

Sleep disordered breathing strongly linked to increased risk of mortality

Aug 20, 2009 | Caroline Cassels

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Baltimore, MD - Moderate to severe obstructive sleep apnea is associated with an increased risk of all-cause mortality—particularly in middle-aged men [1].

In what is being described as the strongest evidence to date supporting a link between sleep-disordered breathing and an increased risk of death, the **Sleep Heart Health Study** (SHHS), a community-based, prospective, cohort study, found that individuals with severe sleep apnea had a 40% increased risk of death compared with their counterparts without the condition.

"The main finding from our study is that sleep apnea is a risk factor for mortality independent of other major risk factors, including age, hypertension, heart disease, and diabetes, and that this risk seems to be most prominent among men between the ages of 40 and 70," said **Dr Naresh M Punjabi** (Johns Hopkins University School of Medicine, Baltimore, MD) in an interview.

"However, this does not mean women are not at risk. It's just that in our study, despite having eight years of follow-up, there was not a sufficient number of cases of sleep apnea or deaths among women to detect an effect," added Punjabi, who is lead author of the study, which was published online August 18, 2009 in the *Public Library of Science (PLoS) Medicine*.

Although sleep apnea is very common, it is seriously underdiagnosed. Estimates show that approximately 9% of women and 24% of men in the general population have sleep-disordered breathing, which studies have suggested can increase mortality and the risks of coronary disease, hypertension, and stroke.

The investigators prospectively studied 6441 men and women aged 40 to 99 who were participants in the SHHS who were not receiving treatment for sleep-disordered breathing.

About half the study cohort had moderate to severe sleep apnea. Among men, 42.9% did not have sleep-disordered breathing, 33.2% had it in mild form, 15.7% had it in moderate form, and 8.2% had it severely. In women, the corresponding percentages were 64.7%, 24.5%, 7.9%, and 3.0%, respectively.

Following baseline polysomnography, participants were tracked through annual clinic visits for an average of 8.2 years. By the end of the follow-up period, 1047 participants—587 men and 460 women—had died. Adjusted analysis revealed that compared with those without sleep-disordered breathing, those with severe sleep-disordered breathing, defined as an apnea-hypopnea index ≥ 30 , had almost a 1.5-fold increased risk of dying from any cause.


Stratified analyses by sex and age showed that the increased risk of death associated with severe sleep-disordered breathing was statistically significant in men aged 40 to 70.

The study highlights the need for clinicians to pay greater attention to the diagnosis and treatment of sleep-disordered breathing, Punjabi said. The findings also point to the need for large, randomized interventional trials to determine whether treatment improves outcomes in these patients and reduces mortality and rates of cardiovascular disease, hypertension, and stroke, he added.

The study was funded by the National, Heart, Lung, and Blood Institute. Punjabi discloses that he has received honoraria and travel support for continuing medical education lectures or symposia sponsored by Respironics and Resmed. Disclosures for the coauthors are listed in the paper.

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Source

1. Punjabi NM, Caffo BS, Goodwin JL, et al. Sleep-disordered breathing and mortality: a prospective cohort study. *PLoS Med* 2009; 6:e1000132. 

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