

Peer Review File_

Article information: <http://dx.doi.org/10.21037/atm-20-4195>

Responses to Reviewer A

The article is well written and eloquently describes the design of the Shunyi study on cardiovascular disease and age-related brain changes.

I have 3 comments to make:

Comment 1: The study has enrolled a relatively small number of participants for this type of study. For example, the Framingham study, which began much earlier (1948), enrolled 5,209 adult subjects from Framingham at that time!!!

Reply 1: Thanks for the reviewer's important comments and we agree with the reviewer's concerns. The sample size of this cohort is relatively small, which is mainly because of the very limited funding that we had in 2013. Considering community-based studies with an extensive range of clinical, genetic and imaging data, as well as comprehensive and quantitative assessments of brain function were lacking in China, we chose to begin such a study with relatively small sample size. In view of the tremendous differences of social status, economic, culture and race between China and Western countries, we believe that the Shunyi cohort is of value and has the potential for elucidating the roles of environmental and genetic factors in cardiovascular diseases and age-related brain alterations in Chinese population. In the future plans, a community from an urban city will be considered to be invited.

Comment 2: The authors should include in the "Methods" the criteria used for the characterization/diagnosis of Hypertension, Diabetes and Hyperlipidemia.

Reply 2: Thanks for the advisory comments. We have added the definitions in the revised manuscript according to the reviewer's suggestion. **Changes in the text:** Page 13, line 270-278.

Comment 3: In the Abstract, under the subtitle "Results", the authors actually report the prevalence of major risk factors in the population at baseline, which cannot be

considered or categorized as "Results". Thus, the abstract will need to be changed accordingly to reflect that.

Reply 3: We appreciate the reviewer for the helpful comments and we have revised the abstract accordingly. In the prospective Shunyi cohort, the questions we want to answer are extensive, including how environmental and genetic factors contribute to age related metabolic diseases, cardiovascular disease, neurological diseases, and brain health etc. Shunyi cohort has been followed up for 7 years to date and are being continuously followed up. The major purpose of this article is to give the rationale and design of the study, the detailed methods of data collection, and the profile of the research sample (baseline demographic information, distribution of risk factors etc.).

Changes in the text: Page 4, line 88-92.

Responses to Reviewer B

Comment: The authors mention extensive methods with little results of a study that has been conducted. The methods should be considerably shortened and full results presented as the study has already been conducted. Please provide details of the blood pressure measurement which is central to your study.

Reply: We sincerely thank the reviewer for these insightful suggestions.

The aim of the Shunyi study is to build a prospective cohort with in-depth data in a Chinese community, which is of similar research prospect to those community-based cohort study in Western countries. The major purpose of this article is to give the rationale, design and baseline data of the study.

1. Methods: We have shortened the section of Methods according to the reviewer's suggestions. **Changes in the text:** Page 7-14
2. Results: In the prospective Shunyi cohort, the questions we want to answer are extensive, including how environmental and genetic factors contribute to age related metabolic diseases, cardiovascular disease, neurological diseases, and brain health etc. Shunyi cohort has been followed up for 7 years to date and are being continuously followed up. So, we did not include all these results in the manuscript, which seems inappropriate, but only showed the baseline

demographic information and distribution of risk factors. If the reviewer could kindly suggest any other data to be presented in this manuscript, we would like to further have it added.

3. The details of the blood pressure measurement have been supplemented in the revised manuscript. **Changes in the text:** Page 9, Line 182-183