Author’s response to reviews

Title: Influence of Paleolithic diet on anthropometric markers in chronic diseases: systematic review and meta-analysis.

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Clare Collins, Editor-in-Chief

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As the coordinator of the group of authors of the manuscript "Influence of Paleolithic diet on anthropometric markers in chronic diseases: systematic review and meta-analysis." (NUTJ-D-18-00214), I thank you for the opportunity to answer and explain all questions and comments made by the reviewers. For each question of the reviewers, we explained our point of view in this cover letter and all changes are indicated using a red font in the manuscript.
Reviewer #1:

Question 1:
How did the various authors assess the fidelity to the assigned study diet?
How was the paleolithic diet defined in each study?
What else was the control diet and how was that defined in each study?
I did not see a commentary on the methods of dietary assessments. Was this via food frequency questionnaire, 24 hour dietary recall or weighed food records? Self report?

Without knowing how diet fidelity is assessed it is difficult to know the efficacy of the intervention.

Answer 1: We agree with the reviewer. Thank you for your suggestion. We added table 1 with all this information.

Question 2:
Line 1. Please define FAD diet.

Answer 2: “Numerous diets are recommended in an attempt to combat NCDs, whether in the preventive or control setting. Food and nutrition organizations in different countries set guidelines for healthy diets. In parallel, there is a growing popularity of “fad diets” that are spelled out in magazines and social media, especially appealing for quick results and with the weight loss approach. These diets generally have no scientific basis and can harm the health of those who adopt them.”

Question 3:

Line 11. Please define Mediterranean diet.

Answer 3: “One of the most accepted diets for the treatment and prevention of CNCD is the Mediterranean diet, which is characterized by a high intake of cereals, vegetables, fruits and olive oil; a moderate intake of fish and alcohol, mainly wine; and low intake of dairy products, meat and sweets.”

Question 4:
Line 25. Please limit the timeline to when Homo Sapiens were first identified as a species. Or define which ancestral species to which you refer.

Answer 4: We agree with the reviewer. Thank you for your suggestion.

“The Paleolithic diet has been gaining ground in the field of fad diets. It is based on food patterns of human Paleolithic ancestors, about 2.6 million to 10,000 years ago, a period that precedes the advent of industrial agriculture and is different from today’s modern society. In this period, the presence of hominins species (bipedal primates), a term previous to hominids, stood out. Food choices varied, since men were hunter-gatherers and often moved in search of food availability, which in turn varied according to geographic location and climate. However, there are universal characteristics of pre-agricultural hominin diets that are useful for understanding how the present Western diet may predispose modern populations to chronic diseases9. Although diets differed in the composition of macronutrients and in the proportion of food of animal and vegetable origin, there was a relatively common point in relation to exclusions, given the lack of some types of food in that period, such as dairy products, salt, alcohol, sugar, cereals and processed products10,11.”

Question 5:
Line 5-15 please more clearly state which measures were of interest. Did you require a control diet arm. Not clearly stated.

Answer 5: “The present study aims to analyze the influence of the Paleolithic diet in comparison with other dietary patterns in the prevention and control of diseases that are not transmissible in humans, focusing on anthropometric and body mass variables (weight, body mass index and waist circumference) through a systematic review with meta-analysis.”

Question 6:
Line 58-60 please clarify how the list of studies were identified and then merged into one list. Were studies rejected or included only be consensus?

Answer 6: We agree with the reviewer. Thank you for your suggestion.

“In the first screening, from the reading of title and abstract, were selected articles on the theme that answered the two key questions: “Was the study conducted with humans?” and “Does the study evaluate the relationship of the use of the Paleolithic diet in the prevention and control of CNCD?”. When title and abstract were not enlightening, the article was searched in its entirety. This evaluation was done by two researchers independently. After this screening, each researcher
presented a list of potential articles. The two lists were compared and with the results was constructed a single list. In case of divergence, the article was evaluated by a third researcher.”

Question 7:

Line 30 to 36. Please list and define the control diets.

Answer 7: We agree with the reviewer. Thank you for your suggestion. We added table 1 with all this information.

Reviewer #2:

Question 1:

1) Could the authors distinguish the potential benefits of a Paleolithic regime, in particular, on the different benefits expected by practitioners.

Do the authors believe that this diet is practiced with the primary intention of losing weight? Please comment on this aspect in the introduction.

Answer 1: We agree with the reviewer. Thank you for your suggestion. We comment on this aspect in the introduction.

“Numerous diets are recommended in an attempt to combat NCDs, whether in the preventive or control setting. Food and nutrition organizations in different countries set guidelines for healthy diets. In parallel, there is a growing popularity of “fad diets” that are spelled out in magazines and social media, especially appealing for quick results and with the weight loss approach. These diets generally have no scientific basis and can harm the health of those who adopt them.”

“However, there are universal characteristics of pre-agricultural hominin diets that are useful for understanding how the present Western diet may predispose modern populations to chronic diseases. Although diets differed in the composition of macronutrients and in the proportion of food of animal and vegetable origin, there was a relatively common point in relation to exclusions, given the lack of some types of food in that period, such as dairy products, salt, alcohol, sugar, cereals and processed products.”
Question 2:

2) The authors should attempt to explain this apparent contradiction with hypothesis in the discussion.

Answer 2: We agree with the reviewer. Thank you for your suggestion.

“The results of this study were significant for weight loss, although they were not expressed in relation to BMI and waist circumference. This can be due to the great heterogeneity of diets, small samples, short time of interventions and the different methodologies of evaluation of patients during the studies.”

Question 3:

3) The authors would benefit from stating some physiopathological mechanisms that could explain their results in the discussion section.

Answer 3: We agree with the reviewer. Thank you for your suggestion.

“A possible hypothesis to explain the effect of the Paleolithic diet on weight loss, is its satietogenic effect, as verified by Bligh et al., 201538, who tested the acute effect of meals based on the Paleolithic diet on biochemical markers of satiety compared to a guideline-based diet (WHO). Twenty-four men aged between 18 and 60 years old were healthy and had BMI between 18 and 27 Kg/m2. Concentrations of glucagon-1 (GLP-1) and Peptide YY (PYY) peptides were significantly increased over 180 minutes with the use of different formulations of the Paleolithic diet compared to the control diet.”

Question 4:

4) In the conclusion section, please add "a limitation sections", if possible.

Answer 4: We agree with the reviewer. Thank you for your suggestion.

“For future reviews, a greater number of quality clinical trials is required for better definitions. A longer follow-up and larger sample size are recommended in future clinical trials on the subject, besides a greater standardization of the Paleolithic diet used. Studies presenting the biochemical results and proven pathophysiological mechanisms of this diet are also scarce.”