

Is severe obstructive sleep apnea associated with less depressive symptoms?

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Purpose: Although the high prevalence of depression in obstructive sleep apnea (OSA) patients has been well demonstrated, a positive relationship between the severities of OSA and depression has not been consistently reported in the literature. Recently, depression was unexpectedly reported to be more common in patients with mild OSA. Therefore, we investigated the relationship between OSA severity and depressive symptoms and anxiety in newly diagnosed OSA patients. **Methods:** Symptoms of depression and anxiety were assessed using the Beck Depression Inventory (BDI) and State Scale of State-Trait Anxiety Inventory (STAI-S), respectively. The BDI scores ≥ 10 and the STAI-S scores ≥ 40 were considered to indicate the presence of depression and anxiety, respectively. Apnea severities measured using polysomnography were categorized into mild, moderate, and severe subgroups bounded by the 33rd and 66th percentiles of each parameter such as apnea-hypopnea index, respiratory distress index, and oxygen desaturation index and minimal oxygen saturation (MinSaO₂). **Results:** The sample comprised 795 patients (mean age 49.0 years, 86.9% male). The prevalence of depression and anxiety was 46.2% and 49.2%, respectively. In the crude logistic regression analyses, mild OSA significantly had more depressive symptoms (50.6~53.2%) than severe OSA (40.8~42.0%) regardless of categorized methods (odd ratio 1.412~1.660, 95% confidence interval 1.005~2.338, $p < 0.05$), indicating that the prevalence of depressive symptoms is inversely associated with OSA severity. It remained statistically significant after adjusting by age, sex, body mass index, total sleep time, and Epworth Sleepiness Scale scores. Anxiety was also more common in patients with mild OSA (50.9~53.3%) than those with severe OSA (44.2~47.3%), but only when measured by MinSaO₂ (adjusted odd ratio 1.712, 95% confidence interval 1.170~2.506, $p < 0.01$). **Conclusions:** Anxiety and depressive symptoms may be more prevalent in patients with mild OSA rather than those with severe OSA. These findings were especially evident for depressive symptoms.