Prenatal wellness classes found to cut moms' depression in half up to eight years later

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A low-cost, prenatal intervention benefits mothers' mental health up to eight years later, a new UC San Francisco study finds.

In the study, one of the first to look at outcomes so far into the future, pregnant women who participated in a group wellness class that met weekly for eight weeks were half as likely to be depressed eight years later compared to women who received standard care, according to the study published in the *Journal of Consulting and Clinical Psychology*.

Previous research on the same group of women found the intervention also cut their short-term risk of depression and diabetes, and supported healthier stress responses in their children.

"Given the economic and social burden of maternal depression and its potential impact on offspring, our findings suggest a meaningful benefit of a modest investment during pregnancy that supports well-being across two generations," said Danielle Roubinov, Ph.D., UCSF assistant professor of psychiatry and first author of the study.

The eight-week class intervention, led by Elissa Epel, Ph.D., UCSF professor of psychiatry and her team, involved groups of eight to 10 pregnant women who met for two hours a week to practice mindfulness-based stress reduction exercises, focusing especially on mindful eating, breathing and movement. They were led through group lessons and activities by a master's degree-level health professional. The women also received two phone sessions and a postpartum "booster" group session with their infants.

**BIPOC study participants were priority**

Historically, most studies on prenatal depression have included primarily white women—but not this one, noted Nicki Bush, Ph.D., professor of pediatrics and psychiatry at the UCSF Weill Institute for Neurosciences and senior author on the study.

"Our participants were lower-income, racially and ethnically diverse women who are systemically exposed to factors that put them at risk for depression, such as racism and economic hardship," Bush said. "Also, the final years of the study were during the COVID-19 pandemic, when depression rates were higher for everyone, and the burden placed on communities of color was even greater. Even so, the treatment effects held up."

In the study, 162 women were assigned to either the intervention group or standard care group. The women's depressive symptoms were assessed using the Patient Health Questionnaire (PHQ-9) before the wellness intervention classes, after the wellness classes, and 1, 2, 3-4, 5, 6 and 8 years later.
Though both groups of women had equal symptoms of depression before the class, 12 percent of the women who were part of the wellness class reported moderate or severe depressive symptoms at the eight-year mark compared to 25 percent of the women who received standard care, which was a consistent pattern throughout the years.

"Mindfulness practice is known to help alleviate stress in many situations and can meaningfully affect coping and health, and it seems here that it was particularly powerful during pregnancy, with enduring effects," Bush said. "Our sense is that the community connections and social support involved with the (wellness class) group were therapeutic as well."

Stress management, nutrition and exercise during pregnancy

The researchers are currently collecting additional data to better understand how the intervention had such a long-term effect. Potential mechanisms include long-term changes in coping and stress reactivity, nutrition, and exercise.

Up to 27 percent of pregnant women suffer prenatal depression, which is predictive of postnatal depression. Maternal depression is also associated with social, emotional and cognitive deficits in offspring.

"This dramatic demonstration of both short-term reduction of depressive symptoms and long-term prevention of more severe maternal depression, even during the pandemic, is remarkable, even to us researchers," Epel said. "It's likely that the effects of increased stress resilience in these women is having pervasive effects on their own health and their children. We would never have known about the durability of these changes if Dr. Bush and her team had not followed them for eight years. We already know pregnancy is a critical period and the lesson here is that we need to heavily invest in pregnancy wellness interventions."

The researchers hope the low cost and relatively short time commitment of the intervention class will make it easy to scale up to larger groups of pregnant women—especially women of color and those with lower incomes.

"It's critical to have interventions that meet the needs of lower-income, Black, Indigenous, and people of color, who are especially likely to experience the stress of social inequities," said Roubinov. "We're excited to see how these results can be scaled to reach more women, and a more diverse pool of women."

Additional UCSF authors include Michael Coccia, MS, and Nancy Adler, Ph.D., from the Department of Psychiatry and Behavioral Sciences; and Kimberly Coleman-Phox, MPH, from the Department of Obstetrics, Gynecology and Reproductive Sciences.

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