Reviewer’s report

Title: Sleep duration of underserved minority children in a cross-sectional study

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Reviewer: YK wing

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Re: Sleep duration of underserved minority children in a cross-sectional study

This is a cross-sectional study of 483 Hispanic and black children of age range of 9-12 with objective sleep measurement by accelerometry and physical anthroprometric measurement. The strength of the study lied on the objective measurement of both sleep and obesity indices. The study reported that this group of children only slept 8.8 hours and obese children slept shorter than normal weight ones. However, there are several issues that will need further clarifications:

Major comments

1. Subject selection: This was a convenient and purposive sampling of underserved minority children, which has limitation of its own. There was no detail description on the response rate. A pertinent issue is how representative this group of underserved minority children will be. Any comparison of their SES and physical status with the general population in the Texas area and/or the country? The lack of a control group also posed a question to the conclusion – was the sleep deprivation specific to this group of disadvantaged children or to all children? Was it the SES (economically deprived) or the minority ethnicity (cultural and ethnicity) issues that matter? In other words, the authors have not been able to inform the readers on whether this group of deprived minority children being more vulnerable to sleep deprivation.

2. SES status: as the majority of children came from the socioeconomic deprived group, it will not be surprising that SES was not a significant factor related to sleep duration and obesity.

3. Sleep measurement: the use of actical is a major strength of the study. Any age and gender differences between black and Hispanic children that may account for differences in their sleep duration? Did the authors also look at the daytime naps that some of the minority children may keep the siesta culture?

4. Weekday-weekend differences: It is a global trend that children would compress the weekday sleep and attempted to compensate it during weekend. It was shown by Wing et al (The Effect of Weekend and Holiday Sleep Compensation on Childhood Overweight and Obesity. Pediatrics 2009; 124:e994-e1000.) that weekend compensation may ameliorate the sleep deprivation related overweight/obesity. Did the authors note the effect of weekend compensation in this current study?
5. Age and gender effect: the older girls slept shorter than similar age boys. Any measurement and correlation with the pubertal status?

6. Obesity and sleep measurement: it was interesting that there was a high proportion of overweight/obese children in this study. As the determination of the overweight/obesity status was referring to the normative references, was the normative references standardized for minority group? In addition, did the authors also measure other comorbid sleep symptoms including Obstructive sleep apnea and insomnia, which were commonly present in obese and deprived children respectively.

7. Inadequate sleep: any reasons to explain the lack of sleep in this group of minority children? Recent studies suggested a web of factors including school start time, parental and SES influences that may predict sleep duration of children (Zhang et al. Roles of parental sleep/wake patterns, socio-economic status and daytime activities in the sleep/wake patterns of children. Journal of Pediatrics 2010; 156:606-612.) as well as the solid evidences of delay school start time in ameliorating the sleep deprivation (Owens et al. Impact of delaying school start time on adolescent sleep, mood, and behavior. Arch Pediatr Adolesc Med. 2010 Jul;164(7):608-14.)

Minor comments

8. Discussions: there was an over-elaboration on the differences among different objective sleep measurements in the discussion.

Level of interest: An article whose findings are important to those with closely related research interests

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