Author’s response to reviews

Title: Daily tea drinking is not associated with newly diagnosed non-alcoholic fatty liver disease in Chinese adults: the Tianjin Chronic Low-grade Systemic Inflammation and Health Cohort Study

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Author’s response to reviews:
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RE: NUTJ-D-19-00303

Title: “Daily tea drinking is not associated with newly diagnosed non-alcoholic fatty liver disease in Chinese adults: the Tianjin Chronic Low-grade Systemic Inflammation and Health Cohort Study”

Dear Professor. Clare Collins

We are grateful to you and the reviewers for the helpful comments on the original version of our manuscript. We took all of the comments into account and are submitting a revised version of our paper. Thank you for consider our revised paper.

We addressed all the comments made by reviewers 1, 2, and minor comments as set out on the attached pages, and we believe that our revisions will satisfy the reviewers’ concerns.

Yours, sincerely,

Yuhong Zhao

Reviewer #1

Comment 1: Page 5, line 63. Please replace covering with covered (the questionnaire covered questions about…)

Response 1: Thank you for your comment. As per your suggestion, we revised the sentence as “The questionnaire covered questions about…” in the revised manuscript. (Page 5, lines 62-63).

Comment 2: Page 5, line 68. Since the authors described the questionnaire in lines 61-66, then I suggest they rephrase "a study questionnaire" in line 68 to "the study questionnaire".

Response 2: You are right. As per your suggestion, we revised the sentence as “A total of 32,165 participants without acute inflammatory disease completed a comprehensive health examination and the study questionnaire.” in the revised manuscript. (Page 5, line 68).

Comment 3: Page 5, line 71. Please correct the sentence (…, who with a history of …). 

Response 3: You are right. As per your suggestion, we revised the sentence as follows.
We excluded participants who changed their lifestyles (including dietary intake, drinking, smoking, physical activity, and sleeping habits) (assessed via a question in the questionnaire) in the last five years (n=7,364), or those had a history of cardiovascular disease (n=1,057), cancer (n=173), NAFLD (n=3,344), alcoholic fatty liver disease (n=775), and other live diseases (including chronic hepatitis B or C, autoimmune liver disease, and liver surgery, n=102).”

Comment 4: Page 6, line 80-91. I think that the data regarding FFQ validation should be shown in a supplementary file since the FFQ was used to retrieve dietary patterns (even if these patterns were only used as confounding variables).

Response 4: Thank you for your comment. We are writing a paper about the reproducibility and validity of the FFQ in recent days. Moreover, we are applying for a patent of the FFQ. Thus, we thought that it could be more appropriate to give a brief description about the results of the FFQ validation in the present study. However, the paper which including detailed results about the FFQ validation will be submitted to a journal in the next few months. Thank you for your understanding.

Comment 5: Page 6, line 96. … "that showed…” not "that showing".

Response 5: You are right. As per your suggestion, we have revised “that showing” as “that showed” in the revised manuscript. (Page 6, line 96)

Comment 6: Page 6, line 94-99. Even though dietary patterns were used only as confounding factors in the present study, I highly recommend that the authors describe the food groups included in each dietary pattern and the factor loadings in a supplementary file.

Response 6: We thank the reviewer for this thoughtful comment. As per your suggestion, we added a table to describe the food groups included in each dietary pattern and the factor loadings in a supplementary file. (see sTable 1) (Page 6, lines 95-98)

“Factors were named descriptively according to the food items that showed high loading (absolute value &gt; 0.3) with respect to each dietary pattern as follows: sweet foods pattern, vegetable pattern and animal foods pattern (sTable 1).”

Comment 7: Page 13, line 226. Please remove "are". It should be "tended".

Response 7: You are right. We have removed “are” in the revised manuscript. (Page 13, line 226)
Comment 8: Page 13, line 236. May not "be" enough… the "be" is missing.

