Reviewer's report

Title: Suicidal behaviour across the African continent: A systematic review of the literature

Version: 1 Date: 10 February 2014

Reviewer: Ruchi Bhandari

Reviewer's report:

Major Compulsory Revision 1

Figure 1 - flow diagram is confusing. It would help if the authors could please depict clearly:

- Out of 2412 studies (or were they 2412 + 12 additional studies?), only 134 (or 134 + 12?) were selected for detailed evaluation. Please write why the rest were excluded.
- Then, out of 134 (or 134 +12), please depict the correct number of studies that were excluded for different reasons. Please list the reasons very briefly.
- Finally, please show the number of studies that were finally included in the review.
- Was the search done separately for suicide and suicide attempts? If so, I would suggest having two flow diagrams one each for suicide and suicide attempts.

The authors can use the PRISMA (preferred reporting items for systematic reviews and meta-analyses) guidelines as a checklist. The suggested flow diagram is available at:


Minor Essential Revision 1

Page 5: Background, 2nd paragraph:

"Despite high mortality rates, suicide rates in Africa have been thought to be very low."

Could you please give a reference for the last part of the sentence?

Minor Essential Revision 2

Page 7: Methods, last paragraph:

"For those countries with more than one eligible publication (e.g., South Africa), the best available data were presented;"

Did the authors compare the data from other eligible publications for the same country? Are the studies from different provinces (parts) of the same country?
Were there discrepancies in the different publications for the same country? Since this is a systematic review, it might be more insightful to include a description of all those studies that met the eligibility criteria for inclusion.

The authors have calculated a median annual suicide rate for each country whose data were available. Using these median annual suicide rates for each country, the authors have then calculated a median suicide rate for countries in the same mortality stratum. However, there are two issues with this methodology. The ranges of annual suicide rates within a country are very wide (for several countries), and the time period for these rates also varies tremendously between countries. Therefore, I would suggest the following steps:

Minor Essential Revision 3
• In Table 1, suicide rates for a few countries have been superscripted "a to d." These are median suicide rates calculated from the annual rates for a period of years in the given publication for that country. However, there are other suicide rates that are also annual rates (e.g., Nigeria, Senegal and many others) but are not superscripted. The authors will need to specify whether these are median or mean annual suicide rates.

Minor Essential Revision 4
• In Table 2, the suicide rate for Nigeria calculated by the authors should be 0.4 and not 0.2.

Minor Essential Revision 5
• Since the years are so varied, it would help if the authors did some sensitivity analyses combining data from similar time periods, and excluding data from very different time periods. For example, the comparisons in Table 2 with GBD data are from 2010. However, as an example, data for Nigeria are over 20 years old. Such comparison (2010 versus 1979-88 data) could be somewhat misleading.

Discretionary Revision 1
Page 7: Methods, 1st paragraph:
Could you please let the readers know why the year 1998 was chosen as the beginning year of the search?

Discretionary Revision 2
• Given the advantages and disadvantages of the measures of central tendency, it would be more insightful to provide the mean, in addition to the median, suicide rates (e.g., in Table 1). Also, when comparing the data with Global Burden of Disease data (e.g., in Table 2), it would be best to use the same measure (mean or median) that GBD has used.

Discretionary Revision 3
• The authors wish to calculate a median suicide rate from the available suicide rates in each mortality stratum. They are doing this by calculating an overall
median rate from the individual median rates for each country. However, an overall median rate from individual median country rates may be different from an overall median rate from individual country rates (not individual median rates). Therefore, it might be useful to calculate this rate from all of the available annual suicide rates, and not just the calculated median suicide rates. For example, on page 10, under the Results section, 1st paragraph, the authors state: "The median incidence of suicide for the...seven countries in the second highest stratum (D) was 3.2 (inter-quartile range 0.4 - 4.6) per 100,000." This was calculated using the median suicide rates of 3.2, 0.7, 0.4, 6.8, 0.4, 3.7, 4.6 for the given countries in mortality stratum D with available data. Instead of using these calculated median values, it would be better to use all of the available annual suicide rate data for each country to calculate the median (and mean) suicide rates for each mortality stratum.

Discretionary Revision 4

• It would be helpful to know if there were outliers for any country (before the authors calculated the median rates from the given annual rates for those countries), and if so, could the authors discuss the possible reasons for such variations.

**Level of interest:** An article of outstanding merit and interest 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.