

Is Sleep Apnea Related to the ‘Sperm Crisis’?



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The past decade or so has seen the development a worrisome trend in fertility studies — evidence that suggests the possibility of broad declines in male sperm quality. In particular, a French study released in 2012 found significant declines in sperm quality among French men over a 17-year period between 1989 and 2005. The average age of the men in the study was 34-36 years old over the duration of the study period. During this nearly two-decade timeframe, average sperm concentration fell an alarming 32 percent. This isn't the only study to identify widespread decreases in sperm quality — other investigations worldwide have returned similar results. But this latest research elevated the sense of alarm over the public health ramifications of potentially diminished fertility in men, and led many to wonder whether we're facing a "sperm crisis."

If the sperm studies are in fact representative of a downward trend in male fertility, the question becomes: Why? What's behind the widespread decrease in sperm quality? There's not likely to be a single culprit, nor a simple answer. Results of a newly-released study suggest an intriguing

possibility: Could the “sperm crisis” observed in the French study and others be at least partially the result of sleep apnea?

Researchers in Spain have recently investigated the relationship between OSA and male fertility. They found that the intermittent disruptions to breathing that are the hallmark of sleep apnea may lead to a decrease in fertility among men. Researchers conducted the study using male mice. Scientists induced in the mice brief, repeated periods of hypoxia, or oxygen deprivation. Their intent was to stimulate in mice the episodes of interrupted breathing that people experience when they suffer from obstructive sleep apnea. The mice were exposed to short episodes of oxygen deprivation followed by re-oxygenation for six hours a day over a period of 60 days. Scientists then assessed the fertility by allowing the mice to mate, and measuring the number of pregnancies resulting from the hypoxia mice compared to a control group of mice that had not experienced daily episodes of oxygen deprivation. The results were striking. Male mice that experienced a daily pattern of hypoxia episodes demonstrated significantly lower rates of fertility than the normal mice in the control group. The cycles of oxygen deprivation and re-oxygenation created by researchers were almost identical to what happens in people who have undiagnosed or untreated sleep apnea.

It will be critically important to see additional research to support these results and to investigate the link between sleep apnea and male fertility in humans. But these findings make a strong preliminary case that the interruption of regular oxygen flow that’s associated with sleep apnea may lead to diminished fertility in men.

We’ve known for some time that OSA can have negative effects on sexual function in men (and also in women). Research has shown that a significant percentage of men — from 10 percent to 60 percent or higher — with obstructive sleep apnea also have erectile dysfunction (ED). Scientists are still working to understand the relationship between OSA and ED, and exactly how sleep apnea may interfere with normal sexual function in men.

This latest study highlights a significant trend in much of modern society: the delay of parenthood to later years, and its consequences to fertility for couples who want to have children. The risks of OSA increase with age. If in fact sleep apnea does play a part in reducing fertility, older men who seek fatherhood may be particularly vulnerable. The longer obstructive sleep apnea is left undiagnosed and untreated, the greater chance it has to do harm.

These results also may provide at least a partial explanation for the two-decade decrease in sperm seen in the French study. Sleep disorders, including obstructive sleep apnea, have been on the rise for decades. The

rise in disrupted sleep may be contributing to fertility problems and may be at least one piece of the puzzle behind the “sperm crisis.”

All men (and women) who suspect they may suffer from obstructive sleep apnea or any form of sleep-disordered breathing should be evaluated and seek treatment to resolve their sleep issues.

CPAP (continuous positive airway pressure) is the most common and effective treatment for obstructive sleep apnea. Often, people have concerns about wearing the apparatus necessary to receive CPAP therapy. When using CPAP, a mouthpiece worn by the sleeper is connected to a machine that supplies a continuous stream of air that helps to keep the airway open and unobstructed during sleep. Often patients have concerns about discomfort, but they also sometimes harbor self-consciousness and concern about the CPAP device interfering with their sex lives and intimacy with partners. New research provides evidence to dispel the notion that CPAP has a negative effect on sex lives. Researchers at Illinois’ Rosalind Franklin University examined sexual quality of life among CPAP users, and found no negative impact on sexual satisfaction among people who used CPAP on a regular basis. When used consistently as directed, CPAP is highly effective at improving sleep apnea. When CPAP is used regularly, it also leads to improvements in erectile dysfunction.

So, let’s review: Obstructive sleep apnea interferes with sexual function, may diminish fertility, and is associated with a long list of other serious health problems. Treating OSA with CPAP is safe, effective — and doesn’t make you any less sexy or sexually satisfied. I’d say there’s a clear winner here.

Sweet Dreams,

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