

LETTER TO THE EDITOR

Response to the critical analysis of the article ‘Comparison and convergent validity of five Mediterranean dietary indexes applied to Brazilian adults and older adults: data from a population-based study (2015 ISA-Nutrition)’

(Received 4 June 2023 – Final revision received 14 June 2023 – Accepted 15 June 2023)

Journal of Nutritional Science (2023), vol. 12, e77, page 1 of 2

doi:10.1017/jns.2023.60

We appreciate the careful reading and critical aspects brought by Cheo *et al.* (in press)⁽¹⁾ of our article titled ‘Comparison and convergent validity of five Mediterranean dietary indexes applied to Brazilian adults and older adults: data from a population-based study (2015 ISA-Nutrition)’⁽²⁾. As a subject still poorly explored in Brazilian populations and as connoisseurs of the characteristics of the database, bringing our point of view regarding their additional comments is pertinent.

Different population characteristics act as dietary determinants. However, most research with this approach, including those cited by the authors, directed at the Mediterranean dietary pattern (MDP), involves Mediterranean populations^(3–5). Even referring to cross-sectional data focused on the Brazilian population, it is a robust study working with a representative sample of the foremost industrial centre in Brazil and the largest population in the Americas. In addition to probably differing when considering a Brazilian sample, not only such factors influence adherence to the MDP, but also the diet quality based on the Brazilian Healthy Eating Index-Revised (BHEI-R) as shown by Aline *et al.*⁽⁶⁾ that investigated the same sample as our study. Thus, this critical comment would also apply to studies with the same objective involving other dietary patterns. Also, as in most studies, the investigation is around a sample of a specific country. However, as our sample is restricted to the Brazilian city of São Paulo, recognised as a limitation of our study, we carefully reinforced the impossibility of generalising our results to other countries and other regions of Brazil.

The study cited by the authors, which points to a high prevalence of substance abuse in Brazil, apparently included a younger population (aged 12–65 years old) compared to our study (aged 20–95 years old). The consumption of illicit drugs in 2015 in Brazil was estimated at 3.2%, and

dependents are 0.8% of the population. In addition, the same data show a higher prevalence (7.4%) at younger ages (18–24 years old) and less prevalent (1.1%) at older age groups (55–65 years old)⁽⁷⁾. We consider that these data are irrelevant to the point of compromising our results.

Regarding eating disorders, the Global Burden of Diseases⁽⁸⁾ reported a prevalence of only 0.25% in Brazilians, dropping to 0.16% when considering only individuals over 20. In the sample we investigated from the 2015 Health Survey of São Paulo with Focus on Nutrition Study (2015 ISA-Nutrition)⁽⁹⁾, some variables linked to the behaviour of people with eating disorders were collected; we now bring their description. Regarding body weight dissatisfaction, 62% of the sample referred to not adopting any strategy to lose weight. Still, 95% reported not changing their eating habits or following a modified diet. We do not consider this aspect an essential exclusion factor based on such facts. The same can be thought about mental health status, as 85% of the sample is unaffected by any mental disorder.





Socioeconomic status and food environment influence diet, and some studies within this perspective, have already been carried out with data from the 2015 ISA-Nutrition. The *per capita* household income was identified as the main determinant of inequality in diet quality in adolescents, adults and older adults⁽⁶⁾. Among adolescents, higher family income (OR 2.56; CI 95% 1.47, 4.45) and street markets closer to households (OR 1.73; CI 95% 1.01, 3.00) were associated with higher consumption of fruits and vegetables⁽¹⁰⁾. We are unaware of studies carried out in the context of the Mediterranean diet in Brazilian samples.

Admittedly, the pandemic has resulted in changes in lifestyle across the world. This limitation is part of all investigations



carried out before this period. After this period, studies with the Brazilian population showed changes varying between greater consumption of fast food and instant meals⁽¹¹⁾, using more food delivery services, and prioritising homemade meals and fresh food⁽¹²⁾. This is an unquestionable factor that needs to be further clarified by future studies.

Finally, it is important to mention that despite the influence of such factors on adherence to the MDP, all the mentioned factors equally affected each Mediterranean dietary index since the same sample and methodology were applied to every Mediterranean dietary index. Assessing barriers to food access and other factors affecting adherence to the Mediterranean diet goes beyond the aim of the present analysis. However, we appreciate the comments, as a starting point for a future analysis. Thus, the points addressed by the authors brought pertinent analyses on the topic of our research.

