Author’s response to reviews

Title: Mistaken perception of lipid intake and its effects: a randomized trial

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Authors’ response to referees

The authors would like to thank all two reviewers for their very insightful questions and comments. We thank them for the effort they have put into this report. We have modified the manuscript and clarified point-by-point each of the raised issues. They have helped to improve the quality of our paper. In the revised manuscript, the changes are written in red font.

With kind regards,

Mariana Carvalho de Menezes, on behalf of all co-authors.
Reviewer 1

This paper presents a study investigating the questions related to the concordance between perceived and actual food consumption, and its effects on intervention strategies and outcomes. The study question is relevant and has clear implications to the practical work.

There are however some concerns in the paper that need to be taken into account to make it more clear, as listed below:

Title of the study: It is in its current form quite unclear and uninformative. Please, consider reformulating it.

Thank you for your suggestion. We have clarified the title in the new version of the manuscript.

1. Background, line 91: It would be helpful for the reader if the authors would very briefly describe the nature of the previously conducted intervention already here, at least what was the main aim of the intervention.

Thank you for your comment. We have clarified this point in the Background section. We were included the main aim of the intervention.

2.1. Study Design and Participants:

line 98: is this previously conducted intervention been published? If yes, it would be very helpful to have a reference for it here. Or if it has not been published, perhaps it also could be mentioned.

Done. The conducted intervention been was published and we were included the reference in Study Design and Participants section.

line 112: to what study population does this refer to?

We have corrected it. Thank you. This was a writing error.

line 116: this sentence refers to the validation of the algorithm. Has the validation study been published? It would be interesting to see also these validation results somewhere, as well as how the validation was done.
There is a study published and we have included the reference (Moreira et al. Eating behavior toward oil and fat consumption versus dietary fat intake, 2014). We have included in the Study Design and Participants section more information about validation of the algorithm.

“In the validation study were administered the algorithm of fat intake and three 24-h dietary recalls every other day, including one weekend day. Initially the subjects were classified according to the algorithm and after they were reclassified according to consumption of fat (24-h dietary recalls).

line 117: "118 individuals remained", were there some specific reasons for drop-outs?

The follow-up losses (n=50) were due declined, insufficient data and problems with health or family. We have included this data in the Study Design and Participants section.

2.2. Measures

line 128: please, describe briefly what was the content of the questionnaire applied?

We have corrected it. Thank you.

line 131: how and in which conditions (e.g. after fasting?) were the anthropometric measurements (weight, height) done?

The weight, height, waist circumference and hip circumference measurements were obtained in the morning (weight using a digital scale, and height, waist circumference and hip circumference using an inelastic measuring tape). The individual was fasting, barefoot and wearing lightweight clothes. All procedures for weight and height measurements were performed according to the guideline of World Health Organization (1995). In order to reach a more accurate measurement, this study considered the following elements: the anatomical placement of the measuring tape, its tightness and the type of tape used; the subject’s posture, phase of respiration, abdominal tension and clothing. Each measurement was repeated three times. If the difference between the two measurements exceeded 1 cm, the measurements were repeated (WHO 1995, 2011). The anthropometric measurements were done just by dietitians trained periodically. We have included this point in the new version of the manuscript.
In this study food consumption was assessed using three 24-h dietary recalls and the supplementary questions about eating different types of dietary fat were addressed [methods of food preparation, including removal of visible fat from red meat and skin from chicken; types of vegetable oil and milk consumed; and frequencies of consumption of fish and high-fat foods were measured in 9 categories (never/almost never, less than 2 times/week, 2 to 3 times/week, 4 to 5 times/week or every day)]. These supplementary questions were performed one time only in the baseline and post-intervention. We have included this point in the new version of the manuscript.

According to the Institute of Medicine, ideally, different methods should be combined to provide a valid assessment of an individual’s nutritional status.

Scientific community consistently considers 24-hour dietary recalls (24 DRs) one of the best methods available to estimating accurately intake of nutrients (including specific types of fat) and foods. However, individual diets can vary greatly from day to day and a measured intake on a single day is a poor estimator of long-term intake. Multiple 24-hour recalls per respondent is deemed to better assess individual usual intakes (WILLET, 2013; IOM, 2000). With this in mind, in this study 24 DRs were applied three times for each individual, on alternate days including the weekend.

