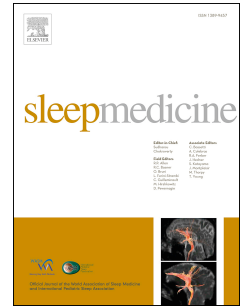


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Obstructive sleep apnea: effect of comorbidities and positive airway pressure on all-cause mortality

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ABSTRACT

Objective: Most studies have used cardiovascular and cerebrovascular disease (CVD) end-points to measure the effect of continuous positive airway pressure (CPAP), but pre-diagnostic morbidities involve a range of comorbidities that may influence the consequences of obstructive sleep apnea (OSA). We therefore aimed to evaluate all-cause total mortality after a diagnosis of OSA, the effect of CPAP in women and men, and the potential effect of major comorbidities.

Methods: We used national registry data as a historical cohort and included 22,135 OSA patients aged 20 years or more with comorbidity data 3 years before diagnosis and follow-up morbidity and mortality over a period of 17 years.

Results: A total of 8129 (37%) accepted CPAP for more than 6 months; 14,006 (63%) were CPAP non-user/non-compliant. Those treated with CPAP tended to have higher mortality rates. Patients treated with CPAP were more likely to be male, elderly, suffer from diabetes, and present with more cardiovascular diseases than those not treated with CPAP. After a diagnosis of OSA, more patients in the CPAP-treated group developed cardiovascular complications. Female gender was associated with lower mortality, whereas age, diabetes type 2, and hypertension prior to OSA diagnosis were associated with negative effects on outcome. After an OSA diagnosis, male gender, age, diabetes (types 1 and 2), hypertension, and heart failure were all associated with greater mortality. CPAP treatment had a positive effect in middle-aged and elderly people, whereas CPAP in females had no effect on all-cause mortality.

Conclusions: CPAP-treated patients present more comorbidities before and after diagnosis compared with non-treated/non-compliant patients, which explains the higher mortality in this group. CPAP treatment is associated with lower mortality rates in middle-aged and elderly (aged 60+ years) males, but only after adjustment for multiple comorbidities. No effect of CPAP treatment on all-cause mortality in female OSA

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