Author's response to reviews

Title: Smoking, alcohol and dietary choices: evidences from the Portuguese national health survey

Authors:

Patricia Padrao (patriciapadrao@fona.up.pt)
Ana-Cristina Santos (acsantos@med.up.pt)
Nuno Lunet (nlunet@med.up.pt)
Henrique Barros (hbarros@med.up.pt)

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Author's response to reviews: see over
Dear Dr. Lolu da Silva,

We greatly thank the opportunity to revise our manuscript and the extra time given. We thank very much the referees for their valuable comments. We hope that the point-by-point response to their comments have addressed satisfactory all the issues pointed out.

We have formatted the manuscript according to the journal style.

Yours sincerely,

Patrícia Padrão
Point-by-point description of the changes made according comments and responses to Reviewer report

**Reviewer: Aage Tverdal**

**Major Compulsory Revisions**

Limitations pointed-out:

a) **No quantification of nutritional intake and limited number of food items, and short time registration**

The examination of food groups and not nutrients, relates to the methodology applied in the Portuguese National Health Survey. The data were collected by interviewers within the framework of an epidemiological study that was not specifically designed to assess quantitative aspects of nutritional and food intake; the dietary assessment method employed generic classifications of food, grouped according to their nutritional composition similarity. Although we cannot estimate the specific composition of food recorded neither the quantity, a study with such large number of individuals is expected to reflect individual’s intake. Of course the absence of food quantification is a limitation of the study, but we found interesting results regarding qualitative aspects of dietary behaviours, as like the central food groups recorded and its association with smoking habits.

b) **Missing information on education**

We analysed missing subjects on education, according to smoking status and added one more row in Table 1, showing that information. As the smoking pattern of subjects with missing information on education, was similar to the one presented by those with less than 4 years of education (with higher non-smoking prevalence), the real proportion of smoking would be lower than the one we found. We discussed that limitation, as suggested by the reviewer.

Milk was not included in table 4, not due to the missing information but because the additional information recorded concerning beverages. As the consumption of milk and alcoholic beverages was recorded as a quantitative answer (number of glasses/day and glass capacity) and the mean of each beverage/day was computed, for beverages we
opted to fit multiple regression models to estimate the association between the amount of beverages consumed and the number of cigarettes smoked per day. We added the descriptive of milk consumption in the beverages table, as it was recorded as the other beverages.

Missing information on alcoholic beverages were: wine (9 women, 24 men), beer (9 women, 46 men), brandy (7 women, 68 men), Port wine (14 women, 74 men), and whiskey (11 women and 83 men).

c) Not taking the dependency of life-style choices within household into consideration

We completely agree with the reviewer and tried to take that dependency into consideration. We contacted the Portuguese institution responsible for the Portuguese national health survey (Health Systems Observatory - National Institute of Health – Dr. Ricardo Jorge, Ministry of Health) for clarifying the sampling methodology used, in order to know if it was possible to pick up the information that possibly taking into account in the analysis the interdependency within household. Unfortunately, the present Portuguese survey database does not include the variables needed for considering the multistage design used on this survey (in order to take into account the dependency within cluster). That information is not available for researchers. However such large sample of individuals is expected to be sufficiently robust to reflect the real differences, although the standard errors might be not exactly the real ones. If we were able to take into account de multistage sampling design into consideration, by introducing the cluster variables, the statistical significance of the results, would not be greatly different.

Besides clarifying the sampling methodology we had the opportunity to deeply understand other methodological issues in what concerns the variables used in this study. Therefore we extensively reviewed the statistical analysis and included the new results (more precise), on the paper.

d) Classification of smokers

We considered smokers those who smoke at least one cigarette/day. However, the results were not significantly different when occasional smokers (those smoking less than a cigarette/day - 2.8% of men and 1.3% of women), were included in smoker or in non-smoker category.
Ex-smokers (14.4%) were included in non-smoking category because we believe they would be more similar to non-smokers than to current smokers. However, we can not exclude the occurrence of misclassification, as added in the paper discussion. As in Portugal each cigarette pack contains 20 cigarettes, we chose these smoking categories (1-9; 10-19; 20 and >20 cigarettes/day), also because we wanted to analyse food choices according to different smoking “intensities” as we believe that heavy smokers have increased needs of antioxidant rich foods.

**Minor Essential Revisions**
We tried to improve the language.

**Discretionary Revisions**
As suggested by reviewer we included a comment on how many non-smokers had been previously smokers (14.4%).