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Manuscript Title: Connecting inorganic mercury and lead measurements in blood to dietary source of exposure that may impact child development

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Reviewer #1

Authors:

Thank you very much for your careful review. Your suggested changes for revision enabled us to clarify our findings and improve the quality of our manuscript. We feel it is now a much better tool for clinicians and researchers to use as a guide in gathering the data needed to further the advancement of the macroepigenetic model. Following are our individual responses to your concerns.

Concern#1: We have re-written the statement “ultra-processed food consumption continues to be a source of heavy metal exposure, especially in the case of inorganic mercury and lead.....” What we want to convey is our concern about multiple dietary chemical exposures. We found a new reference to help us introduce the concept of co-exposures and their impact on child development. We have added a few new sentences citing the new reference to soften the blow.

The new section of the paragraph of concern reads,

“Evidence suggests ultra-processed food consumption may be a source of heavy metal exposure not often considered, especially in the case of inorganic mercury and lead^[24- 28]. Both elements are neurotoxic. In a recent review, Dorea^[29] reported low-level exposures to lead concurrent with other neurotoxic substances such as mercury and arsenic, show a measurable impact on child neurodevelopment. In addition, children with ASD and ADHD continue to show elevated levels of Hg and/or Pb in their blood^[30-39].

Concern #2:

We have added to Table 1 the sample sizes that were required by each study cited in the last column of the table. Sample sizes and biologic tissue types analyzed during the studies are now noted in column two of Table 1.

Authors: Thank you for this excellent suggestion!

Concern #3:

References are now properly formatted in accordance with BPG Guidelines and Requirements for Manuscript Review and BPG Guidelines for Editing Review Articles.

Authors: Thank you for catching these reference issues!

Science Editor Comments:

Authors:

Thank you for clarifying the requirements of the journal for each topic.

1. **Title:** Our title is no more than 18 words in length as required.
2. **Format:** The manuscript has 1 figure and 2 tables. The figure and the tables are provided as separate files.
3. **References:** There are now 102 references, including 37 articles published in and after the year 2018. This figure covers current websites such as the U.S. Code of Federal Regulations.
4. **Self-cited references:** We removed one of the self-citations and replaced it with a more current 2016 publication with the same findings (different author). There are now six self-cited references by Dufault. $6/102 = 0.058$ which is close to .06... multiplied by 100 = less than 6% (within the 10% tolerance guideline).
5. **Power point slide of Figure 1** is provided in a file separate from the manuscript and the color of the shapes have been changed so that there is no more RED or GREEN as per the editing GUIDELINES. Please know that Figure 1 is original and produced by Dr. Dufault.

Company Editor-in-Chief Comments:

Authors: Thank you for providing us with the Criteria for Manuscript Revision documents. We found them extremely helpful! We hope we have now formatted the manuscript in accordance with the BPG Guidelines ...the abstract now meets the minimum 200-word count requirement, the text is now in 12 pt Book Antiqua

font and spaces have been eliminated between superscript reference numbers. We have combed through the manuscript looking for errors and done our best to find and correct them.

All authors have approved this manuscript for submission. The content has not been published elsewhere. If you have any questions, please contact me at rdufault@atsu.edu or rdufault@foodingredient.info I can also be reached at 808-345-6864.

Thank you for your consideration.

A handwritten signature in black ink that reads "Renee Dufault". The signature is written in a cursive, flowing style.

Dr. Renee Dufault
Retired Public Health Service Officer
Executive Director
Food Ingredient and Health Research Institute