Reviewer’s report

Title: Exposure to hepatitis C virus in homeless men in Central Brazil: a cross-sectional study

Version: 1 Date: 29 Oct 2016

Reviewer: Justice Moses K. Aheto

Reviewer's report:

Ferreira and colleagues investigated exposure to hepatitis C virus (HCV) in homeless men in Central Brazil using data from a cross sectional study. Manuscript generally well written and attempts to address an important public health issue among vulnerable populations. There are strengths in this manuscript but I have concern about the use of age as a linear term in the bivariate and multiple regression models.

Generally, I am in support of the manuscript.

See more details below:

Abstract:

a) Error in line 20 at page 3 in the statement "of the following known risk factors for HCV infection were self-reported: …". Authors should re-write this statement for clarity and understanding.

Background:

b) The authors provided sound and detailed background to the study. However, the authors should state clearly in the last paragraph the contribution(s) their study is expected to have on public health policies and interventions in the fight against HCV in homeless men. This is presently very minimal under this section.

c) Error in line 18 at page 4. The statement "…behaviors, such injecting and…” should read "…behaviors, such as injecting and…”.

d) Error in line 29 at page 4. The statement "…men who have sex who men,…" should read "…men who have sex with men,…".

e) The statement "… ranging from 34.3% in Asia [15], to 19.0 to 26.5% in Europe…” in lines 45-47 at page 4 should be re-written for clarity and understanding. Also, the authors should
be consistent in using the range of values for the percentages: why are some in ranges as in '4.84 to 66.0% in North America' while others are not as in 'ranging from 34.3% in Asia'?

f) The statement "… the only study limited the Southeast region" in line 56 at page 4 should be re-written for clarity and understanding. It appears there is an omission.

Methods:

g) The methods employed by the authors in the collection and analysis of the data appear sound to me. The methods employed were clearly described. However, the authors should briefly explain in one paragraph the need to use Poisson regression model with robust variance (e.g. clustered data or to take care of suspected misspecified model?) and its appropriateness. This will enable the readers understand and appreciate more the reason(s) for its use in this study.

h) In addition, I am concerned about the use of age as a linear term in the final bivariate and multiple regression models. Studies have shown a non-linear effect of age on certain outcomes (dependent variables) so I suggest that the authors explore this because it can affect the final estimates from the models should non-linear effect of age be associated with HCV exposure.

Results:

i) The results presented are interesting and supported by the data.

j) The statement "…, and duration of education eight years (IQR: 6-11)" in line 29 at page 6 should be re-written for clarity and understanding. It appears there is an omission.

Discussion and conclusion:

k) The discussion provided by the authors is sound and supported by the data.

l) Authors could state clearly what their main contribution to the existing literature is to improve the message.

Tables:
m) The title for Table 1 at page 14 should read "… associated with HCV exposure in…" but not "… associated with exposure HCV in…".

**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.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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