Author’s response to reviews

Title: Cooking Frequency and Hypertension with Gender as a Modifier

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Author’s response to reviews:

Responses to Reviewer 1:

Major revisions

1. Methods. Line 90. It is noted that the inclusion age for the survey is 30 to 79 years old, yet the sample is presented as representative of the population. Indeed, the survey is presented as representative throughout the manuscript yet there are no details on this. How is the survey representative of the population?

Thank the reviewer. We apologize for the misuse of “representative”. China Kadoorie Biobank (CKB) study was not designed to be representative of the general population in China. The authors intended to emphasize on the large sample size, wide regional coverage and population diversity of the study. Although the study was not designed to be representative of Chinese population, the large sample size and the diverse populations of this study could help to generate important new findings and possibly be generalizable to other populations in China. We deleted “representative” which appeared twice in the previous manuscript. Detailed description of the sampling scheme of this study was published elsewhere (1), and was indicated in the manuscript Line 91-107.

2. Results. Table 1. In the results, there are several comparisons and statements made such as "Among women, compared with those who cooked monthly or weekly or those who never cooked, those who cooked daily tended to be older, have a lower education level, live in rural areas with a household income of less than 5,000 Yuan, and work in agriculture and related fields". However, I see no statistical comparisons that show that these results are significantly different. I believe that appropriate analysis should be conducted and displayed to show any significant differences.

Thanks for the comment. We added significant analyses to compare covariates patterns in women/men with different cooking frequencies. We used one-way ANOVA for continuous
covariates and Chi-square tests for categorical covariates. All p values were $< 0.001$. We added this result to the manuscript. Please see:

“One-way ANOVA (for continuous variables) and Chi square tests (for categorical variables) were used to compare the differences in baseline characteristics among men/women with different cooking frequencies.” (Line 150-153)

“All baseline characteristics differed significantly among men/women with different cooking frequencies (p values $< 0.001$).” (Line 179-180 and Table 1)

Minor essential revisions

3. Please revise the second half of the title. I feel that 'Evidence from a large representative Chinese survey' or 'evidence from a representative Chinese sample' would be more accurate.

Thank the reviewer for this suggestion. We apologize for the misuse of “representative”. This study is not proper to be stated as nationally representative of the Chinese populations, despite the large sample size. Please see our response to the first comment. We deleted “representative” throughout the paper.

4. Introduction. Lines 71-73. Please explain further what is meant by the sentence 'However, socio-economic status might influence men's or women's attitudes towards cooking, thus generating different outcomes'.

We added further explanations. Please see:

“College-educated men spent longer time cooking at home compared to men with less education (2), which might suggest their positive attitudes towards cooking. Men who had less pressure from work and life, i.e. at a high socio-economic status, may regard cooking as their leisure time (3). However, intense workload might make women view cooking as stressful (4).” (Line 72-76)

5. Methods. Include in the methods section the average length of time for a respondent to complete their questionnaire/interview.

The survey questionnaire was designed to be completed within 1.5 hours. However, we don’t have the detailed average length of completion time.

6. Methods. Line 106. Please provide more details on how 'cooking' was defined to participants. Cooking has a variety of meanings and this would help to place some of the results in a wider context. If cooking was not specifically defined then this may have affected the results and should be mentioned in the discussion section. For example, men typically over report cooking and may view heating convenience meals as cooking and
this would help to explain their association between higher cooking frequency and higher prevalence of hypertension.

We agree with the reviewer that the concept of cooking may vary in different social context. In our questionnaire, we reckon that cooking was not specifically defined and explained to participants. It depended on the participants’ own perceptions for the definition of cooking. We acknowledge that people might view cooking differently because of its wide definitions. Some people might include preparing ready-meal as cooking, while some wouldn’t (5-7). We added more discussion on this. Please see:

“Furthermore, because of the wide definition of cooking, the observed gender differences might also rise from different perceptions of cooking between men and women (5-7). Men might view preparing ready-to-eat-meals as a way of “cooking”, while women might consider preparing a full meal as “cooking”. The different perceptions might also explain the stronger association of cooking with hypertension prevalence in men (5).” (Line 253-258)

7. Methods. Outcome variable. Please provide more details on how the outcome variable of hypertension was coded i.e. 0 = no hypertension, 1 = hypertension?

