

Economic Hardship Impacts Mental Health During Pregnancy

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How is mental health during pregnancy impacted by socioeconomic disadvantage? In a recent study, we examined the relationship between economic (food, financial and housing) insecurity and perinatal stress, anxiety, and depressive symptoms among a low-income, racially/ethnically diverse population in California's Central Valley. We observed clear associations between many measures of economic insecurity and mental health. Among the 24 models in our study, 15 showed medium to large effects and only three showed negligible effect sizes. The relationship between economic insecurity and poor mental health was stronger for U.S.-born Latinx people than for their foreign-born (93-percent Mexico-born) counterparts. Overall, we found that low-income pregnant people in the Central Valley experienced significant economic insecurities that are adversely associated with mental health. Programs that increase economic supports during pregnancy may serve as important maternal mental health interventions, especially among racial/ethnic minoritized groups.

Key Facts

Stress, anxiety, and depression during pregnancy have negative consequences for babies, including preterm birth and low birth weight.

This study found that economic hardship was linked to significantly higher levels of stress, anxiety, and depressive symptoms among pregnant people in California's Central Valley, especially U.S.-born Latinx people.

Strengthening the social safety net for pregnant people—especially those in racial/ethnic minoritized groups—would likely improve their well-being and that of their children.

Background

During pregnancy, up to 25 percent of patients experience stress, while approximately 15 percent report anxiety symptoms.¹ Approximately 10 percent of pregnant people experience depression, with that figure increasing to 10–30 percent among African American and Latinx women, and to more than 20 percent for immigrant women.² Depression during pregnancy is associated with preterm birth, low birthweight, and fetal growth restriction.³ In previous studies, perceived stress, anxiety, and depression have been found to predict preterm birth, with stronger associations among low-income and racially/ethnically marginalized pregnant people.⁴

Pregnancy is a period of economic unpredictability during which many families experiencing job changes, income loss, and new costs for the baby.⁵ The inability to meet basic needs and a decrease in material supports all contribute to higher stress, anxiety, and depression.⁶ Economic hardship can also increase intimate partner violence in pregnancy, which may contribute to poor physical and mental health.⁷ Food insecurity is associated with a notable increased risk of perinatal mental health disorders, while low financial security is associated with poorer health outcomes.^{8,9}

In the U.S., approximately 17 percent of Latinx households experience food insecurity compared with nine percent of white households. In California more than 33 percent of Latinx households are food insecure.¹⁰ In our study,¹¹ we assessed the relationship between experience of food, financial, and housing insecurities and perinatal mental health among pregnant people in the Central Valley region of California. We examined how these relationships differ by nativity between U.S.-born Latinx and foreign-born Latinx pregnant people. Our hypothesis was that experiences of food, economic, and housing insecurity would be associated with poorer mental health outcomes.

Examining the relationship between hardship and mental health

We used data from a sample of 674 pregnant people enrolled in the Engaging Mothers and Babies; Reimaging Antenatal Care for Everyone (EMBRACE) Study, a comparative-effectiveness trial of two forms of enhanced prenatal care that enrolled Medi-Cal eligible, low-income participants in California's Central Valley from November 2019 to January 2024.¹² The EMBRACE survey included questions about sociodemographic characteristics, health, prior pregnancies, perceived

1. Fairbrother, N., Janssen, P., Antony, M. M., Tucker, E., & Young, A. H. (2016). Perinatal anxiety disorder prevalence and incidence. *Journal of Affective Disorders*, 200, 148–155. <https://doi.org/10.1016/j.jad.2015.12.082>

2. Al-abri, K., Edge, D., & Armitage, C. J. (2023). Prevalence and correlates of perinatal depression. *Social Psychiatry and Psychiatric Epidemiology*, 58(11), 1581–1590. <https://doi.org/10.1007/s00127-022-02386-9>

3. Ghimire, U., Papabathini, S. S., Kawuki, J., Obore, N., & Musa, T. H. (2021). Depression during pregnancy and the risk of low birth weight, preterm birth and intrauterine growth restriction: an updated meta-analysis. *Early Human Development*, 152: Article 105243. <https://doi.org/10.1016/j.earlhumdev.2020.105243>

4. Staneva, A., Bogossian, F., Pritchard, M., & Wittkowski, A. (2015). The effects of maternal depression, anxiety, and perceived stress during pregnancy on preterm birth: A systematic review. *Women and Birth*, 28(3), 179–193. <https://doi.org/10.1016/j.wombi.2015.02.003>

5. Stanczyk, A. B. (2016). The dynamics of household economic circumstances around a birth. Washington Center for Equitable Growth. <https://equitablegrowth.org/working-papers/income-volatility-around-birth/>

6. Katz, J., Crean, H. F., Cerulli, C., & Poleshuck, E. L. (2018). Material hardship and mental health symptoms among a predominantly low-income sample of pregnant women seeking prenatal care. *Maternal and Child Health Journal*, 22(9), 1360–1367. <https://doi.org/10.1007/s10995-018-2518-x>

7. Cochran, K. A., Kashy, D. A., Bogat, G. A., Levensdosky, A. A., Lonstein, J. S., Nuttall, A. K., & Muzik, M. (2023). Economic hardship predicts intimate partner violence victimization during pregnancy. *Psychology of Violence*, 13(5), 396–404. <https://doi.org/10.1037/vio0000454>

