Reviewer's report

Title: Relationship between psychological health and quality of life of people affected by leprosy in the community in Guangdong province, China: a cross-sectional study

Version: 0 Date: 24 Dec 2018

Reviewer: DERICK AKOKU

Reviewer's report:

The manuscript: Association between psychological health and quality of life in persons affected by leprosy living in community: a cross-sectional study of 7,230 participants in Guangdong province, China, reports on a cross sectional study that was conducted in China. The manuscript could be improved with more contextual information, more clarity on the methodology and analytical method, proper interpretation of the results and proofreading of the article by someone with a strong command of the English Language or a native speaker.

TITLE
The manuscript title, "Association between psychological health and quality of life in persons affected by leprosy living in community: a cross-sectional study of 7,230 participants in Guangdong province, China" could be modified to "Association between psychological health and quality of life in persons affected by leprosy in a community in Guangdong province, China: a cross-sectional study"

BACKGROUND SECTION
I think it will be a good idea for the authors to briefly highlight in their first paragraph the epidemiology/burden of Leprosy globally and narrow it to that in China. Line 20-24: This statement is not clear to the reader. Please rewrite this sentence to make it easier for the reader to understand and if possible include a reference at the end of the sentence. In the current version of the manuscript, the authors did not highlight gaps in the literature which formed the basis of their study. Has there been a lack of scholarly literature on the QOL of Leprosy patients in China? Was has been the shortcomings of previous research in the area which the authors could use as the basis for their study? I would suggest that the introduction/background should be rewritten taking these into account.

The authors did not explicitly state the objectives of their study. I would suggest the authors to state their objectives. E.g, "The objectives of this study was….."
METHOD SECTION

Study design:
The authors should also describe the profile of the community where the study was conducted. What is the name and profile of the community? What is the population of the community? etc. Please provide more details about your study setting so that readers outside Quangdong can understand the setting where the study was conducted.

The author have indicated in the manuscript that the study was a cross-sectional study but failed to mention in the manuscript how they calculated their sample size. What parameters were used? What sampling method was used?

PARTICIPANT RECRUITMENT AND QUESTIONNAIRE ADMINISTRATION
The authors wrote: "…..investigators first downloaded the information of each person from LEPMIS and then excluded persons who had died with the assistance of the local public security bureau." It is not clear how participants were approached/recruited. Please describe in a systematic manner (step-by-step) how the participants were recruited.

The authors did not properly describe in the current version of the manuscript how questionnaires were administered in the study. Was it self-administered or interviewer administered questionnaires (paper-based or electronic). Were questionnaires administered in the community at household level or … and by who? Were the questionnaires in Chinese or English? Please provide details to your readers for reproducibility.

DATA COLLECTION AND OUTCOME MEASUREMENT
Please kindly use separate sub-headings for (1) data collection and (2) measures. The authors should tell their readers how data were collected. Were participants informed about the objectives of the study? Were participants assured of confidentiality etc prior to data collection? If these are not described for a cross-sectional study, then it is the reviewers view that there were shortcomings in the study design and implementation.

What were your dependent/outcome and independent variables? Did you explore and considered co-variates in the study? I suggest that the authors describe their study variables and how the outcome variables were measured. It will ease readability if the authors used subheadings to describe how the outcome variables were measured. I think it will also be a good idea if the authors briefly describe each of the dimensions.

The authors did not tell their readers how the raw scores for the 4 dimensions were transformed. Please provide details on how this was transformed for reproducibility.

STATISTICAL ANALYSIS
The authors should explain to their readers when Chi-square and Kruskal Wallis tests were used and under what circumstances?

The authors mentioned that: "Logistic regression analysis was performed to evaluate the relationship between the GHQ12 score and the dimensions of QOL". I assume this was a binary outcome variable. The authors should explain to their readers how the GHQ12 score was coded.

The authors did not inform their readers if they tested for interaction terms/effect modifications among any co-variates of interest to determine if the relationship had a modifier effect. What about confounders?

It is not clear in their statistical analysis section if they performed bivariate analyses before multivariate logistic regression analysis. What criterion was used to retain candidate variables?

The authors did not inform their readers what they used to quantify the strength of the association. There is no mention of Crude and Adjusted Odds Ratios in the statistical analysis section.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The authors indicated that: "This research has been reviewed and approved by Ethics Review Committee of Guangdong Provincial Center for Skin Disease and STI Control." Was there any reference number assigned to the approval. If so, I suggest the authors to include it in parenthesis.

RESULTS

Demographics: The authors should report on the response rate of the study.

Line 20-22 "Fear of having their information revealed was the most frequent reason (311 PALs) for people not participating in this research". I suggest that this should be removed from this section and incorporated under the data collection section of the manuscript.

I note that in the manuscript there was used of psychological status and mental health interchangeably. I would suggest that the authors use either consistently throughout the manuscript to enable their readers

Line 38: Table 1 title should be modified to preferably read Demographic characteristics by mental health status.

Please modify Table 2 as well. Eg., Quality of Life (QOL) scores by mental health status

LOGISTIC REGRESSION ANALYSIS OF GHQ12 SCORE

The authors stated in Line 3-5 that: "Gender, age, employment, and profession were independent factors for psychological health status". If these are independent factors, then Adjusted Odds Ratios (AOR) should be reported not Crude Odds ratio (OR). Please make changes as necessary.

I would suggest that the authors use two decimal places while reporting Odds Ratios and 95% CI.
Please include a footnote below Table 3 to inform your readers what "Other" profession means. The age group "<30" is wrongly placed in Table 3. Age group should most appropriately be in chronological order. What was the referent category for QOL in Table 3?

LOGISTIC REGRESSION ANALYSIS OF GHQ12 SCORE
The authors stated that: "PAL who were female (female vs. male: OR=1.309, 95%CI=1.132-1.515) were more likely to have a mental disorder". This interpretation does not reflect the data in Table 3. Rather, it should read: "Males were more likely compared to females to have a mental disorder (AOR=1.309, 95% CI=1.132-1.515). This is because females are the referent category (AOR=1.0) according to Table 3 reported in the current manuscript. I would suggest that the authors conduct a re-analysis of their data and provide appropriate interpretation.

DISCUSSION AND CONCLUSION
Please discuss the most significant findings of your study taking into account the available scholarly literature on the subject.
In the limitation section, the authors mentioned "A sampling method was applied to this survey". They however, failed to mention how sampling was conducted in the methods section. This study has other limitations which I think the authors need to highlight.

Please ensure that your conclusion is drawn from your findings/data. I would request the authors to rewrite their conclusion section.

REFERENCES
I would request the authors to use a bibliographic software to organize their references so that it conforms with BMC Public Health style.

OTHERS
The reviewer requests the authors to insert page numbers in subsequent drafts of the manuscript so that it can be easy for page and line number to be assigned on reviewers comments.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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

No

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

No

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:

Not suitable for publication unless extensively edited

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Please complete a declaration of competing interests, considering the following questions:

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