Reviewer’s report

Title: Socio-demographic determinants of the severity of locomotor disability among adults in Bangladesh: a cross-sectional study, December 2010-February 2011

Version: 0 Date: 06 Mar 2017

Reviewer: C Palazzo

Reviewer's report:

Review: AOPH-D-17-00018

Thank you for giving me the opportunity to review this original article studying whether socioeconomic determinants are associated with the level of disability in Bangladesh. This is important to have local data to better address public health strategies in developing countries.

My main concern is the methodology of this work. The authors did not describe the centre where they recruited the individuals (and results suggest that it is not representative of the Bangladesh population); they used the "locomotor disability scale" but did not explain which items were included and how it was built and validated (I cannot find any published study using this scale); finally, the statistical analyses (particularly the adjusted analyses) are not detailed and doubtful, what prevent to interpret the results.

Overall, the text could be shortened and needs to be clarified.

Abstract

There are problems with the presentation of results: the confidence intervals don't include the beta.

Methods

- P6 l25: "Centre for the Rehabilitation of the Paralyzed". What are the main diseases reported by the individuals managed in this center? Are they all "paralyzed" as suggested by the name of the center? Is this a public or a private centre? Is this representative of the disabled persons in Bangladesh?

- P6 l44: "In addition, a total of 117 persons with locomotor disabilities were interviewed in their own community."

I don't understand how those 117 individuals were recruited?
- Why did you include 42 non-disabled adults?

- You should add a flow chart

- p7. The title "instruments" is not appropriate and should be replaced by "Disability measurement"

- I don't know the scale you used as disability indicator (the Locomotor Disability Scale) and could not find any study which used it. The reference "18" does not refer to anything. Could you please provide a broader description of this scale and its development? The items should be included in the manuscript (as supplementary material)

- Why did you use 2 versions (short and long) of this scale? I think 1 version is sufficient and could ease the description of results.

- p7 l30-37: "In addition, in order to describe the severity of locomotor disability, participants were grouped into relative locomotor disability groups by dividing the latent trait scores into quartiles, the first quartile being the least disabled and the fourth quartile the most severely disabled group."

Was no threshold validated for this scale? This part should be included in the section labelled "Disability Scale"

The rest of the section belongs to the "Statistical analyses" section.

- p7 l44: the title should be replaced by "Assessment of sociodemographic status"

- p7 l49: how did you assess the "area of residence"?

- p7: did you use the "income" as a continuous variable? Did you use income groups? If yes, how did you define those groups?

- p8 l1-8: you should use the International Standard Classification of Education (ISCED) to define the educational level groups.

- p8 l10-44: you should use the International Standard Classification of Occupations (ISCO) to define the occupation groups.

- How did you manage missing value?

- Which variables did you include in your multivariate analyses?
Results

The descriptive results could be shortened.

- p9 l27-30: you should add the mean age (or the median age)
- The numbers of table are wrong. The table 1 is the table 5,...etc
- Table 1:

* What does the confidence interval represent for the mean age, education, income? You have non-weight results and a limited study population (316 adults), so I don't understand why you calculated CI and to what they correspond?

* You don't need to report mean, median, min-max,...You can include the median (min-max) or the mean +/- SD

- p11 l37: I am sorry, but I don't understand how you did your analyses:

* Are the "crude regression analyses" the bivariate analyses?

* Which variables did you include in your adjusted analyses? For example, you cannot include "married "and "divorced" in the same model.

- How did you take into account diseases and multimorbidity in your analyses?

Level of interest

Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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