Reviewer's report

Title: Smoking and mental illness: Results from population surveys in Australia and the United States

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Reviewer: Brett T Hagman

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Article Review

Lawrence, D., Mitrou, F., & Zubrick, S.R. (under review). Smoking and mental illness: Results from population surveys in Australia and the United States.

Summary of Article:

This study compared smoking rates among those with and without mental illness from several population-based health surveys.

Contribution to the Literature:

In its current form, I do not see how that manuscript adds to the current body of existing literature. The Introduction, Methods and Results sections could use a major makeover and more thought into how this study contributes to the literature. In addition, the description of results is sparse, confusing, and it does specifically link up to the hypothesis being addressed. There are too many Tables and Figures without a discussion of them in the Results section, and this data already has been available in prior published studies. That said, however, I would encourage the authors to use the information in the Discussion section to write a review of literature on this topic. The manuscript, in its present form, does not merit publication at this time.

Article Strengths:

1) The assessment of population-based rates of smoking and mental illness represents a needed direction in public health practice and policy and is a timely topic of interest.

2) A primary strength of this manuscript is the use of population-based surveys that use statistical weights to obtain representative estimates of smoking rates within the US and Australian populations.

Article Limitations Major and Minor Revisions Combined:

Introduction:

1) First paragraph (starting at Line 6): What type of odds ratio is being reported? In addition, what does it imply? The interpretation of the odds is not clear. In
other words, which group has the greater odds of smoking?

2) The Introduction could benefit from providing a better rationale (i.e., literature review) for the articulation of the current study’s hypotheses.

3) It remains unclear how Hypothesis 2 was developed. There is no mention of rates of smoking among young adults who do or do not have a mental illness within the Introduction.

4) The term “mental illness” is used throughout the Introduction, but the authors do not operationally define it. It seems to be a broad construct that they are examining, but they need to provide a better description of the term.

5) At the end of the Introduction, the authors do not mention all of the surveys that they are interested in using to examine rates of smoking among those with mental illness. Please state explicitly which surveys are used for the current manuscript.

6) The article does not provide a theoretical rationale for the study’s hypothesis (e.g., see Hardening Theory of Tobacco Use)

Methodology:

1) Within each survey description, it is important to state what type of complex sample design was used. This is important because it has implications for how the standard errors of your estimates (e.g., Odds Ratios) should be adjusted.

2) It is important to note that NHIS does not permit a comprehensive assessment of specific mental disorders, rather it utilizes a serious psychological distress indicator.

3) Within the operationalization of tobacco use, it would be useful to provide a better description of how each survey measures current tobacco use. In addition, why is this the only indicator of interest?

4) The formatting of the methods section towards the end needs to be re-worked. There are places in which the authors use only a sentence to reflect a particular section. This provides a sense of disorganization with the manuscript in its current form.

5) What is the basis for using the K6 score in the NHIS survey as a continuous measure rather than classifying people into “No SPD” and “Current SPD”, which is the primary use of the measure. This does make the interpretation of the logistic regression much easier.

Results

1) The results section could be re-worked in order to demonstrate some of level of
organization. The reader needs a clear sense of the comparisons that are being made and how the comparisons address the specific research questions of interest within the current study. This section could use a complete makeover.

2) Is the comparison between average number of cigarettes smoked and level of psychological stress statistically significant different from one another.

3) In the comparison for age group, be more specific with respect to how the authors define "strong" and "weak" comparisons.

4) With respect to the rates of smoking among those with mental illness, it is not clear how these findings differ from what has already been published in the literature.

4) There are way too many tables and figures for the current study. These need to be reduced and a better narrative needs to be discussed in the results section. In other words, there is little mention of the types of mental disorders reported on in the tables.

Discussion

1) This section reads more like an Introduction section and is very lengthy and needs to be reduced substantially.

2) The information contained in this section would be very useful information for a review paper on this topic. However, the authors do not do a good job of integrating their findings from the current study and discussing them within this section.

3) It is important to know more about what their findings mean and whether or not the hypotheses of the current study are supported. This needs to be explicitly stated within this section.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests below