Reviewer's report

Title: "Sleep Disparity" in the Population: Poor Sleep Quality is Strongly Associated with Poverty and Ethnicity

Version: 1 Date: 31 May 2010

Reviewer: Ngianga-Bakwin Kandala

Reviewer's report:

General comments

1. The paper has results of interest to the BMC readership. The study of sleep quality and its relationship with race/ethnicity, socio-economic status (SES) and other factors is very crucial in understanding its ensuing effect on the association between material deprivation and diseases and mortality. The results of this study could help optimize targeted interventions in certain groups and subsequently reduce the adverse societal effects of poor sleep.

2. The report is based on secondary data (Cross-sectional) covering 9,714 randomly selected subjects was used to explore sleep quality by self-report, in relation to socioeconomic factors including poverty, employment status, and education level. The primary outcome was poor sleep quality, an ordinal variable with 5 categories. The methods are robust and well applied.

3. However, I do have some concerns with the paper:

Major Compulsory Revisions

a) Statistical analysis:

The use of a generalized logit model is the appropriate one in this context of ordinal dependent variable with 5 categories and results of the four panels should be displayed. Alternatively, results of the first panel that contrast category 1 with (2, 3, 4, 5) should be displayed which basically should resemble results of the logistic regression. To collapse these categories a priori, I believe, lead to loss of information although, authors claimed that a sensitivity analysis on the cut off was performed. Why should the authors use the generalized logit model but report results of the logistic regression?

b) Table 1: Demographic characteristics of PHMC sample

This table is difficult to read and not informative. It should be rearranged by indicating characteristics of the sample by sleep categories showing differences between groups.

i.e. something like this:

cat1 cat 2 ....cat 5 p-value (for trend)
N(%) for each category
c) Gender interaction:
It was not clear to me why the author did not test gender interaction but only tested some other interactions. Many studies have reported gender interaction in the study of sleep. Gender differences are in term of over report in women and differences in women in terms of difficulties among menstrual women in sleeping. Can the authors investigate this in this sample?

Discretionary Revisions
d) Over adjustment:
I believe that the models were over adjusted in terms of socio-economic factors. Inclusion of poverty, education and employment in the same model lead to over adjustment of the models. It is important to investigate this by excluding perhaps education in the model where employment is included and vice versa.

e) Concluding statements
It is important that the authors clarify whether the concluding statements were generated from the unadjusted or adjusted results. In my view, when results turn out to be insignificant in the adjusted models, the unadjusted results do not hold anymore.

For the benefit of the readers, it will be very useful for the authors to clearly indicate what was significant in the unadjusted models and adjusted models and then conclude from them.

f) The discussion section does not clearly explain the public health implication of the findings.

**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