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Older women with sleep-breathing problems more likely to see decline in daily functions

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Older women with disordered breathing during sleep were found to be at greater risk of decline in the ability to perform daily activities, such as grocery shopping and meal preparation, according to a new study led by researchers at the Johns Hopkins Bloomberg School of Public Health and the University of California, San Francisco.

The study was published Nov. 6 in the online edition of the *Journal of the American Geriatrics Society*.

The findings are notable given the aging of the population - an estimated 3.7 million Americans will turn 65 in 2015, and by 2030, 19 percent of the U.S. population will be 65 or older - and the fact that sleep-disordered breathing is treatable. Older adults are as much as four times as likely as middle-aged individuals to have problems with breathing during sleep.

Sleep-disordered breathing involves repeated interruptions or decreases in breathing during sleep, which often leads to fragmented sleep and hypoxemia, or low blood oxygen levels. Doctors rate the severity of sleep-disordered breathing with the apnea-hypopnea index (AHI), which reflects the number of breathing interruptions (apneas) and the number of significant decreases in breathing (hypopneas) per hour of sleep.

The study found that women with an AHI on the moderate to severe side, with 15 or more breathing disruptions per hour of sleep, had a 2.2 times greater odds of decline in daily activity functions during the

evaluation period, which averaged five years between baseline evaluation and follow-up.

"Because sleep-disordered breathing can be treated effectively, it is possible that treatment could help prevent decline in important areas of functioning that allow older adults to remain independent," says Adam Spira, PhD, an associate professor in the Department of Mental Health at the Johns Hopkins Bloomberg School of Public Health and the study's lead author. "As is often the case, more research is needed to investigate this possibility."

Because the study was observational, the researchers can't conclusively state that sleep-disordered breathing caused the functional decline, but the research does point to a strong link.

Earlier studies involving older men have linked sleep-disordered breathing with frailty and death. The authors believe this is one of the first studies to assess the impact of sleep-disordered breathing on decline in older women's ability to perform basic functions associated with independent living.

The study included 302 women, with a mean age of 82.3 years. At the start of the study, participants underwent an in-home sleep evaluation. They were also asked whether they had any difficulty performing daily activities, including heavy housework, shopping and preparing meals, or any challenges with mobility, such as walking several blocks or climbing or descending stairs. Participants' self-reported daily activities and mobility were assessed once again in a follow-up evaluation.

The researchers say they believe it is the low blood-oxygen levels caused by sleep-disordered breathing that cause the trouble with daily tasks, and not sleep fragmentation, which is also increased by sleep-disordered breathing.

The authors note that women who reported no difficulties with daily activities during their baseline evaluation but a moderate-to-high AHI had a somewhat higher risk of reporting deterioration in daily-activity function in the follow-up evaluation. No links between sleep-disordered breathing severity and decline in mobility were observed.

More information: "Sleep-Disordered Breathing and Functional Decline in Older Women" onlinelibrary.wiley.com/doi/10 … 1/jgs.13108/abstract

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