Author’s response to reviews

Title: Impact of disease screening on awareness and management of hypertension and diabetes between 2011 and 2015: results from the China Health and Retirement Longitudinal Study

Authors:

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Author’s response to reviews:

We thank the referees for their suggestions and have updated our manuscript according to their comments. Our specific responses are as follows:

Reviewer reports:

Fiona Bragg (Reviewer 1): Thank you for the opportunity to review the revised version of the manuscript "Impact of disease screening on awareness and management of hypertension and diabetes among middle-aged and older Chinese: a four-year prospective study" (Manuscript number PUBH-D-18-02354R1).

The authors have adequately addressed my previous comments and the revised manuscript should be accepted for publication. However, there are a couple of places where the text no longer seems to be entirely accurate and slight modification would be beneficial prior to publication. In particular, since the additional information provided by the authors suggest it is unclear that the blood test results were mailed to participants, the following two statements should ideally be modified:

Page 6 lines 1-2: "Blood test results were mailed to participants three weeks after specimen collection"

Page 14 lines 11-12: "although participants were informed of their blood pressure immediately during the interview but received blood reports later"

We agree with the reviewer that above text is not accurate enough. We therefore made following changes:
Based on the informed consent, blood test results were mailed to participants three weeks after specimen collection [19]. However, no documents show how and when the diabetes blood test results were reported to study participants.

We took out the sentence “although participants were informed of their blood pressure immediately during the interview but received blood reports later”.

Nasheeta Peer (Reviewer 2): Abstract:

Methods: "It followed participants every two years. In 2011, over 11,000 participants completed interviews and physical examinations and provided fasting glucose samples to screen for hypertension and diabetes."

Please replace the above 2 sentences with the following for greater applicability and meaning: "Participants were assessed every two years with completed interviews, physical examinations and fasting glucose samples. Of the 11,000+ participants screened in 2011, 4594 and 1703 participants were identified with hypertension and diabetes, respectively." The latter sentence may be moved to the results section.

We updated the abstract according to the reviewer’s suggestion, and it should be noted that the CHARLS only had data for fasting glucose samples in 2011:

(Page 2) Methods

The China Health and Retirement Longitudinal Study (CHARLS) is an ongoing longitudinal health survey conducted among Chinese people aged 45 years and older since 2011. Participants were assessed every two years with completed interviews, physical examinations, and fasting glucose samples (2011 only). In 2013 and 2015, they were followed to track their awareness and management of selected conditions, and they were asked how they first became aware of their conditions.

(Page 2) Results

Of the 11,000+ participants screened in 2011, 4594 and 1703 participants were identified with hypertension and diabetes, respectively.

Main text:

Page 8, line 52: The sentence is incomplete.
Page 9, lines 18-21: "The disease awareness for hypertension and diabetes was somewhat higher overall..." higher than what, please? What are you comparing?

Page 9, lines 42-43: Please include '...having blood pressure monitored at least once in the previous year'

Page 9, lines 44-46: '...having received medication...' please include the definition/time period. Is this having received medication at least once in the previous year, or currently taking medication, etc.?

Please do the same for diabetes: Page 9, lines 56 on wards.

We updated above text according to the reviewer’s suggestion. Please see the below:

(Page 8, paragraph 4) In 2011, 4594 (49.1%) of participants had a positive screening result for hypertension, 53.7% (n=2466) of these were aware of their condition and 46.3% (n=2128) were not, and 21.0% (n=965) did not have their hypertension well-controlled. The disease awareness for hypertension and diabetes was somewhat higher overall in 2015 compared to 2011.

(Page 9, paragraph 3) Among participants who had a positive screening result for hypertension in 2011, the proportion aware of their hypertensive condition increased from 53.7% to 62.9% (17.1% improvement), having blood pressure monitored at least once in the past 12 months increased from 39.9% to 42.8% (7.3% improvement), having received current medication increased from 41.6% to 51.0% (22.6% improvement), and having received medical advice from doctors at least once in the past 12 months increased from 29.2% to 36.6% (20.2% improvement).

(Page 10, paragraph 2) Among participants who had a positive screening result for diabetes in 2011, the proportion aware of their diabetic condition increased from 33.4% to 42.9% (28.4% improvement), having received tests to monitor their diabetic condition at least once in the past 12 months increased from 26.4% to 37.8% (43.2% improvement), having received current medication increased from 23.6% to 33.6% (42.4% improvement), and having received medical advice from doctors at least once in the past 12 months increased from 25.0% to 31.2% (24.8% improvement).

