

Association of Obstructive Sleep Apnea With the Risk of Affective Disorders

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Importance: Obstructive sleep apnea (OSA) is a common subtype of sleep breathing disorder; however, the association between OSA and the psychological health of affected individuals has not been fully evaluated.

Objective: To investigate the association between OSA and development of affective disorders.

Design, setting, and participants: This study used a nationwide representative cohort sample from the Korea National Health Insurance Service-National Sample Cohort database comprising data from 1 025 340 patients. The study included 197 patients with OSA diagnosed between January 2004 and December 2006 and 780 individuals without OSA who were matched using propensity score matching. Data were analyzed from September 28, 2018, to March 30, 2019.

Main outcomes and measures: Affective disorder events over a 9-year follow-up period. Kaplan-Meier survival curves with log-rank tests and Cox proportional hazards regression models were used to calculate cumulative incidence and hazard ratios (HRs) of affective disorders for each group.

Results: Of the total population of 985 (860 male [87.3%], 540 [54.8%] were aged <45 years), the incidences per 1000 person-years of affective disorders were 49.57 and 27.18 in the OSA and comparison groups, respectively. A total of 1371.7 person-years in the OSA group and 6328.6 person-years in the comparison group were evaluated for affective disorder events. After adjustment for sociodemographic factors (age, residential area, and household income), disability, and comorbidities, the adjusted HRs for patients with OSA developing affective disorders in patients with OSA during the 9-year follow-up period was 2.04 (95% CI, 1.53-2.70). In a subgroup analysis, the adjusted HRs for patients with OSA who developed depressive and anxiety disorders were 2.90 (95% CI, 1.98-4.24) and 1.75 (95% CI, 1.26-2.44), respectively. Moreover, female patients with OSA had a significant likelihood of prospective development of depression and anxiety (adjusted HR for depression, 3.97 [95% CI, 1.54-10.19]; adjusted HR for anxiety, 2.42 [95% CI, 1.17-5.02]) compared with male patients with OSA (adjusted HR for depression, 2.74 [95% CI, 1.80-4.17]; adjusted HR for anxiety, 1.64 [95% CI, 1.13-2.39]).

Conclusions and relevance: This observational study using nationwide data suggests that OSA is associated with an increased incidence of affective disorder, such as depression and anxiety. Further studies appear to be needed to confirm our findings and, if validated, then studies are needed to explore the nature of the observed association, including potential causality, between OSA and affective symptoms.