Reviewer’s report

Title: Risk Factors, Clinical Presentation and Predictors of Stroke among Adult Patients Admitted to Stroke Unit of Jimma University Medical center, South West Ethiopia: Prospective Observational Study

Version: 1 Date: 16 Sep 2018

Reviewer: Ken Uchino

Reviewer's report:

This is a cross-sectional hospital-based study of stroke in a university hospital in Ethiopia.

Introduction:

References #1 and 2 do not provide WHO definitions of stroke.

References #2-4 are not references of stroke being third leading cause of mortality. Global Burden of Disease study may provide better global assessment of burden of stroke on worldwide mortality and disability.

"The results of the studies done in Ethiopia frequently changes from one another with respect to various demographic profile and risk factors (14)."

The referenced paper is a hospital based cohort in India. It is not clear how this relates to the sentence "studies done in Ethiopia."

Results:

"The mean age of the patients was 55.14+14.04 years…"

I do not see the point of having two decimal places. Are the measurements that precise? Was the calculated from day of stroke and date of birth?

"The incidence of stroke was higher in the age group of 45-65 years/middle age…"

Incidence refers to occurrence of event (disease) per population per unit of time. In a cross-sectional study, "incidence" might not be the right word, since we do not know the underlying
size of population by age (denominator). There might be more who are at risk in the age 45-65 age than greater than 65 years of age.

"…the median month of discontinuation of medications…"

Do the authors mean "the median month to discontinuation…"? Or do the authors mean "the median month since discontinuation…"? Another wording might be "median duration of antihypertensive medication adherence".

"…more numbers of hemorrhagic stroke patients presented with headache…” These are not significant differences between ischemic and hemorrhagic stroke patients. Only vomiting, neck stiffness, chest pain, and coma prevalences were different between the two stroke subtypes. I think the remarkable finding might be that headache was as prevalent in ischemic stroke as in hemorrhagic stroke. The differences are small that one would not state that there are more patients with headache with hemorrhagic stroke.

In Table 3, why is "impaired LOC" grouped with "confusion" rather than with coma. Coma is a form of impairment in level of consciousness. Confusion more often occurs with cognitive impairment or aphasia.

"Predictors of stroke"

The authors appear to mean "predictors of ischemic stroke" compared to hemorrhagic stroke. The finding that risk factors differ is not novel or enlightening.

Discussion:

Discussion broadens the comparisons to studies to other low and middle income countries including Nigeria, India, Vietnam, and Zambia. But it is most important put the study in context of other studies from Ethiopia and East Africa. The discussion section seems too long and broad and should focus on what we should be learning and concluding about stroke in Ethiopia. That stroke patients in India have different educational level seems irrelevant. What is consistent across studies in Ethiopia and what is different might be important lessons from this study. Most likely, studies of hospital-based cohorts differ in the type of persons that come to the hospital
(Gebremariam et al paper and Greffie et al paper have majority urban patients). Cities and rural regions may differ in age constituencies.

Discussion should be much more concise. The authors seem to discuss every observation, of patient demographics, education, risk factor, presenting symptoms. Many observations are known epidemiological facts (atrial fibrillation increases ischemic stroke risk, hypertension is important for both, hemorrhagic stroke presents with coma more commonly than ischemic stroke…). Not everything needs to be discussed. The discussion should focus on what is relevant for understanding stroke in Ethiopia and novel (but not speculative) findings.

There is use of both "most common" and "commonest". Being consistent would be stylistically preferred (I personally prefer most common).

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
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Yes

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I am able to assess the statistics

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