Reviewer A

This is a meta-analysis, trying to describe the changes of stroke prevalence over the past two decades in China. Several concerns are listed below:

1. The 'meta-analysis' should be mentioned in the title because this is not a national population based study. The readers may be confused by the current title.

Reply 1: We changed the title to, "Time trends and regional differences in stroke rates in China over the past two decades: A systematic review and meta-analysis"

Changes in the text: in Page 1, Line 1

2. Several sentences contain grammatical mistakes. It is advised that you obtain assistance from a colleague who is well-versed in scientific English or whose native language is English. For example, 'have changed' should be 'have been changed' in Page 1, Line 5; 'programsd to control of stroke' in Page 2, Line 37; 'howevere' in Page 8, Line 193.
Reply 2: We have corrected such errors and have a native speaker edited the manuscript.
Changes in the text: See paper.

3. It is strange that the authors mentioned the epigenetics in Page 9, Line 216.
Reply 3: We have removed the discussion on epigenetics.

4. The involved studies in this meta-analysis did not have a good quality.

Reply 4: We have acknowledged this as a limitation. See Page 14, Line 306. "One of the limitations of the study is that some of the included studies did not have a good quality."

5. Some China Nationwide studies were not mentioned and discussed in this paper. For example, the National Epidemiological Survey of Stroke in China (NESS-China) and The China National Stroke Screening Survey. All of these data highlight a marked increase in stroke prevalence and incidence yet a generally stable mortality compared with the values reported in the past decade. However, the authors concluded that the prevalence of stroke was stable.

Reply 5:   Sorry we missed these, and added them in the revision. The literatures included some cohort studies, so we analyzed time trends using time periods. Due to research constraints, the time line of the study was divided into three time periods (2000-2005,2006-2011, and 2012-2017) and analyzed time trends for three time periods; China Nationwide studies analyzed annual data trends.

6. 'What is already known on this subject' and 'What this study adds' can be removed from the

manuscript. The major findings in this study are already well described in the literature (stroke prevalence increased with ag.e, was higher in men than women, and varied largely across distinct regions. Stroke prevalence decreased roughly from north to south).

Reply 6: Changes have been made accordingly. These sentences have been removed.

7. The references in this paper are not well updated. Some recent studies should be added and discussed. For example:
China's response to the rising stroke burden, BMJ, 2019.
Stroke in China: advances and challenges in epidemiology, prevention, and management, The Lancet Neurology, 2019.

Reply 7: We have added and cited these papers in the introduction and discussion sections.
Changes in the text: References 3 and 46 in the manuscript.

Reviewer B
The aim of this study is to estimate the trends of stroke in China over the past two decades, and found stroke prevalence in China has increased in recent years. China needs to carry out more effective intervention programs to prevent and manage this disabling and deadly disease. The overall study question examined in this manuscript is important the authors have conducted thorough analyses and could contribute to the literature in this area and. But there are some problems in the manuscript. Making some changes from my point of view may improve the quality of this piece of work.

Specific comments:
1. Please define all abbreviations in the abstract and text when first presented.
Reply 1: Thank you for your comments. Changes have been made accordingly.
Changes in the text: in Page 16, Line 346

Abbreviations

CVD: cardiovascular disease; CNKI: China National Knowledge Infrastructure; MOOSE: Meta-Analysis of Observational Studies in Epidemiology; CHARLS: China Health and Retirement Longitudinal Study; OR: odds ratio.

2. In the Introduction, the description of the incidence and risk of cardiovascular disease does not seem to be strongly related to the main content of this article. It may be more concise and more suitable for reading if it is properly deleted or placed in the Discussion section.
Reply 2: In the Introduction, the description of risk of cardiovascular disease was deleted. Other relevant elements are added to the discussion section.
Changes in the text: in Page 14, Line 315-316; Page 15, Line 329-335.

3. Pg2 ln 43 'deaths'- death
Reply 3: Based on the recommendations of other reviewers, the description of risk of cardiovascular disease was deleted in the Introduction. So 'Pg2 ln 43 deaths- death' was deleted.

4. Pg6 ln 142 'The prevalence of stroke increased rapidly by age (Figure 1a)'. Does the author want to label Figure 2a? Similar problems appeared in other parts of the article, please check the manuscript content again.

Reply 4: Yes, the prevalence of stroke increased rapidly by age (Figure 2a). We have checked the citation of figures and tables in the text, (we changed Figure 1a to Figure 2a, changed Figure 1b to Figure2b and change Figure 1c to Figure 2c and so on)

Changes in the text: in Page 8, Line 158, line 168 and line 171-172.

5. There is no discussion of the strengths and limitations of this paper in the discussion sections.

Reply 5: The strengths and limitations of this study were systematically discussed. in Page 13, Line 292-312.

6. Pg13 ln 311 'delimma'- dilemma

Reply 6: We have revised the errors.

Changes in the text: in Page 15, Line 328.

7. Charts are provided in the Supplemental material while did not mention them in this paper. It is better to add the content and meaning of each chart in the manuscript for reading and understanding easily.

Reply 7: They have been cited/mentioned in the text.

