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Title

Obstructive sleep apnea and heart health in young adults in United States

Priority 1 (Research Category)

Cardiovascular disease

Presenters

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Abstract

Context: Obstructive sleep apnea (OSA) is a prevalent sleep disorder that has been linked to various cardiovascular risk factors and diseases. It is currently unclear whether younger adults are more susceptible to OSA-related cardiovascular issues. In this study, we aimed to investigate the relationship between probable OSA (pOSA) and cardiovascular risk factors and diseases in the young adult vs. adult population of the United States.

Study Design and Analysis: A cross-sectional survey dataset from the National Health and Nutrition Examination Survey (NHANES) conducted during 2013-2018 was used to estimate the adjusted prevalence ratios (aPR) using survey weights with Cox proportional hazard regression model.

Setting or Dataset: The secondary dataset included community-dwelling, non-institutionalized adults aged 20 years and older, totaling 9,803 participants.

Instruments: According to a previous report, pOSA is defined by participants answering "yes" to at least one of three questions: (1) Do you snore for three or more nights per week? (2) Do you experience snorting, gasping, or stopped breathing for three or more nights per week? or (3) Do you feel excessively sleepy during the day 16-30 times per month, despite sleeping for seven or more hours per night on weekdays or work nights?

Outcome Measures: Cardiovascular risk factors included hypertension, diabetes, and metabolic syndrome (MetS). Cardiovascular disease (CVD) events included congestive heart failure, coronary heart disease, angina/angina pectoris, heart attack, or stroke.

Results: Upon adjusting for relevant factors, individuals with pOSA exhibited a significantly higher prevalence of several health conditions, including hypertension (aPR: 1.15, p: 0.009), MetS (aPR: 1.12, p: 0.002), heart attack (aPR: 1.55, p: 0.023), stroke (aPR: 1.37, p: 0.045), and any CVD event (aPR: 1.31, p: 0.019). In a subpopulation of young adults (age: 20 to 40 years), the prevalence of CVD events and risk

factors in those with probable OSA showed to be significantly higher; any CVD event (aPR: 3.93, p:0.001), hypertension (aPR: 1.50, p: 0.004), CHD (aPR: 13.65, p: 0.026), angina/angina pectoris (aPR: 11.40, p<0.001), and MetS (aPR: 1.30, p<0.001).

Conclusion:

Our findings suggest that OSA may underscore the importance of early identification and management of OSA in individuals at risk for cardiovascular disease, especially in the young adult population.