High stress for new mothers increases secondhand smoke risk for infants

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Recent mothers who experience higher levels of social stressors are the least likely to have rules that totally ban smoking in the home, which could expose their infants to secondhand smoke and increase health risks, according to a study that includes a University of Kansas researcher.

Jarron Saint Onge, a KU assistant professor of sociology and the study's lead author, said mothers with a high level of pre-natal social stressors—including possibly less control over their own housing situation or economic distress—had 2.5 times higher odds to have only a partial or no restriction on smoking in their home than those with no stressors.

He said while the study, published in January in the *American Journal of Public Health*, identified statistically significant socio-demographic and socio-economic trends on home smoking rules where an infant lives, the underlying commonality was the amount of stressors the mother faced.

"Even if you take out all of those other factors, if you're dealing with all of these notions of disadvantage that is tied up in low education and low income, you will see that if you can address the stressors, you are going to increase the amount of people who restrict smoking at home," said Saint Onge, who also serves in the KU Medical Center's Department of Health Policy within the School of Medicine. "You can still say that stress is has an independent risk on home smoking rules."

The researchers examined data for 118,062 women whom had recently given birth in the United States and participated in the Pregnancy Risk Assessment Monitoring System from 2004 to 2010. As anti-smoking sentiment in recent years has led to many restrictions on public smoking, the study found that it had also greatly influenced the prevalence of home smoking rules. Tami Gurley-Calvez, an assistant professor at KUMC's Department of Health Policy, served as a co-author on the study.

Overall, a relatively small amount—6 percent—of mothers in the survey reported to having only a partial rule or no smoking rule at all, meaning 94 percent of mothers did not allow smoking in the home.

However, Saint Onge said the study could help identify causes of stressors that would increase the risk of exposing infants in certain groups to secondhand smoke. For example, controlling for other factors, mothers under the age of 20 had increased the odds of having no or only a partial home smoking rule by 34 percent, compared with those ages 20-34. Similarly, non-Hispanic black mothers have 23 percent higher odds compared to non-Hispanic white mothers of not fully banning smoke from the home.

Saint Onge said because members of those groups reported facing significant stressors that may compromise social control, self-efficacy or power within a household context, which could possibly leave them powerless to change established and immutable smoking habits. Also, smoking, which is a health-compromising behavior, might also be a coping mechanism for people with resource-limited social or environmental settings. The study shows how stress appears to have particularly strong effects for current smokers.

The health risks of smoking and exposure to second hand smoke are widely known, which makes it important to attempt to identify factors

that could cause situations in which a mother's house would not fully prohibit smoking.

"Nobody wants to smoke around their child. So it's these broader social forces that are at play. It's about recognizing at what point are you compromised to forgo smoking rules in your household?" Saint Onge said. "When it comes to smoking, everyone knows that smoking is bad. It's just having the ability to do anything about it."

Because the higher amount of stressors was the common factor for reducing the level of a full home-smoking rule, Saint Onge said public health departments and health professionals could use results of the study to begin planning pre-natal risk assessments to identify potentially dangerous stress levels of the mother.

"Clinicians could begin thinking about stress when they're going through pre-pregnancy visits to identify stress early on or to identify risk groups early on and to identify home-smoking environments early on as well," Saint Onge said.

Provided by University of Kansas