We added this in the manuscript. Please see:

“Hypertension was a binary variable with 1 representing hypertensive and 0 representing non-hypertensive.” (Line 118-119)

8. Methods. Line 125. Individuals were classified as having hypertension if they reported a diagnosis of hypertension. Was this 'ever' had a diagnosis of hypertension or how long ago? For example, it would be redundant to classify someone as having hypertension if they were diagnosed 10 years ago and now have blood pressure within the normal range.

In our study, hypertension was defined as had a measured systolic/diastolic blood pressure (SBP/DBP) over the 140/90 mmHg threshold, or if they reported that they had EVER been diagnosed with hypertension. Since hypertension is a chronic condition, patients could have normal blood pressure under medication control, but they are still considered hypertensive. Please refer to Line 126-129.

9. The quality of Figure 1 should be improved prior to any publication.

Thank you for the reminder. We improved the resolution of Figure 1.

10. There are some very minor grammatical improvements required throughout.

We revised our manuscript throughout for grammatical improvements.

Responses to Reviewer 2:
1. The major limitation of this manuscript is the design of the study. It is challenging to assume that the association from a cross-sectional study between cooking frequency and hypertension is causal. The authors have mentioned this limitation, but they should highlight it more. I don't think that what they mention in lines 269-271 is correct (about the possibility of reverse causation due to the study design), i.e. "However, we believed this possibility is low because we found that hypertension prevalence is higher in both men and women who cooked daily compared with those who cooked weekly or monthly or never cooked". I don't understand this phrase and how it is related to the findings, is that because the unadjusted ORs are higher than 1? In any case, I doubt that this strengthens the argument that the possibility of reverse causation is low. The only argument that can be used is that hypertension was measured at baseline and cooking frequency refers to the history of cooking, prior to baseline. Nevertheless, we still don't know whether the hypertensives at baseline had also high blood pressure before baseline! The authors should highlight the limitation of their study design and they should mention that future studies in the field should use longitudinal data to shed more light on this unexplored relationship.

We appreciate the comments. The authors agree that it is challenging to obtain causal relationship from cross-sectional study. We meant to express in our original manuscript that there was a dose response found between frequency of cooking and the odds of hypertension, which strengthened our confidence of a positive association between cooking and hypertension. However, due to the misunderstanding, we decided to delete the previous sentences of “However, we believed this possibility is low because we found that hypertension prevalence…” As the reviewer correctly pointed out, although the cooking history happened before the baseline, we still could not suggest a causal relationship. Subsequently, we highlighted the needs of future longitudinal studies in the manuscript. Please see:

“Second, our capacity to establish a causal relationship is limited due to the cross-sectional study design. We could not establish time sequence of cooking behaviors and hypertension diagnosis. Reverse causality may exist as people with hypertension might alter their cooking behaviors. Future longitudinal studies are needed to further explore the observed relationships.” (Line 290-294)

2. The authors should have a second figure showing the association between weekly or monthly cooking and hypertension stratified by socioeconomic status in men and women - the same as they did with the association between daily cooking and hypertension in figure 1

We added Figure 2 titled “The association between weekly or monthly cooking and hypertension stratified by socio-economic status in men and women” and added relevant texts in the results. Please see:

“Stratification results for weekly and monthly cooking were slightly different from those of daily cooking (see Figure 2). The positive association of weekly or monthly cooking with hypertension was not observed among men who were clerks (AOR: 1.02, 95%CI: 0.95-1.09), who were self-employed (AOR: 1.02, 95%CI: 0.90-1.16), who had college and above education (AOR: 1.06,
95%CI: 0.98-1.16), who had a household income less than 20,000 yuan (AOR: 1.02, 95%CI: 0.99-1.06) and who were not married (AOR: 0.98, 95%CI: 0.87-1.09). The negative association of weekly or monthly cooking with hypertension was not observed among women who were younger than 55 years (AOR: 0.99, 95%CI: 0.93-1.05), who were clerks (AOR: 0.99, 95%CI: 0.87-1.14), who were self-employed (AOR: 0.96, 95%CI: 0.75-1.22), who were unemployed (AOR: 0.96, 95%CI: 0.89-1.03), who had college and above education (AOR: 0.99, 95%CI: 0.81-1.22), and who were not married (AOR: 0.89, 95%CI: 0.78-1.01).” (Line 210-221)

References:


