Reviewer's report

Title: Suicide and Related Health Risk Behaviours among School Learners in South Africa: Results from the 2002 and 2008 national Youth Risk Behaviour Surveys

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Reviewer: Amy James

Reviewer's report:

Report to Authors

It is very important to have data from Sub Saharan Africa as this is an area of the world where youth suicide is poorly understood.

Issues to be addressed:

When assessing the work, please consider the following points:

1. Is the question posed by the authors well defined?
   Study addresses the need to assess the suicidal thoughts and behaviors among students in RSA grades 8-11 is clearly stated as an area of clear concern.

2. Are the methods appropriate and well described?
   The measure, from the US CDC YRBS, has been used for some time to determine trends within US. The procedure to modify/clarify the measure for the target audience was made clear.

   One concern regarding this measure is the long interval between data collection years (2002 and 2008) in the RSA, the measure is administered every other year in the US to track trends. In this case, the 6 year interval is so long none of the same students are evaluated changes within a cohort cannot be assessed nor can trends over time.

   The second concern is that in the US there are high rates of suicidal thoughts and behaviors in years of transition (grades 9 and 12). In both RSA data collections periods, grade 12 students are omitted due to Matric exams. It would be helpful to consider administering the YRBS to grade 12 students at a different time period because the risk for secondary students cannot be assessed when one grade is omitted.

   In addition, there is no description of the time frame during which the data was collected. As there have been several publications (ie Flisher et al, 1997) indicating a seasonal variation in suicidal behaviors in the RSA the temporal aspects of this project should be discussed, it is not clear if the data collection
occurred simultaneously in all sites as is typically done in the USA to prevent temporal effects to impact the data.

3. Are the data sound? The question of representative sampling remains unclear—the stratified sampling was described but the total student populations grades 9-11 were not described for each region.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

5. Are the discussion and conclusions well balanced and adequately supported by the data? The suggestion that feeling unsafe at school is a contributing factor to suicidal thoughts and behaviors should be reworded. While sadness and hopelessness are well documented symptoms of depression and suicidal behaviors, the only statement that can be made regarding feelings of being unsafe in school is that there is a correlation between suicidal behavior and feeling unsafe at school and/or poor body image however, no conclusions about causation can be drawn. There is literature regarding trauma and suicidal behaviors in RSA, but there is no correlation in this study between having been forced to engage in sex (a traumatic event) and suicidal behavior, this should be addressed as an expected correlation that was nonsignificant in this evaluation.

6. Are limitations of the work clearly stated? Limitations of time for data collection and between data collections should be expanded.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Research cited is appropriate however given some of the questions raised in this review, some references may be missing see the references below for some additional suggestions.

8. Do the title and abstract accurately convey what has been found? Yes although there is some additional information discussed beyond risk behaviors related to suicide that should be removed.

9. Is the writing acceptable? I would limit the discussion of the other risk behaviors to those that correlate with suicidal thoughts and behaviors. The other health risks (unprotected sex, carrying a weapon) are important but unrelated to your stated interest regarding youth suicide. They may very well warrant a separate paper, your conclusions about the need for education regarding unsafe sex is very important but unrelated to the concern about suicidal behaviors. The need for suicide prevention education and possibly screening and treatment for depression seems pretty clear, but that need is not made clear in the conclusion and need for future research.

Statistical evaluation. Because this data was collected at multiple sites, a nested analysis such as HLM would be more appropriate than chi square or stepwise regression as an analysis. The method used by the authors does not control for site differences while HLM would do just that. This paper may help http://www.indiana.edu/~statmath/stat/all/hlm/hlm.pdf
Refs


Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.