**Author’s response to reviews**

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

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**Version:** 2 **Date:** 21 Jun 2017

**Author’s response to reviews:**

Reviewer reports- Second round

Reviewer #1:

Comment: Dear Authors, Thank you for re-submitting the amended manuscript version. It is much better presented and issues were tackled accordingly. What I would add is where there is mean values, please include the standard deviations. Also where percentages (%) are quoted, please provide confidence intervals.

Response: We highly appreciate your valuable comments which were useful in improving our manuscript. Standard deviations and CI added as suggested. Please see Table 1.

Reviewer #2: Second review: AOPH-D-17-00018

Comment: The authors took into account most of the comments and modified the manuscript. However, there is still uncertainty regarding the statistical analyses: which covariates were included in the model? (here it seems that variables such as "married/not married", "divorced/non divorced", "primary education/non primary", "secondary education/non secondary",.....) were included in the same model, what limit the interpretation of the results.

Response: This study included the following variables in the model: age, gender, marital status, educational attainment, occupation, income status, type of house, living in own/rented house, household monthly income, household population and area of residence, adjusting for diagnosis. Different education, occupation and marital status groups were used as dummy variables in the
model. Dummy variable approach is acceptable in regression analysis when categorical variables are within the predictors. With respect to marital status, ‘currently married’ is the reference group. With respect to educational attainment, ‘less than primary’ is the reference group. While, ‘unemployed’ is the reference group for occupation. We have interpreted our findings in light of this. For example: In comparison to the unemployed individuals, individuals in elementary occupation, students and homemakers experienced 0.37 (95% CI: -0.66 to -0.08), 0.75 (95% CI: -1.08 to -0.43) and 0.51 (95% CI: -0.82 to -0.19) points decrease in the severity of LD, respectively after adjusting for diagnosis and rest of the socio-demographic variables. (Reference: Kirkwood B, Sterne J: Essential Medical Statistics. Wiley; 2003.)

Comment: "Sampling": l 22 the abbreviation "CBR" should be clarified
Response: Done. It is clarified in the previous paragraph. Please see page 5.

Comment: You should use the same number of decimal number (for example, in the "results" section l41: there are 2 decimal numbers for mean age and 1 for the proportion.
Response: Thanks for pointing this out. 1 decimal number is used. Please see the respective section in the revised version.

Comment: Please add the standard deviation or the range (min-max) after the mean of all continuous variables (usually mean is presented with SD and median with min-max)
Response: In Table 1, SD and min-max are already reported. In revised version, we added the same in text.

Comment: Please add the number of individuals when you present proportion (63%, n=....)
Response: added. Please see the respective section in the revised version.

Comment: A flow chart should be presented to describe the recruitment of patients
Response: Flowchart added. Please see Figure 1.
Comment: The LDS development is more detailed. However, you did not answer if there is any threshold for this scale?

Response: we have not estimated threshold.

Comment: For the multivariate analyses: you should add in the "statistical analysis" section how you built your model and how you selected the covariates included in your model.

We cannot interpret the results. In fact, if you included in the same model, married/not married, divorced/not divorced: the model is not valid and limit the interpretation of the results.

Response: This study included the following variables in the model: age, gender, marital status, educational attainment, occupation, income status, type of house, living in own/rented house, household monthly income, household population and area of residence, adjusting for diagnosis. Different education, occupation and marital status groups were used as dummy variables in the model. Dummy variable approach is acceptable in regression analysis when categorical variables are within the predictors. With respect to marital status, ‘currently married’ is the reference group. With respect to educational attainment, ‘less than primary’ is the reference group. While, ‘unemployed’ is the reference group for occupation. We have interpreted our findings in light of this. For example: In comparison to the unemployed individuals, individuals in elementary occupation, students and homemakers experienced 0.37 (95% CI: -0.66 to -0.08), 0.75 (95% CI: -1.08 to -0.43) and 0.51 (95% CI: -0.82 to -0.19) points decrease in the severity of LD, respectively after adjusting for diagnosis and rest of the socio-demographic variables. (Reference: Kirkwood B, Sterne J: Essential Medical Statistics. Wiley; 2003.)

Comment: Discussion:

* It is too long

* The first paragraph should sum up the main results. You don't need to talk about statistical analyses

* You could better organize the discussion: 1) comparison with previous studies (developing countries, and also developed countries), 2) strengths and what your study brings in comparison with previous data, 3) Limitations: here you can include the lack of generalizability (the CRP is not representative of the national population at least or age and gender)

Response: Thank you very much for your helpful comment. We have revised our discussion section accordingly. We have reduced discussion section to 1590 words from 2779 words. Please see the revised version in tracked changed.
Editorial comments

1. Comment: Add period to title
Response: Period added to the title.

2. Comment: Revise text for English
Response: Text is further reviewed for English. Please see the revised version.

3. Comment: When submitting new version with track changes, only present track changes for current version only
Response: Done accordingly.