

Where there is smoke, there may be developmental problems for kids

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(Medical Xpress) -- The dangers of cigarette smoking are common knowledge. And when it comes to smoking while pregnant, life-threatening health hazards extend to the fetus and newborn.

With all this information available to pregnant smokers, why don't they quit?

Scientists at the University at Buffalo's Research Institute on [Addictions](#) (RIA) and the School of Public Health and Health Professions are trying to shed light on this and other questions related to the prevalence and dangers of smoking while pregnant.

In a new study published recently in the journal *Addictive Behaviors*, the researchers looked at the impact of social and [environmental factors](#) on smoking cessation in a sample of low-income, pregnant smokers.

They found that 47 percent of the women who smoked also had a partner who smoked, a common research finding for smoking.

What surprised the researchers, however, was the finding that when a woman's friends smoked -- friends with whom she spends time, not relatives or other [household members](#)—the likelihood that these pregnant women would continue to smoke increased.

Gregory G. Homish, PhD, UB assistant professor in community health and health behavior and first author on the study says that it isn't entirely

clear why the influence of friends was greater than the influence of family members.

"It may be related to the amount of time women spend with friends compared to [relatives](#). It is also possible that the nature of the relationship is important to consider," Homish says.

But Homish cautions that pregnant women smokers -- whose social network includes smokers -- have been shown to inhale side-stream smoke, which contains higher concentrations of toxins than mainstream smoke.

"Side-stream smoke readily enters the bloodstream and may have significant physiological and neurological influences on the [fetus](#)," Homish says.

Co-researcher Rina Das Eiden PhD, senior research scientist at the RIA, says the finding "may point to the need for including the woman's social network and partner in [smoking cessation](#) treatment."

The findings are part of a larger research project. From 2006 - 11 the UB researchers studied pregnant smokers' social networks, behavior and overall health, as well as the health of their newborn children, up to the age of two.

Eiden is the principal investigator on the five-year research project known as "Prenatal and Environmental Tobacco Smoke Exposure: Effects on Child Regulation," funded by a multi-million dollar grant through the National Institute on Drug Abuse (NIDA).

The project has allowed UB researchers to examine the behaviors of pregnant smokers, as well as the impact of prenatal exposure to cigarettes on a child's development of "self-regulation" -- the ability to

modulate emotions and behave in socially appropriate ways.

In this research, Eiden and her co-investigators (Pamela Schuetze, PhD, Craig Colder, PhD, Gerard Connors, PhD, Kenneth Leonard, PhD and Marilyn Huestis, PhD) observed infants of smokers and non-smokers at two and nine months. At two months, infants exposed to cigarettes were less physiologically regulated during sleep compared to non-exposed infants. At nine months, cigarette-exposed infants were less regulated in their physiological reactions to a frustrating situation compared to non-exposed infants.

"This type of physiological dysregulation has been connected with behavior problems in other studies. We also know that boys are biologically more vulnerable," Eiden explains. One goal of this study is to examine if this is due to child exposure to nicotine or to the quality of the caregiving environment, or a combination of both.

Eiden wants to continue studying the children of pregnant smokers up to school age, when issues of self-regulation become increasingly important and may predict social competence and success in school.

Her project is also trying to determine if high quality care giving--maternal behavior and characteristics--may protect the child from the potentially negative consequences of cigarette exposure.

For example, Eiden points out they have found that young mothers may use smoking to deal with stress and may be using it to control anger. Eiden posits that it may be possible to take the anger management interventions that have been applied to alcoholism and repurpose them for smoking.

She explains that the approach to interventions for pregnant smokers needs to be thoughtful and multi-faceted because women may have

multiple reasons for smoking.

"It's not enough to just tell [pregnant women](#) to quit smoking. Helping them quit may involve teaching women strategies to deal with stress or anger and providing support for them and their partners as they deal with parenthood," says Eiden.

Provided by University at Buffalo

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