

The Planetary Health Diet Index scores proportionally and considers the intermediate values of the EAT-Lancet reference diet

Dear Editor:

We read with interest the recent article by Stubbendorff et al. (1) on the development of a new diet index based on the EAT-Lancet reference diet and the association of this index with mortality in a Swedish population. The new index proposed by Stubbendorff et al. has 14 components, each of which can be scored between 0 and 3 points. The findings of the study are relevant and contribute to scientific evidence that adherence to a sustainable diet—in this case, the proposal by the EAT-Lancet Commission (2)—is beneficial to health.

The authors state that “the EAT-Lancet diet consists of food components for which defined target intake levels and reference intervals (range) are suggested.” The authors state that some indices were developed to assess adherence to the EAT-Lancet diet (3–5), but there is no consensus on how to quantify the diet. Furthermore, the proposed methods vary depending on “the scoring method used and the interpretation of foods to emphasize and limit.” The authors also report that the indices “limited possibility to capture intake variation outside proposed reference levels of the EAT-Lancet diet as they are comprised of binary food components.” We believe that the authors are mistaken in this statement. One of the diet indices cited in this sentence, the Planetary Health Diet Index (PHDI) (4), not only uses all the range values contained in the EAT-Lancet report but also does not limit the possibilities for some food groups, such as the adequacy component that comprises fruit, vegetables, legumes, whole cereals, nuts, and peanuts. In the PHDI, individuals who have consumption above the recommended in the adequacy components score 10 points.

The PHDI development and validation process has been extensively described (4), and in the details of the development, the authors explain how the reference values and possibility ranges were used to build the cutoff points for each of the 16 components that comprise the PHDI. Furthermore, the PHDI does not provide a binary score but gradually changes as component consumption increases or decreases. According to the literature, this type of scoring criterion can provide better discrimination between the degrees of adherence in a population (6).

Stubbendorff et al. (1) also state that their new index is based on a novel scoring system that measures the degree of adherence to the proposed EAT-Lancet, thereby improving its ability to differentiate between individuals’ dietary patterns and associated sustainability performance. However, this strategy has been used previously, as the PHDI gradual scoring criteria allow one to verify the distribution

of the evaluated population, distinguish the levels of individual adherence, verify the association between adherence to the EAT-Lancet diet and higher overall dietary quality (4), lower the carbon footprint (4), and lower the odds of overweight and obesity (7).

Despite these points, Stubbendorff et al. (1) have provided important evidence on the relation between adherence to the EAT-Lancet diet and mortality. We hope that further studies using these EAT-Lancet adherence assessment indices can be conducted to improve its validity and elucidate its benefits.

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References

1. Stubbendorff A, Sonestedt E, Ramne S, Drake I, Hallström E, Ericson U. Development of an EAT-Lancet index and its relation to mortality in a Swedish population. *Am J Clin Nutr* 2022;115(3):705–16.
2. Willett W, Rockström J, Loken B, Springmann M, Lang T, Vermeulen S, Garnett T, Tilman D, DeClerck F, Wood A, et al. Food in the Anthropocene: the EAT-Lancet commission on healthy diets from sustainable food systems. *Lancet* 2019;393(10170):447–92.
3. Knuppel A, Papier K, Key TJ, Travis RC. EAT-Lancet score and major health outcomes: the EPIC-Oxford study. *Lancet* 2019;394(10194):213–4.
4. Cacau LT, De Carli E, de Carvalho AM, Lotufo PA, Moreno LA, Benseñor IM, Marchioni DM. Development and validation of an index based on EAT-Lancet recommendations: the Planetary Health Diet Index. *Nutrients* 2021;13(5):1698.
5. Hanley-Cook GT, Argaw AA, de Kok BP, Vanslambrouck KW, Toe LC, Kolsteren PW, Jones AD, Lachat CK. EAT-Lancet diet score requires minimum intake values to predict higher micronutrient adequacy of diets in rural women of reproductive age from five low- and middle-income countries. *Br J Nutr* 2021;126(1):92–100.
6. Burggraaf C, Teuber R, Brosig S, Meier T. Review of a priori dietary quality indices in relation to their construction criteria. *Nutr Rev* 2018;76(10):747–64.
7. Cacau LT, Benseñor IM, Goulart AC, Cardoso LO, Lotufo PA, Moreno LA, Marchioni DM. Adherence to the Planetary Health Diet Index and obesity indicators in the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). *Nutrients* 2021;13(11):3691.

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