Movement Disorders
CLINICAL PRACTICE

LETTER: PUBLISHED ARTICLE

Reply: "Enhancing Parkinson's Disease Research: Recommendations for Addressing Genetic and Environmental Influences in Family History Studies"

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We would like to thank Dr. Zhu and colleagues[1] for their interest in our study titled "Family History in Parkinson's Disease: A National Cross-Sectional Study."[2]

We fully support the idea that comprehensive data, including environmental exposures, lifestyle, and socioeconomic factors, are needed to better understand the pathogenesis and demographic distribution of Parkinson's disease (PD). In the specific case of our work, these aspects fell beyond its primary objective. However, several demographics as well as more in-depth phenotype data were collected and will be used to stratify the population for further analysis.

We firmly believe that PD has a multifactorial etiology, resulting from the combination of acquired factors and genetic predisposition. Several environmental factors have substantial evidence of association with PD.[3] Furthermore, the immune response to infectious agents and chronic immune activation are emerging as additional factors that increase the risk of developing PD in predisposed people.[4] However, a clear definition of the effect of these factors is still lacking, as many studies on environmental factors show conflicting results, and data on possible acquired factors are often collected retrospectively, likely leading to an underestimation of their true role in disease risk.[5]

Similarly, the most prevalent genetic determinants associated with PD mainly act as risk factors, and the extent to which nongenetic contributions modulate penetrance remains inadequately investigated.

We believe that the challenge of obtaining reproducible data in studies focusing only on either acquired or genetic factors is likely due to the interplay between these 2 aspects in PD pathogenesis.

Regarding the categorization method for labeling cases, we would like to underline that only cases identified as certain (ie, diagnosed by a neurologist expert in movement disorders) were included in the comparative analyses, as this selection was intentionally made to ensure a more cautious and conservative approach. We thank our colleagues for suggesting the use of imputation techniques to more effectively address the statistical bias that can be introduced by missing data.

Finally, we strongly support the establishment of a surveillance and early intervention program specifically for high-risk families. Increasing awareness of early PD symptoms and potential risk factors is essential not only for ensuring timely and comprehensive care but also for facilitating access to emerging disease-modifying clinical trials.

We hope that our constructive dialogue can foster active engagement and interest in more collaborative studies on the pathogenesis of PD.

Author Roles

(1) Manuscript preparation: A. Writing of the first draft, B. Review and critique.

F.A.: 1A
E.M.: 1B
A.D.F.: 1B

Disclosures

Ethical Compliance Statement: We confirm that the approval of an institutional review board or informed patient consent was not required for this work. We confirm that we have read the journal's position on issues involved in ethical publication and affirm that this work is consistent with those guidelines.

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Keywords: environmental exposure, family history, parkinson's disease.

Received 14 February 2025; accepted 17 February 2025.
Published online 2 April 2025 in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/mdc3.70034

Funding Sources and Conflicts of Interest: No specific funding was received for this work. The authors declare that there are no conflicts of interest relevant to this work.

Financial Disclosures for the Previous 12 Months: The authors declare that there are no additional disclosures to report.

Acknowledgment

Open access funding provided by BIBLIOSAN. ■

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