Response 8: You are right. We have added “be” in the revised manuscript. (Page 13, line 237)

Comment 9: Page 15, line 278. Please consider replacing extreme with another word.

Response 9: Thank you for your comment. We have replaced “extreme” as “excessive” in the revised manuscript. (Page 15, line 279)

Reviewer #2

Comment 1: It would be more interesting if the dietary consumption data/results are presented as a table or in the supplementary material.

Response 1: Thank you for your suggestion. As per your suggestion, we have added a table to describe the food groups included in each dietary pattern and the factor loadings in a supplementary file (see sTable 1). Moreover, we have published two studies about dietary patterns/food groups intake and the prevalence of NALFD in the present population. Since to avoid the overlapping of the results, we did not include the results on dietary consumption and the prevalence of NALFD in the present study. Please find the results in following papers.


Comment 2: What kind of IPAQ had been used in this study? Short or long IPAQ? had it been validated before?

Response 2: Thank you for your suggestion. The short form of the IPAQ was used in the present study. The short form IPAQ has been validated in the present study population. However, it has been validated in another study. A previous study found that the IPAQ-C is adequately valid and reliable for assessing total physical activity and that it may be a useful instrument for generating internationally comparable data on physical activity in Chinese population (Med Sci Sports Exerc. 2008 Feb;40(2):303-7.). Moreover, we added it in the limitations as follows. (Page 7, lines 123-125; Page 15, lines 279-281)

“PA in the most recent week was assessed using the short form of the International Physical Activity Questionnaire [15]”
“Fifth, the validity of the short form of IPAQ has not been tested in the study population and the physical activity may not be exact.”

Comment 3: Line 225: the justification is not clear enough.

Response 3: Thank you for your comment. As per your comment, we have revised the description in the revised manuscript as follows. (Page 13, lines 226-228)

“This may be due to the fact that participants who drank tea tended to be men and older. Meanwhile, men and older have higher prevalence of NAFLD than women and younger participants [27].”

Comment 4: If NAFLD was diagnosed by abdominal USG and no history of heavy drinking, how the author justify that the participants enrolled in NAFLD positive did not have history of heavy drinking (or how the author justify that NAFLD positive participants are truly NAFLD not ALD?). Meanwhile, in Table 1 there is an information about drinking status and some of the participants were current drinker (even drinking everyday).

Response 4: We thank the reviewer for this thoughtful comment. NAFLD was diagnosed via liver ultrasonography and no history of heavy alcohol intake in the present study. We have two steps to assess the alcoholic intake in the questionnaire (one for mean intake per week (gram), and another for frequency).

Firstly, we assessed the gram of intake of alcohol (including Chinese rice wine, Chinese spirits (≥ 50% alcohol by volume), red wine, white wine, and beer) by asking 6 questions in the FFQ like: “What is your mean intake of Chinese rice wine?” with 8 choices “more than 4 ‘Liang’ per day”, “2-3 ‘Liang’ per day”, “1 ‘Liang’ per day”, “4-6 ‘Liang’ per week”, “2-3 ‘Liang’ per week”, “1 ‘Liang’ per week”, “&lt;1 ‘Liang’ per week”, and “almost never” (1 ‘Liang’=50 grams). We calculated the intake (gram) of alcohol via these 6 questions and the alcohol by volume of each kind of alcoholic drinking. Thus, we used the information about alcohol intake to define “history of heavy drinking” (intake of &gt;140 g of alcohol per week among men and &gt;70 g per week among women). However, we can not get the information about frequency of alcohol intake form these questions because of that the gram of wine intake per time were different among participants.

Thus, secondly, we asked a question to assess the frequency of alcohol intake by asking one question “How often do you consume alcohol” with four choices “drinking everyday”, “drinking sometimes”, “ex-drinker”, and “non-drinker”.

Thus, participants with NAFLD could drink every day because they drink little every day.

We revised the description in the section of Method as follows. (Page 7, line 113)

“Total alcohol intake in the preceding week was assessed using the FFQ.”