

Secondhand smoke in pregnancy, youth tied to irregular heartbeat years later

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Effect was strongest for those without other risk factors for atrial fibrillation, but more study needed.

(HealthDay)—People seem more likely to have atrial fibrillation as adults if they were exposed to secondhand cigarette smoke during childhood or while in the womb, new research suggests.

Atrial fibrillation is a common type of irregular heart rate in which the heart beats too fast, too slow or irregularly, according to the U.S. National Institutes of Health.

"We were surprised to observe the association between [secondhand smoke exposure](#) so early in development, potentially even while still in the womb, and the development of an important heart disease that typically doesn't strike until several decades [later]," said study co-author

Dr. Gregory Marcus. He is director of clinical research in the division of cardiology at the University of California, San Francisco.

However, the study only found an association between secondhand smoke and atrial fibrillation, not a cause-and-effect link, Marcus noted.

"It is important to emphasize that this study is insufficient to draw any firm conclusions regarding cause and effect," he added.

The findings were published online Sept. 1 in the *HeartRhythm Journal*.

The researchers analyzed survey answers from an ongoing Internet-based study group of nearly 5,000 adults. Twelve percent of them said they had atrial fibrillation.

The researchers then took into account the participants' risk factors for atrial fibrillation, including race, sex, education level, smoking history, alcohol consumption and history of diabetes and heart problems.

After considering those factors, they found that adults had 37 percent higher odds of atrial fibrillation if either of their parents smoked while the mother was pregnant. The adults had 40 percent higher odds if they lived with a smoker as a child.

Among adults without other risk factors, the link between atrial fibrillation in adulthood with secondhand smoke during pregnancy or childhood was even stronger, the researchers found.

Even though the study can't prove cause and effect, this greater association in participants without other [risk factors](#) "suggests that secondhand smoke may have effects directly relevant to this important arrhythmia," Marcus said.

The findings were both surprising and disturbing to Dr. Sarah Samaan, a cardiologist at the Baylor Heart Hospital in Plano, Texas.

"The link to [atrial fibrillation](#) is unexpected, particularly because the risk begins to rise even as the baby is developing in the mother's womb," Samaan said. "It's disturbing that a parent's choice to smoke might have such a devastating effect so far into the future."

Atrial fibrillation is a common cause of strokes, Samaan said, and those with the condition often need to take blood thinner medication or undergo invasive procedures.

She said it seems likely that toxins in tobacco smoke can have a direct impact on development of the heart's electrical system. Scientists already know from other research about the negative effects children may suffer from exposure to [secondhand smoke](#), she explained.

"Early exposure to smoke not only can cause respiratory problems, but studies have found that it may also predispose individuals to [coronary artery disease](#), substance abuse, hyperactivity and even aggression and criminal behavior," Samaan said. "Children of smokers themselves are more likely to smoke, which perpetuates all of the associated risks of cancer, heart disease and lung disease."

Samaan encouraged smokers to talk to their doctor about therapies available to help them quit if they plan to have children.

"Quitting is not easy, but it can be done," she said. "If you smoke, you absolutely must find a way to quit if you want to give your children the best possible chance at a healthy childhood as well as a healthy adulthood."

More information: For more on atrial fibrillation, visit the [National](#)

[Heart, Lung and Blood Institute website.](#)

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