Table 1:

Please include definitions/cut-points in the text or footnotes for education level and write the acronym PCE in full.
The 'Total' numbers for this table are incorrect. If you have only included participants with hypertension and diabetes in this table, then your number for hypertension is n=4594 and for diabetes it is n=1703.

If you wish to include the data for the entire study sample in this table, then you need to relabel it appropriately.

We updated Table 1 according to the reviewer’s suggestion. In Table 1, we added the definitions for education level and cut-points for PCE. We also added in the footnote the full name ‘Per capita monthly household expenditure’ for PCE. We did the same for Table 3.

We relabeled the title as ‘Total sample’ instead of ‘Total’.

In response to my following comment from the previous draft: 'For completeness, what were the proportions of treatment and control among participants with hypertension/diabetes or among those who were aware of their diagnoses? Please include this data and discuss.', the authors respond that "Interested readers can calculate the proportions from the data presented." Which data that has been included can be used to calculate this, please? You need data pertaining to the proportion of participants with BP ≥140/90 mmHg despite currently being on treatment to determine the percentage of uncontrolled hypertension. None of the 3 tables nor figure 1 has the necessary data for this calculation. Figure 1 has the data for percentage receiving treatment but not control and this cannot be calculated without additional data i.e. the blood pressure data.

We thank the reviewer’s for her suggestion, and we agree that we can add related information as suggested by the reviewer. We updated our results as following:

In method section, we defined ‘hypertension well-controlled’:

(Page 7, paragraph 2) Also, hypertensive participants whose SBP was less than 140 mmHg, or DBP was less than 90 mmHg, or both, were considered to have their hypertension well-controlled.

In results section, we added:

(Page 9, paragraph 1) In 2011, … and 21.0% (n=965) did not have their hypertension well-controlled.

(Page 9, paragraph 2) In 2015, … and 20.7% (n=950) did not have their hypertension well-controlled.
Furthermore, for clarity, I suggest that you describe your denominators in Figure 1 as follows, please:

Awareness: among all participants with hypertension/diabetes, the proportion that were aware of their condition.

Treatment: among all participants with hypertension/diabetes, the proportion that were on treatment.

Please do the same for Monitoring and Medical advice. Please also include the time frame. For Monitoring, I believe this should be ‘…at least once in the previous year…’. For medical advice, I presume that there is no set time frame/limit? If yes, then please include 'received medical… at any time'.

We updated Figure 1 as suggested by the reviewer.

Discussion

Page 12, lines 23-40: This paragraph is unclear. There are few points to note here. 1) The proportion of hypertensive/diabetes participants who were on treatment and who were controlled will not be the same, so please don't describe them together. 2) Furthermore, what is the importance of discussing whether participants on treatment are aware or not of their hypertension/diabetes status? 3) The discussion related to the data presented in the 1st sentence is not coherent.

We updated the text suggested by the reviewer and took out the part that is less important:

(Page 12, paragraph 2) In CHARLS, there were still many participants who did not have any hypertension or diabetes treatment in 2015. It will be interesting to explore reasons for why those participants did not have treatment in future studies.

Page 12, last paragraph. After the 2nd sentence (line 51), please include the following sentence: "This study highlights that conducting a good follow-up study does not necessarily translate into imparting adequate or appropriate information on hypertension and diabetes status to study participants."
We added the sentence as suggested by the reviewer.

Page 13, line 35: The term 'high-risk' has specific connotations. What are the 'high-risk groups identified by the CHARLS survey'? How was high-risk defined and calculated? Or are the authors simply referring to the variables associated with hypertension/diabetes unawareness in this study? If yes, then please say so and remove the term 'high-risk'.

Conclusions
Page 15, line 28: Please remove/define 'high-risk'.

We agree with the reviewer that the term 'high-risk' has specific connotations and we removed it from our text.

Please read carefully and correct for minor grammatical errors in the text.

We went through the manuscript and corrected grammatical errors as suggested.

Carine Sangaleti (Reviewer 3):
An important placement: I suggest that the authors discuss the impacts of cultural attributes on the scope of health surveys. Such surveys have a Western perspective and this may have influenced the results. This should not be omitted or disregarded.

We added in the discussion as suggested by the reviewer:

(Page 14, paragraph 1) The observed variations in the reporting of screening results across HRS studies could reflect cultural differences in participant expectation and the role and function of health surveys. This needs further exploration.