

# Clarification on the Nature and Availability of Dietary Microplastic Intake Data Used in Wang et al. (2025)

Carmelo M. Vicario<sup>a</sup> Francesco Tomaiuolo<sup>b</sup>

<sup>a</sup>Department of Cognitive, Psychological, Educational and Cultural Studies, University of Messina, Messina, Italy; <sup>b</sup>Department of Clinical and Experimental Medicine, University of Messina, Messina, Italy

## Keywords

Microplastic intake · Cardiovascular risk · Reproducibility · Data transparency

Dear Editor,

We read with great interest the recent article by Wang et al. [1], “Association between Dietary Microplastic Intake with All-Cause and Cardiovascular Diseases Burden: A Global Analysis Based on GBD 2021,” published in *Neuroepidemiology*. The topic is timely and important. However, we respectfully request clarification on a key methodological point: the origin, construction, and availability of the dietary microplastic intake dataset used as the exposure variable.

In the Data Sources section on page 2, the authors state: “The dietary MP data in this study were retrieved from the first global study on MP intake levels. This study calculated the absorption rates of MPs from dietary intake based on dietary structures and corresponding MP concentrations across 109 countries.” The only reference matching this description is Zhao and You [2], cited as reference [16] on page 10. However, Zhao and You [2] did not publish the underlying country-level ingestion values, nor the disaggregated food category × country estimates needed to reconstruct or verify the dataset used in Wang et al. [1].

Because these data are not included in the Supplementary Information of Zhao and You [2], nor in the

supplementary materials of Wang et al. [1], the exposure dataset is not publicly accessible. This raises questions regarding how the country-level intake values were obtained. Clarification is therefore needed on: (1) whether the authors received these data directly from Zhao and You [2], independently reconstructed them, or relied on unpublished materials; (2) whether a disaggregated dataset exists; (3) whether identical food-specific microplastic concentration values were applied across all countries; and (4) whether the exposure values reflect actual measured contamination or are primarily modeled from national food consumption patterns.

In addition, if a country-level microplastic intake database was independently constructed by the authors following the methodological specifications of Zhao and You [2], such a dataset should be made publicly available. Providing this resource would greatly enhance transparency, enable independent replication of the results, and allow the scientific community to assess the validity and robustness of the exposure estimates. Furthermore, without detailed information on how these estimates were derived, it is difficult to exclude the possibility that the reported associations may – at least in part – reflect differences in total food intake rather than true variations in microplastic exposure. Since overall dietary quantity and composition are well-established determinants of cardiovascular risk, e.g., [3], distinguishing

these effects is essential for correctly interpreting the associations described. Clarifying the origin, structure, and level of aggregation of the dietary microplastic intake dataset would substantially strengthen the transparency and interpretability of the findings.

### Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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### Author Contributions

Carmelo M. Vicario: writing – original draft, review and editing, and conceptualization. Francesco Tomaiuolo: writing – review and editing and conceptualization.

### References

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- 3 Powell-Wiley TM, Poirier P, Burke LE, Després JP, Gordon-Larsen P, Lavie CJ, et al. Obesity and cardiovascular disease: a scientific statement from the American heart association. *Circulation*. 2021;143(21):e984–1010. <https://doi.org/10.1161/CIR.0000000000000973>