Effect of Short and Long Sleep Duration in Predicting Obesity Among Various Racial Ethnic Groups of a Large Multi Ethnic Organization

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Effect of short and long sleep duration in predicting obesity among various racial groups of a large multi ethnic organization.

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Background

- Obesity is a preventable chronic condition, and its distribution is diverse across age, gender, race, culture, and various socioeconomic groups of populations.
- Obesity is now recognized as a national epidemic in the United States, as about 36% of US adults are obese.
- Obesity is an established risk factor for many chronic health problems, including heart disease, stroke, type 2 diabetes, and various cancers.
- As the prevalence of obesity has increased over time, average sleep duration in the United States has declined considerably, with an increasing proportion of persons who sleep less than 6 hr a day.
- Self-reported sleep duration is influenced by a number of factors, particularly race/ethnicity and socioeconomic status.
- Studies have shown that African Americans and other racial minorities are equally likely to report both short and long sleep durations.

Methods

- This cross-sectional study was conducted among employees of Baptist Health South Florida, a large nonprofit healthcare organization based in Miami, Florida, who participated voluntarily in an annual Health Risk Assessment (HRA) in 2014.
- The data collected from the online health questionnaire included demographic characteristics such as age, gender, ethnic/racial origin, and educational attainment; self-reported lifestyle characteristics such as diet, smoking status, and physical activity, as well as average sleep duration and sleep quality.
- According to CDC guidelines, we categorized self-reported sleep duration (hrs) as short (<7), reference (7-9), and long sleep (>9), while obesity (BMI kg/m2) was categorized as class 1 (BMI=30-34.9), class 2 (BMI=35-<40) and class 3 (BMI ≥40).

Results

- A total of 9505 participants (mean age 42.6±12 years, 74% females) had complete information on the variables of interest.
- Racial groups consisted of 57% Hispanics, 16% Black, 17% White, 5% Asian and 5% Non-Hispanic other.
- In fully adjusted regression model, when compared to Hispanic group sleeping 7-9 hours (reference), odds of class 1 obesity were significantly higher among Black sleeping <7 hours with OR 1.25; 95% CI (1.02-1.53) and significantly lower among Asian group sleep <7 hours with OR 0.52; 95% CI (0.32-0.84).
- However, the odds of class 2 and class 3 obesity were significantly higher among Hispanic, Black and Non-Hispanic-other sleeping <7 hours.
- Asian group was the only group that showed decreased odds of obesity across both short and long sleep duration categories (Table 1).

Objectives

- Literature shows strong relationship of abnormal sleep duration (especially short) with obesity and increased overall and CVD morbidity and mortality.
- Less is known about abnormal sleep duration is related to obesity among different racial groups.
- The purpose of this study is to report relationship of self-reported short sleep duration with obesity across different racial groups.

Conclusions

- This study shows that sleep durations have varied effects on obesity among different racial groups.
- Short or long sleep duration for one group may not be a better predictor of obesity in another racial group.
- This study emphasizes the importance of appropriate sleep duration categories among various racial groups. Further studies are required to formulate sleep categories among racial groups.

Disclosures

- Presenting author M. Aziz and other authors T. Rajan; D. Morency; M. Penugonda; N. Ross; M. Latif; M. Rouseff, H. Guzman; T. Feldman, E. Aneni; E. Veledar and K. Nasir state that no conflict of interest exists. No off-label or investigational use of a drug was performed as part of this research.