8. Hromi-Fiedler, A., Bermudez-Millan, A., Segura-Perez, S., & Perez-Escamilla, R. (2011). Household food insecurity is associated with depressive symptoms among low-income pregnant Latinas. *Maternal & Child Nutrition*, 7(4), 421–430. <https://doi.org/10.1111/j.1740-8709.2010.00266.x>

9. Eick, S. M., Goin, D. E., Izano, M. A., Cushing, L., DeMicco, E., Padula, A. M., Woodruff, T. J., & Morello-Frosch, R. (2020). Relationships between psychosocial stressors among pregnant women in San Francisco: A path analysis. *PLoS One*, 15(6): Article e0234579. <https://doi.org/10.1371/journal.pone.0234579>

10. Securing Food, Securing Our Health: The Impact of Food Insecurity on Latinx Children & Families. (2022). Latino Coalition for a Healthy California. <https://healthpolicy.ucla.edu/our-work/publications/securing-food-securing-ourhealth-impact-food-insecurity-latinx-children-families>

11. Zahid, N., Blebu, B., Felder, J., McCulloch, C.E., Chambers, B.D., Curry, V.C., Carraway, K., León-Martínez, D., Coleman-Phox, K., Kuppermann, M., Karasek, D. (2025) Economic insecurities and mental health among low-income pregnant people in the Central Valley region of California. *Women's Health Issues*, 35(2), 105–115. <https://doi.org/10.1016/j.whi.2025.01.006>

12. Kuppermann M, Pressman A, Coleman-Phox K, Afulani P, Blebu B, Carraway K, Burcher BC, Curry V, Downer C, Edwards B, Felder JN, Fontenot J, Garza MA, Karasek D, Lessard L, Martinez E, McCulloch CE, Oberholzer C, Ramirez GR, Tesfajul M, Wiemann A. (2024) A randomized comparative-effectiveness study of two enhanced prenatal care models for low-income pregnant people: Engaging Mothers & Babies; Reimaging Antenatal Care for Everyone (EMBRACE). *Contemp Clin Trials*. 143:107568. doi:10.1016/j.cct.2024.107568.

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stress, anxiety symptoms, depressive symptoms, employment, income, food security, housing security, and financial well-being.

We assessed economic insecurity through measures of food insecurity, low financial well-being, inability to pay an emergency expense, inability to pay bills, fear of eviction, and history of homelessness. We examined the association of these measures with perceived stress (Perceived Stress Scale), generalized anxiety symptoms (Generalized Anxiety Disorder-7), and depressive symptoms (Patient Health Questionnaire-9), adjusting for age, relationship status, and education level. We also examined effect measure modification by nativity among the Latinx population. Higher scores on each of these scales indicated higher levels of stress, anxiety and depression.

The average age of the participants was 27 years. Seventy-two percent of the sample identified as Latina, Latinx, or Hispanic, of whom 64 percent were born in the United States. Ninety-three percent of the foreign-born participants were born in Mexico.

Economic hardship associated with poorer mental health during pregnancy

We found that participants who reported food insecurity, low financial well-being, inability to pay bills, fear of eviction, or history of homelessness had higher scores on all mental health outcome measures. Participants who were unable to pay an emergency expense greater than \$200 had scores indicating more stress and higher levels of anxiety.

People experiencing food insecurity reported stress scores about 3 points higher, anxiety scores 1.8 points higher, and depression scores 1.4 points higher than those who were food secure. Similarly, individuals with the lowest financial well-being had stress scores roughly 8 points higher, anxiety scores 3.6 points higher, and depression scores 3.3 points higher than those with the highest financial well-being. Difficulty paying bills, fear of eviction, and a history of homelessness were each associated with higher stress, anxiety, and depressive symptom scores.

The strength of these associations differed by nativity. Among U.S.-born Latinx people, food insecurity was linked to stress scores 4.5 points higher and anxiety scores 3.4 points higher than those without food insecurity. Among foreign-born Latinx people, these differences were minimal. We observed similar patterns for the inability to pay bills or emergency expenses. Overall, among pregnant people, economic hardship—especially food and housing insecurity—was associated with poorer mental health, particularly for U.S.-born Latinx adults.

Strengthen the social safety net to improve the well-being of low-income pregnant people

Our study highlights the strong connection between economic insecurity and mental health among low-income pregnant people. Food insecurity, difficulty paying bills, low financial well-being, fear of eviction,

and past homelessness were all linked to significantly higher levels of stress, anxiety, and depressive symptoms. These associations were particularly pronounced among U.S.-born Latinx participants, suggesting that economic hardship may affect different groups in distinct ways and that interventions should be tailored accordingly.

The findings underscore an urgent need to strengthen the social safety net for pregnant people—especially those insured by Medicaid. While recent federal initiatives—such as expanded perinatal mental health funding and a national maternal mental health hotline—represent important progress, many individuals continue to face unmet material and emotional needs. At the state level, programs like California's Guaranteed Income Pilot demonstrate promising approaches to improving financial stability and, in turn, mental well-being. Health care providers also play a key role. Regular screening for economic stressors during prenatal visits, combined with strong partnerships between clinics and community organizations, can help connect pregnant patients to essential resources more efficiently.

Our results call for coordinated, interdisciplinary efforts linking health care, social policy, and community action to ensure that all pregnant people—especially those from racial/ethnic minoritized groups—receive the financial and mental health support necessary for their well-being and that of their children.

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