Reviewer’s report

Title: Association between dietary patterns and metabolic syndrome in a sample of Portuguese adults.

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Reviewer: Fernando Rodríguez-Artalejo

Reviewer’s report:

This manuscript examined the association between dietary patterns (defined a posteriori) and the prevalence of metabolic syndrome (MS) and its components in a sample of adults from Porto (Portugal). The main finding was the lack of association between the dietary patterns and MS after adjustment for the main potential confounders.

The study topic is original, because of the paucity of research on a posteriori dietary patterns and MS. The study methods are correct overall. Moreover, authors used some novel methods (finite mixture models) to define a posteriori dietary patterns which may have some advantages over traditional approaches like factor or cluster analyses.

This work could be improved by considering the following (minor essential) comments:

1. In the Abstract, please report the date of data collection and the city (Porto) where the study was performed. Moreover, in the conclusion please state why the results of this manuscript are of practical relevance.

2. In the Introduction, I do not understand the meaning of the following sentence: “Also it is uncertain whether the observed association reports the effect of a single food or nutrient...”. Please, explain or rephrase it.

3. In Methods, please explain whether the study sample is representative of the adult population of Porto.


5. In reference 14, please add the year of publication.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published
**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

'I declare that I have no competing interests’