PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Risk Factors for Non-Communicable Diseases in Bangladesh: Findings of the Population-based Cross-sectional National Survey 2018
AUTHORS	Riaz, Dr. Baizid; Islam, Md. Ziaul; Islam, ANM; Zaman, MM; Hossain, Md.; Rahman, Md.; Khanam, Fahmida; Amin, KM; Noor, Irfan

VERSION 1 – REVIEW

REVIEWER	Ronald Wesonga Sultan Qaboos University Department of Statistics Sultanate of Oman
REVIEW RETURNED	30-Jun-2020

GENERAL COMMENTS	Introduction: In this study, the authors sought to determine the prevalence of risk factors of non-communicable diseases (NCD) in adult population of Bangladesh using a populationbased cross-sectional national survey conducted in 2018. General comment: This study used 496 primary sampling units (PSUs) developed by Bangladesh Bureau of Statistics. PSUs were equally allocated to each division and within each division, were equally allocated to urban and rural stratum. Inspite of the apparent stratification of the data by residence (rural-urban), the authors did not consider, using hierarchical model in their analysis. They just clamped all the data together, albeit increasing the likelihood of errors in the estimated parameters or simply misrepresenting the determinants of NCD risk factors. The following studies strongly support the need for stratification by rural urban: Hanifi, S.M.A., Mahmood, S.S. and Bhuiya, A., 2011. Smoking has declined but not for all: findings from a study in a rural area of Bangladesh. Asia Pacific Journal of Public Health, 23(5), pp.662-671. Bhuiya, A., 2009. Smoking Has Declined But Not for All: Findings From a Study in a Rural Area of Bangladesh. 2 SPECIFIC COMMENTS 1. Table 1 is not informative enough. Given the data were stratified by residence, it is better to group by residence (R|U) rather than sex.

	2. How significantly different are the risk factors by residence? A bivariate statistical test is necessary to provide a conclusion or an answer to this question. Such as another table that shows results of say a chi-square test between NCD risk factors and residence. 3. Only age, gender, marital status, residence and occupation were considered as possible predictors. What about the economic factors. Without them, the assessment of determinants of NCD risk factors is not complete. 4. The conclusion can be improved further based on the results and discussions.

REVIEWER	Biplab Datta Centers for Disease Control and Prevention, USA
REVIEW RETURNED	05-Jul-2020

GENERAL COMMENTS	This article reports the findings of the latest round of STEPS survey in Bangladesh. The authors follow the standard presentation format of the previous STEPS report (i.e. 2010). I think that the summary of the survey is nicely documented in the manuscript. Some comparison of the risk factors of the 2010 and 2018 rounds is also provided in the discussion section, which is a good addition. The only suggestion I have is to briefly compare the combined risk factors across the two rounds (i.e., 2010 and 2018).

VERSION 1 – AUTHOR RESPONSE

Response to the comments of the reviewer 1

SL No	Comment / Request	Response
1.	Please state any competing interests or state 'None declared'	Thank you for the vital comment. We have declared it (Page 17).
2.	Table 1 is not informative enough. Given the data were stratified by residence, it is better to group by residence (R|U) rather than sex. We have also reviewed the suggested reference articles of Hanifi, S.M.A et al., and Bhuiya, A., et al and accordingly we have taken cautions.	Thank you for the very important comment. Table 1 is grouped by residence (R|U). Accordingly, the findings are deployed based on weighted data (Page 9).
3.	How significantly different are the risk factors by residence? A bivariate statistical test is necessary to provide a conclusion or an answer to this question. Such as another table that shows results of say a chi-square test between NCD risk factors and residence.	Thank you for the vital comment. Bivariate statistical test (Chi-square test) between the NCD risk factors and background characteristics including residence and economic status is done and accordingly results are deployed in the table 3 (Pages 12).
4.	Only age, gender, marital status, residence and occupation were considered as possible predictors. What about the economic factors? Without them, the assessment of determinants of NCD risk factors is not complete.	Thank you for the crucial comment. Economic factor has also been considered as a predictor and results are revised accordingly (All the tables). The economic status has been determined considering Wealth Index by Principal Component Analysis.

	The conclusion can be improved further based on the results and discussions.	Thank you for the important comment. We have revised the conclusion based on the results and discussions (Page 16).
5.		

Response to the comments of the reviewer 2

SL No	Comment / Request	Response
1.	Please state any competing interests or state 'None declared'	Thank you for the vital comment. We have declared it (Page 17).
2.	This article reports the findings of the latest round of STEPS survey in Bangladesh. The authors follow the standard presentation format of the previous STEPS report (i.e. 2010). I think that the summary of the survey is nicely documented in the manuscript. Some comparison of the risk factors of the 2010 and 2018 rounds is also provided in the discussion section, which is a good addition. The only suggestion I have is to briefly compare the combined risk factors across the two rounds (i.e., 2010 and 2018).	Thank you for the vital comment. We have compared the combined risk factors across the two rounds of STEPS i.e., 2010 and 2018 (Page 16).

VERSION 2 – REVIEW

REVIEWER	Dr. Ronald Wesonga Sultan Qaboos University Department of Statistics Sultanate of Oman
REVIEW RETURNED	09-Sep-2020

GENERAL COMMENTS	1 TITLE: RISK FACTORS FOR NON COMMUNICABLE DISEASES IN BANGLADESH: FINDINGS OF THE POPULATION-BASED CROSS-SECTIONAL NATIONAL SURVEY 2018 Introduction: In this study, the authors sought to determine the prevalence of risk factors of non-communicable diseases (NCD) in adult population of Bangladesh using a populationbased cross-sectional national survey conducted in 2018. General comment: The authors have addressed the review comments and the draft manuscript reads better than before. 2 A FEW SPECIFIC COMMENTS 1. Clarify about the owner of the NCD data, is it the authors of this paper or the Bangladesh Bureau of Statistics and its MOH? 2. State whether the assumptions of the logistic regression, specifically the one on multicollinearity were tested. If so, aren't occupation and economic status highly correlated? Similarly, Glocuse level and total cholesterol? 3. In the conclusion, clarify what is meant by high-risk groups.

VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Comment 1:

Clarify about the owner of the NCD data, is it the authors of this paper or the Bangladesh Bureau of Statistics and its MOH?

Response:

Thank you for the vital comment. For your kind information, the owner of the NCD data is the NCD programme of the Directorate General of Health Services (DGHS) of Bangladesh. On the other hand, the National Institute of Preventive and Social Medicine (NIPSOM) organized and conducted the study. A Memorandum of Understanding (MoU) was signed by the two parties (DGHS and NIPSOM), in which the authors of the papers (Faculties and researchers of NIPSOM) are authorized to disseminate the study findings using the NCD data.

Comment 2:

State whether the assumptions of the logistic regression, specifically the one on multicollinearity were tested. If so, aren't occupation and economic status highly correlated? Similarly, Glocuse level and total cholesterol?

Response:

Thank you for your very crucial comment. For your kind information, we determined the economic status by the principal component analysis of the household assets and obtained data on occupation by interviewing the participants. To assess the degree of association of the risk factors, we used the adjusted odds ratio (AOR). We tested multicollinearity and adjusted the risk factors through multivariable logistic regression analysis. We have explained it in the methods section under the heading of 'statistical analysis' (Page 8) and revised table 4 (Logistic regression analysis), where all the findings are significant at the p-value <0.05 (Page 13).

Comment 3:

In the conclusion, clarify what is meant by high-risk groups

Response:

Thank you again for your important comment. We clarified it with the explanation as 'high-risk groups having three or more NCD risk factors. (Page 13).