Reviewer's report

Title: Prevalence of hypertension and its treatment among adults presenting to primary health clinics in rural Zambia: analysis of an observational database

Version: 1  
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Reviewer: Jing Guo

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Minor Essential Revisions

This study focuses on the prevalence and treatment of hypertension among adults presenting to primary health clinics in rural Zambia based on the data from BHOMA. Some merits can be highlighted, including the large-scale electronic medical records, the detailed information on antihypertensive medications and the actual effects. Some points should be considered.

1. For the reason that the participants in this study are “hospital-based” and they may have some health problems including hypertension or disease which is related to hypertension, the prevalence of hypertension may be higher than that of general population in Zambia. The results in this study can not be generalized into the whole population in Zambia. Thus, the conclusion that “Age standardized prevalence of hypertension in Zambia was high” is not appropriate (line 50, page 3). Please change it into a conservative statement and discuss the issue.

2. Except for the differences of dietary habits and lifestyle factors (line 212 to 220, page 10-11), the gaps in the sampling protocol, age or gender distribution etc. among different studies may also result into various prevalence. Add this into the discussion.

3. Figure 1 shows that the visits by subjects #25 yrs accounts for only 31.2% among the total visits. The proportion of visits of children and young adults <25 yrs in BHOMA is about twice than those #25 yrs in this paper. What is the detailed distribution of age among all the visits in BHOMA from Jan 2011 to Dec 2014? Please compare the age distribution of population analysed in this study and that of the whole population in Zambia by age categories.

4. Figure 2 indicates that the hypertension prevalence is higher among males compared with females at low age groups and this trend reverses at high age groups. Similar results were found elsewhere (J Hypertens 29: 1303–1310; PLoS ONE 8(5): e62469). It is presumed that women who is at menopausal period may lose a protective role of endogenous estradiol on BP (Curr Hypertens Rep 8: 368–376). Please discuss this observation.

5. The causes for uncontrolled hypertension should be further discussed. For illustration, the health knowledges about hypertension prevention and compliance of antihypertensive treatment also impact the status of hypertension
control dramatically.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests