ASHES, Vol. 21(7) – Smoking prevalence among mothers experiencing postpartum depression

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Postpartum depression – the onset of depressive episodes after childbirth – affects an estimated 17% of women worldwide. Women experiencing postpartum depression might turn to substances, like the nicotine found in cigarettes, vapes, and other products, to get temporary relief from sadness and stress. However, in the long term, nicotine's effects on the brain have the potential to worsen depression. For these reasons, we might expect to see that women who smoke are more likely to report experiencing postpartum depression. This week, ASHES reviews a study by Cyrille Kouambo Beckodro and colleagues that investigated this question using a large sample of new mothers in the U.S.

What was the research question?

Among new mothers in the U.S., what is the association between smoking and postpartum depression symptom levels?

What did the researchers do?

The researchers analyzed data from the PRAMS study, a population-based, representative sample of women who have recently given birth to live babies. Participants came from 23 states and New York City, and the data span 2015-2020. Participants self-reported their cigarette use in the past two years and the researchers categorized them as smokers or non-smokers. Participants also self-reported their postpartum depression symptom levels, answering questions like, "Since your new baby was born, how often have you felt down, depressed, or hopeless?" The researchers classified participants according to the severity of their symptoms (from none to severe). The researchers used multinomial logistic regression to examine whether being a smoker was associated with the severity of postpartum depression symptoms.

What did they find?

A minority of participants – approximately 38% – reported no postpartum

depression. Participants with more severe postpartum depression were more likely to smoke (see Figure). Even after accounting for age, body mass index, marital status, and several other factors, the odds of having mild, moderate, high, or severe postpartum depression (as opposed to no postpartum depression) were higher among participants who smoked.

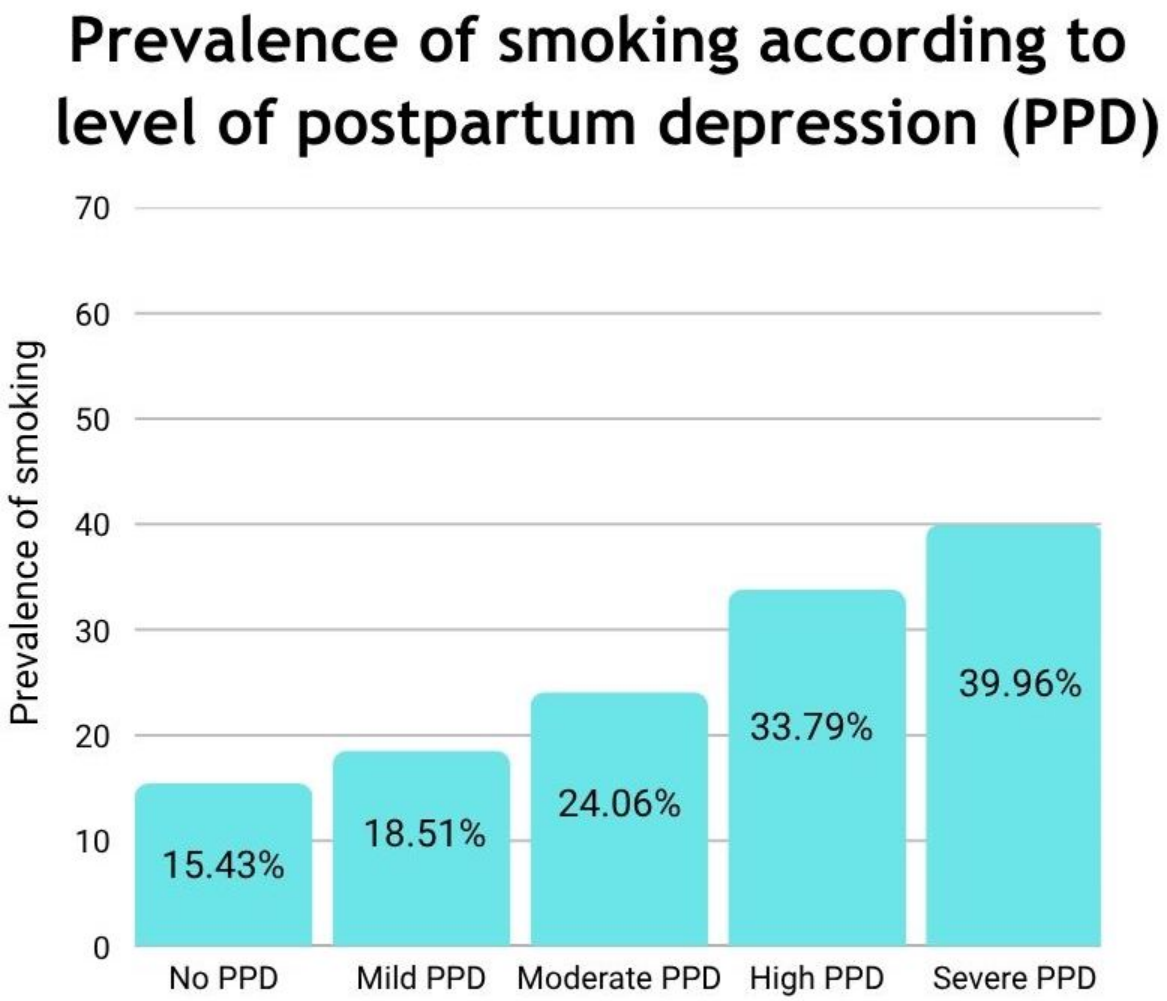

Figure. Prevalence of smoking at different levels of postpartum depression among new mothers in the U.S. Click image to enlarge.

Why do these findings matter?

These results indicate a need to screen for tobacco use within maternal healthcare. Effective smoking cessation programs, such as the "BABY & ME – Tobacco Free" program, can reduce health risks among new mothers who smoke, and among infants and others who would be exposed to secondhand smoke. Equally important, we need to reduce rates of postpartum depression. Potential strategies include integrating behavioral health services within primary care, ensuring that new mothers have access to behavioral health care throughout the postpartum period, providing reimbursement for mental health screening and

education at well-baby visits, and providing paid maternal leave.

Every study has limitations. What are the limitations of this study?
First, this cross-sectional study was not designed to document a causal relationship between smoking and postpartum depression (or vice versa). Other types of evidence could shed light on causal relationships and inform more targeted interventions. Second, this research was conducted in the U.S., which offers very little in the way of maternity leave benefits or protections. Some of these findings might not generalize to countries that better support growing families.

For more information:
You can find a validated postpartum depression screening tool here and more information about maternal smoking cessation here. For additional resources, visit our Addiction Resources page.

— Heather Gray, PhD

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