Changes in the text: in Page 7, Line 126,133,134, Page 8, Line 177, Page 8, Line 186.

8. The standard of written English is not currently acceptable for publication and needs improvement.

Reply 8: Thank you very much for your suggestion. We have asked professionals to revise other grammatical errors in the paper.

Stroke poses a great threat to patient's life and also a great burden to a country. The authors performed a meta-analysis and presented us with an overall stroke prevalence of 5.1% in China residents over 40 years old. Men, older age, and people from north China have higher prevalence. Even though the prevalence remains stable between 2000 and 2017, the prevalence almost increased among the aged 40-49 years old (doubled) and the aged 50-59 years old (1.7 times) from 2000-2005 to 2013-2017. This is a great work to comprehensively present the prevalence of stroke in China with time trends and regional differences. Here are some concerns that need to be addressed:

1. Line 114, the authors at first mentioned Hongkong and Macau, but no more information about the prevalence of these two places was presented;

Reply 1: In the Methods section, we describe the geographical zoning of China, In the literature, there is a national multi-center study from all 31 Chinese provinces, but there is no separate analysis of Hong Kong and Macao, for example in supplemental material **Table III** 20th study.

Qi L, Hao W, Wei Y, et al. Prevalence of Stroke and Vascular Risk Factors in China: a Nationwide Community-based Study. Scientific Reports. 2017, 7(1).

The prevalence of stroke in Hong Kong was low. As noted earlier, the prevalence of stroke in Hong Kong adult population was 0.6% from Census and Statistics Department (Thematic Household Surveys) during 2009-2011.
（https://www.cfs.gov.hk/english/rc/sci_events/files/IS_on_reduction_of_salt_and_sugar/Burden_of_NCD_for_head_to_Head.pdf）

2. Line 138, what's the mean age of these patients? How many males and females among them?

Reply 2: In this study, the method of meta-analysis was used. One age group was ≥70, and the mean age could not be calculated

3. Line 163-168, this paragraph can be shortened and concise;

Reply 3: the paragraph had been rephrased.
Changes in the text: in Page 9, Line 179-182.

4. In the Discussion, the authors discussed about age, gender, time trends and region. But in Conclusion, the authors mentioned "…more effective intervention programs to prevent and manage..." Then a brief discussion would be needed about current measures in China on this disease.

Reply 4: We have added the relevant information.

The Chinese government sponsored a series of large scale regional and nationwide studies to identify risk factors of stroke, in order to determine the risk factors of stroke, and implementation of a few about public education and primary prevention of stroke, to guideline recommended therapy and clinical practice and to design and evaluate intervention tools to improve the quality of stroke care and patients' outcomes (20,47-50). Since 2015, over 2500 hospitals have joined this national, hospital based, stroke care quality assessment and improvement platform (51,52).

Changes in the text: in Page 15, Line 329-335.

Reviewer D
The authors have submitted a systematically examine prevalence and trend of stroke in China over the past two decades, and investigate whether stroke rate decreased due to national prevention efforts. This is a well written report and clearly the investigators did considerable work in performing this study. The findings in this study seems to be of substantial importance to the fields of national prevention programs of stroke, whereas the manuscript in its present form seems to possess some points that need to be confirm.

1. The authors should indicate in the title, whether this report as a systematic review, meta-analysis, or both.

Reply 1: We have revised the title: Time trends and regional differences in stroke rates in China over the past two decades: A systematic review and meta-analysis
Changes in the text: in Page 1, Line 1

2. The authors should show in the methods if a review protocol exists, if and where it can be accessed, and, if available, provide registration information including registration number.

Reply 2: Thank you for your comments. We have described the review protocol in the paper. However, the review protocol was not registered.

3. The quality of literature evaluation is simply shown in the methods section. Please discuss whether the quality of the literature affected the results of this study.

Reply 3: the quality of included studies have in general good quality. However, 11 studies have poor quality. We have added the relevant information.
Based on these quality assessment criteria, studies were scored from 1 to 5 (highest to lowest quality score, respectively): score 1-nationally representative studies with large sample sizes and that employed random selection techniques; score 2- large, randomly selected samples from an entire state in the country; score 3- employed random selection techniques within a specified number of sampling units (i.e. two towns, three clinics); score 4-included large sample sizes (>1000 persons) even though the samples were not randomly selected; score 5- small, non-randomly selected samples.
Changes in the text: in Page 7, Line 126-133.

4. The authors showed 13) as a reference for the quality of literature evaluation. However, checked at 13), guess the original reference appears to be the following document by Suriah ARCT, et al. Make sure that 13) is correct.
Suriah ARCT, Yeoh BY. Nutritional situation of a Chinese community. Singapore Med J 1998; 39: 348–352.

Reply 4: Yes, you are right. Thank you for your suggestion. This reference 13) should be revised to Suriah ARCT, Yeoh BY. Nutritional situation of a Chinese community. Singapore Med J 1998; 39: 348–352.
Changes in the text: in Page 18, reference 13.

5. Page 5, line 118. Probably, is the (Table I) not Table A's mistake?0
Reply 5: we have checked and revised the manuscript content. We changed Table A to Table I.
Changes in the text: in Page 7, Line 126.