Author’s response to reviews

Title: Elevated Blood Pressure Level Based on 2017 ACC/AHA Guideline in Relation to Stroke Risk in Rural Areas of Liaoning Province

Authors:

Yanxia Xie (1342660403@qq.com)
Mingfeng Ma (mamingfeng106@sina.com)
Zhao Li (2680481161@qq.com)
Xiaofan Guo (guoxiaofan1986@foxmail.com)
Guozhe Sun (gzhsun66@163.com)
Zhaoqing Sun (sunzhaoqing@vip.163.com)
Jia Zheng (1637643374@qq.com)
Yingxian Sun (sunyingxian12@126.com)
Liqiang Zheng (liqiangzheng@126.com)

Version: 3 Date: 23 Jun 2019

Author’s response to reviews:

Dear reviewers and editors,

Thanks for your decisions and advices. We have considered all reviewer’s comments and queries and tried our best to revise the article (No. BCAR-D-18-00404R2). Now, I will item all changes made, or my explanations, in response to each of the reviewers’ and editors’ comments. Major revised contents had been colored red in revised article.

Response to the reviewers’ and editors’ comments

Manuscript Number: BCAR-D-18-00404R2

Title: Elevated Blood Pressure Level Based on 2017 ACC/AHA Guideline in Relation to Stroke Risk in Rural Areas of Liaoning Province

Research Square (Reviewer 3): "STATISTICAL REVIEWER ASSESSMENT:"
Is the study design appropriate for the research question (considering whether the analyzed population accurately reflects the design and whether you see any problems with control/comparison groups, e.g., likely confounders)?

Yes - overall design, population, and control groups are appropriate

Are methodologies adequate and well implemented (considering whether assumptions are addressed and whether analyses are robust)?

Yes - methodologies are adequate and well implemented, assumptions are addressed, analysis is robust

Are the analyses adequately communicated (considering whether reporting details are adequate and whether figures and tables are well labeled and described)?

No - there are minor issues

Does the interpretation accurately reflect the analyses without overstatement (considering whether limitations/bias are acknowledged and whether accurate descriptors, e.g., 'significant', are used)?

Yes - interpretation accurately reflects analyses, limitations/bias are acknowledged, accurate descriptors are used

Could an appropriately REVISED version of this work represent a statistically sound contribution?

Probably - with minor revisions

Comment 1:

STATISTICAL REVIEWER COMMENTS:

The authors have addressed most previous comments sufficiently. But I still have some additional revisions that are needed. However, there are also grammatical errors throughout, which I have not made an exhaustive list but their work will likely need to be reviewed by a copyeditor.

Response: Thanks for your comments. The text has been edited by a native English speaker (Jennifer) carefully.
REQUESTED REVISIONS:

Comment 2:

You still haven't presented p-values for covariates as a whole. For example, Table 2, Model 1 has BP divided into 4 categories with p-values for each category. However, a Wald test for all these categories taken together (i.e. BP level as a whole) should be performed to determine the association between BP level and stroke, when BP level is divided into categories. Model 2 and Model 3 do suggest that increased SBP is associated with stroke, so we would expect that to also hold true in Model 1. Similarly, for Table 3, Model 1.

Response: Thanks for your critical comments. According to your suggestion, we have performed an analysis to determine the association between BP level and stroke in Model 1. (Table 2 and Table 3). The results showed that BP level is associated with stroke incident.

Comment 3:

Results, incidence rate of stroke, second sentence. "There was an increase in incidence of stroke that occurred across the four BP level: …" What you describe in this sentence is not an incidence rate, but the % who had stroke in each BP level. As previously described, incidence is calculated as the number of events divided by the total person-years of follow-up multiplied by 100,000 to represent incidence per 100,000 person-years. I'm still a little concerned that you haven't calculated incidence correctly. You can calculate the incidence in each BP level, if you have the number of events and the total person-years follow-up in each BP level.

Response: Thanks for your critical comments. According to your suggestion, we have calculated incidence in each BP level. Details are as follows: Overall, the incidence of stroke is on the rise across the four BP level: 311 per 100000 person-years participants with normal BP, 367 per 100000 person-years with elevated BP, 330 per 100000 person-years participants with stage 1 hypertension and 889 per 100000 person-years participants with stage 2 hypertension, respectively.

Comment 4:

Why is the incidence by sex described in the text different from Figure 2? In text, incidence for women is 813 per 100,000 person-years and men is 1002 per 100,000 person-years. In Figure 2, incidence for women is ~500 per 100,000 person-years and men is ~700 per 100,000 person-years.

Response: Thanks for your comments. In the last revision, we have replaced the incidence value with the number of stroke events on top of the bars based on the comments of the reviewers. This is the figure and text for different reasons. (Reviewer's specific comments: Figure 2. What do the stars represented in Figure 2? Also, I'd rather see the number of stroke events written on top of the bars than the incidence value which is already being represented by the y axis.) In the present
Comment 5:

Minor comments.

There are grammatical errors throughout. This will need to be edited by a copyeditor to remove them all as there are too many to list here. For example:

Background, second sentence. Remove "which" after "CVD risk factor that is changeable,"

Background, second paragraph. Should be "eliminated" and a common after "prehypertension".

Response: Thanks for your comments. I have modified these two sentences based on your suggestion.

Thanks for your support. Details are as follows: In the United States, hypertension caused more deaths from cardiovascular disease (CVD) than any other CVD risk factor that is changeable, making it become the second preventable cause of death after smoking. (Background, second sentence) However, newly issued on November 13, 2017, the American College of Cardiology / American Heart Association (ACC/AHA) guidelines revised the hypertension definition to 130/80 mmHg and increasing the prevalence of hypertension. (Background, second paragraph) In addition, the text has been edited by a native English speaker (Jennifer) carefully.

I am expected to receive detailed suggestions if the response might not satisfy you.

Thank you very much.

Yours,

Yanxia Xie, MD
Liqiang Zheng, MD, PhD