraph – I suggest the authors to summarize their results in this paragraph. Instead of just saying “The socioeconomic and demographic characteristics and social mobility were associated with the dietary patterns identified among young adults from the Ribeirão Preto birth cohort”, the authors could refer what characteristics and what patterns were associated.

I declare that I have no competing interests.

Maria João Fonseca

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.