

Children's exposure to secondhand smoke may be vastly underestimated by parents

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Credit: Vera Kratochvil/public domain

Four out of 10 children in the US are exposed to secondhand smoke, according to the American Heart Association. A new Tel Aviv University study suggests that parents who smoke mistakenly rely on their own physical senses to gauge the presence of tobacco smoke in the air.

"This reliance on their own physical sensory perceptions leads to misconceptions of when and where [children](#) are exposed to [tobacco smoke](#)," says Dr. Laura Rosen of TAU's School of Public Health and Sackler Faculty of Medicine, who led the research for the study, recently published in *Nicotine and Tobacco Research*.

"No one has previously put their finger on this exposure perception problem," Dr. Rosen says. "This is important for the ongoing debate about restrictions on [smoking](#) in public places, since people may be exposed without being aware of it."

Misunderstandings and misconceptions

The research team conducted in-depth interviews with 65 [parents](#) of young children from smoking households across Israel. They found many false assumptions and a lack of awareness of where and when the children were exposed to [cigarette smoke](#).

"Many parents believe they are taking adequate measures to protect their children from the damage of cigarette smoke. But we found that they are not even aware of some of the exposure, and therefore do not take sufficient measures to protect their children," Dr. Rosen continues.

The researchers then compared the participating parents' misconceptions of [secondhand smoke exposure](#) with scientific findings from recent studies. They found that if the parents believed that if they did not see or smell the smoke, their children were not exposed.

"But previous studies have shown that 85% of smoke is invisible, and many components of cigarette smoke are odorless," says Dr. Rosen.

"What's more, you can't rely on a smoker's sense of smell, which may have been damaged by smoking."

Others reported believing that if they smoked beside an open window, on the balcony or in a designated area—or ventilated the room after smoking—their children would not be exposed to smoke. "But urine tests of children whose parents smoke near open windows indicate double the normal level of cotinine, a product of nicotine," says Dr. Rosen.

Some parents also noted that they believed smoking in the car with the windows open would not harm their children. "The fact is that the level of harmful particles inside a smoker's car may be even higher than in bars where customers smoke freely," says Dr. Rosen. "Research has shown that children exposed to a single cigarette smoked in a car have increased biomarkers 24 hours following the exposure. Also, prolonged exposure at low levels may accumulate over time and cause permanent damage to children's developing lungs and cardiovascular systems.

"To protect children from secondhand smoke, parents must be convinced that exposure occurs even when they themselves do not see or smell the smoke. Parents' awareness of smoke [exposure](#) is essential to protecting children from [secondhand smoke](#)," Dr. Rosen concludes.

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