Reviewer’s report

Title: Impact of three different plate colours on short term satiety and energy intake: a randomised controlled trial

Version: 0 Date: 29 Nov 2017
Reviewer: Dalia El Khoury

Reviewer's report:

This is a manuscript of significance within the field of food intake regulation, offering insight into additional environmental factors that should be considered for the design of more effective food intake regulation strategies.

There are some MAJOR revisions that need to be implemented before considering this manuscript for publication:

- Overall: well written manuscript. Some editing and language corrections needed before publication. Example of language problems: "they served" should read "they were served" on page 5 line 118; "lunch was consisted of..." should read "lunch consisted of..." on page 6 line 121; "most of the studies evaluated the effect..." should read "most of the studies that evaluated the effect..." on page 10 line 213; etc.

- Abstract: the Background focuses on the role of red color in regulating food intake. Suggest to make the background more about the emerging research on the role of plate color in the regulation of food intake. In the Methods section, page 2 line 30, authors should specify that lunch was ad-libitum lunch. Authors use the word sensory when referring to VAS scores; this is not clear and needs clarification. Does "sensory" refer to "palatability"? Authors did not specify the times at which VAS scores were collected. For how long VAS scores were collected after the standard breakfast and the ad libitum lunch meal? In the Results section, authors should be more specific regarding the VAS scores. Are they referring to mean VAS scores, changes from baseline, AUC values etc.? are they referring to pre-meal, post-meal or total VAS scores? In the Conclusions section, what do authors mean by "in such studies" on page 2 line 40?

- Keywords: again, suggest not to focus on the "red" color as a main keyword since it is about the plate/food contrast rather than the color itself. Also, suggest to delete the keyword "consumption" since in my opinion there is no difference between "energy intake" and "consumption".

- Introduction: what do authors mean by "domestic" and "external" dishware sizes on page 3, line 49? what do authors mean by "...other studies reported that individual's response to red
colour in nutrition was not direct and generalizable", on page 3 line 67? Authors support their use of pasta, red sauce and soft drinks as healthy meal choices, unlike other studies. Not sure if the use of soft drinks should be promoted as healthy by authors. Suggest to highlight that they are testing the effects of plate color on food intake at regular meal times rather than at snack times, without discussing the healthiness of the meal choices. Again, what do authors mean by "sensory" on page 4 line 83 and line 85?

- Methods: what "questionnaire" are authors referring to on page 4, line 89? is it a screening questionnaire? this should be clarified and described in more details. What was the reason behind the exclusion of "professional athletes”? I don't understand the impact of being an athlete on the outcomes of the study. Why did authors ask participants to complete a Beck Depression questionnaire? this should have been explained with respect to the impact on the outcomes of the study. Why did authors measure body composition? which components of body composition can be assessed through Jawon XScan Plus?

Authors mention on page 5 line 100 that sessions were arranged at one week before menstruation to avoid influence of hormonal imbalances on the outcomes. This is contradicted when they state on page 5 line 107 that there was "one-week washout period between each study day". Authors should clarify or adjust this discrepancy in information. How participants had a standardized dinner? did authors guide them on what to eat the night before the study sessions? Authors describe the different VAS scales assessed; there is nothing about sensory assessment. Authors have referred several times to sensory assessment by VAS, which is not described in the Methods section. Again, authors should specify the times at which these VAS were administered.

- Results: Authors report waist circumference data. Information on body composition analyses performed should have been detailed in the Methods section. VAS data should be analysed and represented in a clearer manner. Authors are reporting on mean VAS scores for the whole testing day. Not sure if these values can reflect the satiety feelings happening before and after the consumption of a breakfast meal or a lunch meal. Suggest that authors re-run the VAS data analyses, describing the effects of plate color on VAS scores after the consumption of the lunch meal...this might reveal more relevant data. In addition, authors should again be more specific about the times at which these scores were collected.

In table 3, authors describe the number of participants for each plate color with respect to the second visit to the buffer. For consistency, suggest that authors provide data on the number of participants per plate color at the first visit as well.

- Discussion: well written. Authors should though comment on the reasons why plate colors had an impact on energy intake at the first visit and not the second visit to the buffet. This is interesting to discuss. Are the effects of plate colors lessened over consumption time of the meal? Also, in the limitations, authors should clearly state that data from this study cannot be generalized to the general population since only women were recruited.
- References: good number and up-to-date

- Figures: figure 1 is not described anywhere in the text. This is missing, and should be described in the text.

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