Reviewer's report

Title: Alcohol abstinence and drinking among African women: data from the World Health Surveys

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Reviewer: Sebastian Baumeister

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The paper describes alcohol consumption among women in 20 African countries. It is well written and clearly structured. In general, statistical analyses are well performed and described. The cited literature is extensive.

Specific comments

1. K-means was used to determine clusters of countries based on country-level percentages. I suppose that five countries per (pre-specified number of) cluster and a total of 20 units is a rather small sample size to compute k-means or any other clustering technique (see e.g. Cova et al. 2008 Geographic Information Science; J Biosci Bioeng. 2009 Sep;108(3):252-8). I would therefore suggest that you omit these findings (including figure 1). If you disagree, please cite a statistical article showing that sample size is sufficient or provide a formal power analysis.

2. Since age was included as a continuous covariate in the logistic models, the association is assumed to be linear. This practice implies that the effect is the same at each level of the exposure. Consider using fractional polynomials or splines to detect possible non-linear relations.

3. Consider using the terms risky single occasion drinking rather than heavy drinking (see Gmel et al Risky single-occasion drinking: bingeing is not bingeing, Addiction in print). Use heavy drinking instead of high drinking to describe high average volume (e.g., Addiction 2010, 105, 817–843).

4. As noted by the authors, current drinking is based on a short time frame of 1-week. Infrequent drinkers, especially those with risky single occasion drinking might have been missed. Is data from a wider time frame (such as 12 month) available?

5. Self-reported lifetime abstaining is also subject to substantial misclassification (Am J Epidemiol 2008;168:866–871). Where there any abstainers that reported drinking within the last seven days?

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