All data, including 24 DRs, were collected face-to-face by dietitians trained periodically. This information was added in the text. According to the 24hDR protocol, the participant tells the interviewer the quantity of foods and beverages consumed in the preceding day. The collected data are more reliable due to the personal contact with the interviewer. A standard operating procedure of interviewing was created to reduce the likelihood of interviewer-induced bias. Here are some of the important features and recommendations included: time the interviewee wakes - this helps the individuals to situate in time and space; meal details (location, time); use of household measures to assist participants in portion size determination; for each item of food or drink in the list, respondents should be asked to provide additional detail, including: brand name
where available; any foods likely to be eaten in combination e.g. milk in coffee; recipes and other combinations of foods e.g. sandwiches; any leftovers or second helpings; and so on.


lines 139-142: are there any references for the Dietwin software or the supplemented food composition tables used in the study?

We have included the references for the Dietwin software and food composition tables.


line 149: was lipid intake evaluated based on the mean values obtained by three 24DRs?

Thank you for your question. We have clarified this point in the new version of the manuscript.

2.3. Intervention

line 189: please, consider using the same terminology throughout the manuscript: meetings or workshops (see e.g. Discussion, lines 313, 346, 367)?

Done. We choose workshops and used the same terminology the new version of the manuscript.

3. Results

lines 212-213: overweight is not a chronic disease. Please, reformulate the sentence.
We agree with the reviewer. We have clarified this point in the results section.

line 235: to what do the "n=7" and "n=2" refer? or what about the results concerning lipid consumption for TM-IG non-pseudo-maintenance or UCG pseudo-maintenance? And what about the results concerning body perception for the other groups than TM-IG pseudo-maintenance?

The numbers are the references described percentages and we excluded in the new version of the manuscript. We did not observe significant differences in the lipid consumption and body perception in TM-IG non-pseudo-maintenance or UCG pseudo-maintenance.

4. Discussion

lines 321-326: new results? Should these be presented already in the Results section?

These are results of intervention group/pseudo-maintenance/action. We have included these resulted in the Results section.

line 333: authors could perhaps also discuss what is the impact of the baseline situation, ie. how big changes are needed to obtain lipid intake <30% and how would that have influenced the results?

Thank you for your comment. We have included this point in the new version of the manuscript.

lines 360-361: I would remove the first sentence or reformulate it; the following sentence does not logically follow the idea of the first sentence.

Thank you for your comment. The sentence was changed to facilitate reading and understanding.

lines 373: "particularly changes indicating superior results", to what does this refer to?

We have corrected it. Thank you. We have removed this sentence to improve the clarity of the text.

lines 375-376: based on the 2.3. Intervention (lines 176-177), self-efficacy and decisional balance were already considered when developing the themes of the interventions. So, what do the authors mean by this comment in the Discussion? Please, clarify.
Good point. We have suggested that further studies examine the prediction of the pillars of Transtheoretical Model in changing the eating behavior [i.e., what is the effect of the stimulus control (behavioral process) or self-efficacy in the predicted transitions form pre-action to action]. We have clarified this point in the Discussion section.

5. Conclusion

At the current form, the conclusions do not fully answer the main study questions. Please, consider revising.

Thank you for your comment. We have reviewed the conclusion section in order to answer the main questions of study.

Table 1: line Residents per household: p-values the for the differences between PM-no and PM-yes groups, are they in correct columns?

We have corrected it. Thank you.

Table 2: number of subjects in UCG PM-no group, is it correct (n=altogether 16). One missing?

The number of subjects is correct (n=16), because a person did not answer the algorithm for stage of change classification (post-intervention).

Figure 2: The names of the groups different than in other parts of the manuscript, please revise. The number of the subjects in intervention group/non-pseudo-maintenance/pre-action is missing.

Done. We have corrected the names of the groups in the new version of manuscript and we included the number of the subjects in intervention group/non-pseudo-maintenance/pre-action.