Author's response to reviews

Title: Exposure Assessment of Dietary Cadmium: Findings from Shanghainese over 40 years, China

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Author's response to reviews: see over
Dear editors,

Thank you for your letter of regarding our revised manuscript entitled “Exposure Assessment of Dietary Cadmium: Findings from Shanghainese over 40 years, China” (Ms. ID: 1843381576886802). We are very pleased to be asked for a revision and appreciated by three reviewers for the experimental design. We found the comments and suggestions of the reviewers to be extremely helpful.

We have sought the assistance of professional editing service Edanz to edit the language as you recommended. Please find our uploaded revisions and responses on separate sheets. We would like to re-submit it for your consideration. The amendments were highlighted in red in the revised manuscript. Line numbers were also showed for reviewers’ convenience reading. Point by point responses to the reviewers’ comments are listed below.

Thanks again for your consideration of our manuscript for publication in your journal. We look forward to your favorable decision.

With best wishes,

Yours sincerely

Ping He
Comment from reviewer 1:

Minor Essential Revisions
Comment n.3) Interpretation of results is generally balanced and supported by the data. Authors should indicate NML for each food categories.
Answers: Table 5 was added in the revised version.
Authors indicated NML for each food categories in Table 6 [Comparison of Cadmium Maximum Levels (MLs) in Foodstuffs (mg/kg)] of revised version.
Answers:
Thanks for the reviewer’s good evaluation. We have corrected it in the revised version as table 6 showed MLs in foodstuffs. (Page 11, row 6 and Page 23)

Comment from reviewer 2:

Major Compulsory Revisions
1) confusion still exist between "exposure" and "risk"
Answers:
Thanks for the reviewer’s good evaluation and kind suggestion.
This study includes two parts and it is very much a step by step process. First, it aims at deriving a quantitative evaluation of the aggregated intake levels of cadmium via food. Second, the health risk of the residents who were exposed on the contaminants are assessed by compared with international standard such as provisional tolerable weekly intake.

2) number of sampled peoples
Answers:
Thanks for the reviewer’s good evaluation and kind suggestion.
The question was answered in question 9 in last version.
The formula of sample size estimation was list below:
\[ n = \left( t_{1-\alpha} \times S/ \delta \right)^2 \]

\( n \): sample size
\( \alpha \): testing level
\( S \): the sample standard error
\( \delta \): the allowed error
\( t_{1-\alpha} \): \( 1-\alpha \) percentile corresponded to the probability density curve of t distribution.

In this study, \( \alpha \) was set as 0.05; We picked up food items such as rice, pork, vegetables and what local inhabitants ate as the main food. These data was chosen as
the parameter of the sample standard error. According to the Chinese national dietary research in 2000 for adults, we assumed the sample standard of rice, pork, vegetable and fish were 114.3, 54.33, 98.98 and 85.58 respectively. The allowed error was assumed to be 10-20. Then the sample size was about 200-400. It was also difficult to enlarge the size by consideration of the expenditure of time and money.

3) including only the aged portion of the population

Answers:
Thanks for the reviewer’s good evaluation and kind suggestion. The question was answered in question 11 in last version. Adults and children are the two sensitive populations on non-occupational cadmium exposure. The study aimed at deriving the cadmium level and assessing the health risk on adults over 40. Other method needed to be used to evaluate the exposure level and risk when studying on children. The food frequency questionnaire used in this study is not suitable for children, because parents or teachers will be the one we asked about the children or students’ dietary intake. It will cause bias and spend more time. References also indicated intelligence injury could happen in child when exposing on cadmium, so psychomotor development also need to be investigated. Besides blood samples of children is not easy to collect. In further study, we will focus on children cadmium exposure with proper evaluation methods.

Minor Essential Revisions

1) typewriting
2) English editing

Answers:
Thanks for the reviewer’s good evaluation and kind suggestion. We have sought the assistance of professional editing service Edanz to edit the language.

Comment from reviewer 3:

Minor essential revision

1) figure 1: provide a bette quality

Answers:
Thanks for the reviewer’s good evaluation and kind suggestion. We showed each contribution rate of factors to the total cadmium exposure in figure 1. They were sorted from high to low. Because there were big difference between main contributor (i.e. 30.7% of vegetables) and minor one (0.1% of tuber), the histogram of low contributors cannot be clearer.
2) Table 5: there is no reference in the text
Answers:
Thanks for the reviewer’s kind suggestion. We have added references in the revised version. (Page 11, row 6).