Reply to comment to: Blood mercury concentration in relation to metabolic and weight phenotypes using the KNHANES 2011–2013 data

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Dear Editor,

I am writing in response to the Letter to the Editor about my article entitled “Blood mercury concentration in relation to metabolic and weight phenotypes using the KNHANES 2011–2013 data” that is published in the *Int Arch Occup Environ Health*. 13 October 2017. <https://doi.org/10.1007/s00420-017-1269-0>.

In the letter by Mortazavi SMJ and Mortazavi G, they commented shortcomings about confounding factors related to concentration of blood mercury level. The suggested that confounding factors are size of the dental fillings, the composition of amalgam, factors which cause load over amalgam restorations and exposures to electromagnetic fields (EMF), and X-rays related to mercury release from dental amalgam restoration.

Regarding these suggestions, it would be necessary to find the relationship between dental amalgam restorations and blood mercury level. I found two studies for the relationship between dental amalgams and blood mercury levels. In a longitudinal study in ten subjects, there was no significant increase in blood mercury levels at 7 and 30 days after placement of an amalgam retroseal (Skoner et al. 1996). In contrast, in another clinical study for 14 patients, the blood mercury level at 1 week after endodontic root and surgery with amalgam was significantly higher than blood mercury levels before the surgery (Saatchi et al. 2013). Although

second study presented a possible relationship between dental amalgams and blood mercury level, further studies considering a large number of subjects and longer follow-up will be necessary to resolve these inconsistent results.

Unfortunately, the KNHANES data did not provide data for dental amalgam restorations and exposures to EMF and X-rays, and then, there is no information for the suggested factors. As said in discussion, I believe that dietary mercury intake may be main contributing source of blood mercury level (Centers for Disease Control and Prevention 2017; Kim et al. 2016).

References

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