Amália Almeida Bastos ^{1,*}, Paula Victória Félix ¹,
Michelle Alessandra de Castro², Regina Mara Fisberg¹,
Mary Yannakoulia ³ and Sandra Maria Lima Ribeiro ^{1,4}

¹Department of Nutrition, Public Health School, University of Sao Paulo, São Paulo, Brazil

²School of Feeding Coordination, São Paulo City Hall, São Paulo, Brazil

³Department of Nutrition and Dietetics, School of Health Sciences and Education, Harokopio University, Athens, Greece

⁴School of Arts, Sciences and Humanities, University of Sao Paulo, São Paulo, Brazil

*Corresponding author: Amália Almeida Bastos,
email aabastos@usp.br

Acknowledgements

The authors express their gratitude to ISA-Capital staff; to the Food Consumption Research Group (GAC) researchers for providing the necessary data on which the study was based. A. A. B. acknowledges support (scholarship) from the Research Support Foundation of the State of São Paulo (FAPESP).

This work was supported by the São Paulo Municipal Health Department (grant number 2013-0.235.936-0), Research Support Foundation of the State of São Paulo (grant numbers #2012/22113-9, 2017/05125-7), the National Council for Scientific

and Technological Development (grant numbers #472873/2012-1, 402674/2016-2) and Research Support Foundation of the State of São Paulo (process number 2019/24213-0).

The authors report the non-existence of any conflict of interest.

References

1. Cho J, Shah V & Lo DF (in press) Comparison and convergent validity of five Mediterranean dietary indexes applied to Brazilian adults and older adults: data from a population-based study (2015 ISA-Nutrition): a critical analysis. *J Nutr Sci* **12**, 1–6.
2. Bastos AA, Félix PV, Castro MA, *et al.* (2023) Comparison and convergent validity of five Mediterranean dietary indexes applied to Brazilian adults and older adults: data from a population-based study (2015 ISA-Nutrition). *J Nutr Sci* **12**, e12.
3. Navarro-Martínez R, Mafla-España MA & Cauli O (2022) Mediterranean diet adherence in community-dwelling older adults in Spain: social determinants related to the family. *Nutrients* **14**, 5141.
4. Maugeri A, Barchitta M, Fiore V, *et al.* (2019) Determinants of adherence to the Mediterranean diet: findings from a cross-sectional study in women from southern Italy. *Int J Environ Res Public Health* **16**, 2963.
5. Ruggiero E, Di Castelnuovo A, Costanzo S, *et al.* (2019) Socioeconomic and psychosocial determinants of adherence to the Mediterranean diet in a general adult Italian population. *Environ Res Public Health* **29**, 328–335.
6. Mello AV, Sarti FM, Pereira JL, *et al.* (2018) Determinants of inequalities in the quality of Brazilian diet: trends in 12-year population-based study (2003–2015). *Int J Equity Health* **17**, 72.
7. Bastos FIPM, Vasconcelos M, De Boni RB, *et al.* (2017) *III Levantamento Nacional sobre o uso de drogas pela população brasileira*. Rio de Janeiro: FIOCRUZ/ICICT.
8. Institute for Health Metrics and Evaluation (IHME) (2019) GBD compare. <http://vizhub.healthdata.org/gbd-compare> (accessed 17 May 2023).
9. Fisberg RM, Sales CH, Fontanelli MM, *et al.* (2018) 2015 health survey of Sao Paulo with focus in nutrition: rationale, design, and procedures. *Nutrients* **10**, 169.
10. Nogueira LR, Fontanelli MM, Aguiar BS, *et al.* (2018) Access to street markets and consumption of fruits and vegetables by adolescents living in São Paulo, Brazil. *Int J Environ Res Public Health* **15**, 517.
11. Souza TC, Oliveira LA, Daniel MM, *et al.* (2022) Lifestyle and eating habits before and during COVID-19 quarantine in Brazil. *Public Health Nutr* **25**, 65–75.
12. Ferreira Rodrigues J, Cunha Dos Santos Filho MT, Aparecida de Oliveira LE, *et al.* (2021) Effect of the COVID-19 pandemic on food habits and perceptions: a study with Brazilians. *Trends Food Sci Technol* **116**, 992–1001.