

Does Stress Affect Birth Outcomes? Women with a Recent Live Birth in Tennessee, 2012-2015

Tennessee's proportion of low birthweight and premature births are above the U.S. average.

Stress either before or during pregnancy has been found to impact pregnancy outcomes like premature and low birthweight birth, as well as developing infants' lifelong health and wellness.¹

The association between experiences of stress before or during pregnancy was examined using data from the 2012-2015 Tennessee Pregnancy Risk Assessment Monitoring System (PRAMS).

What did birth outcomes & stress experiences look like between 2012-2015?

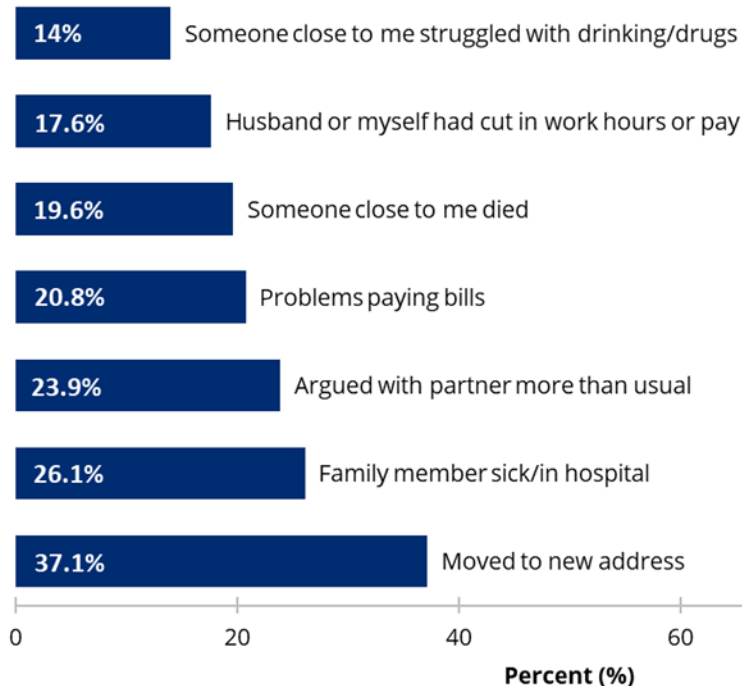
9.5% of infants were **premature** (<37 weeks)

8.2% of infants had a **low birthweight** (<2,500 g)

73.3% of women reported experiencing **at least one stressor** before or during pregnancy.



What were the most commonly reported stressors?



- The most commonly reported stressor was **moving homes/addresses** (37%).
- 21% of women reported struggling to **pay bills**.
- Homelessness/sleeping in a shelter** was the least commonly reported stressor (2%).

Which groups experienced more stress?

Women with the following demographic or birth outcomes more commonly reported stress than other groups

- 83.1% were **non-Hispanic Black**
- 83.8% were **not married**
- 88.7% reported **depression** before pregnancy
- 82% were **less than 20 years old**
- 79.3% had a **high school diploma/GED** and 81.8% had only **some college** education
- 76.8% had a **low birthweight infant**
- 78.8% used **Medicaid** as a payment source at delivery

Did stress affect birth outcomes?

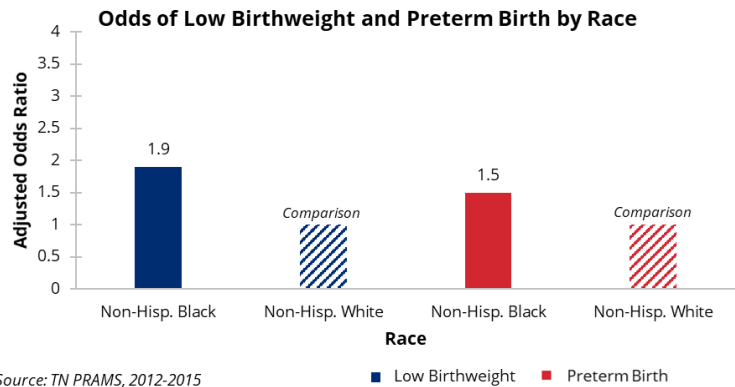
After accounting for characteristics that might also affect birth outcomes—such as race/ethnicity, age, and education level—experience of stress overall was **not found** to be associated with birth outcomes among Tennessee's women.

However, non-Hispanic Black women still had a higher likelihood of low birthweight (90%) and preterm birth (50%) compared to non-Hispanic White women, regardless of stress experiences (*shown on right*).

A limitation of these findings is that the PRAMS question asked about stress occurring during a specific time period (before, during, and after pregnancy), not chronic stress (which occurs throughout an individual's lifetime).

Research has indicated **Black women experience more stress over a lifetime** compared to other women, especially stress related to **racism and discrimination**, often called chronic stress.^{2,3} Chronic stress can cause physical and biological changes that lead to an early decline in health status, which has been linked to worse birth outcomes.^{2,3} While the risk of poor birth outcomes among Black women is also increased by a variety of socioeconomic- and health-related characteristics,⁴ the disparity between race and pregnancy outcomes seen from the results of these findings still exists after controlling* for those characteristics.

PRAMS does not currently ask about chronic discrimination-related stress or experiences, but is expected to add questions regarding this topic in the 2023 birth year.



*Odds Ratios adjusted for mother's age, stress experience, education, marital status, insurance status at delivery, and depression status before pregnancy

What is PRAMS?

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a state-run program that collects information on the experiences, feelings, and health of women with a recent (within 2-6 months at the time of survey) live birth. For more information, visit: <https://www.tn.gov/health/health-program-areas/mch/mch-prams.html>

For questions related to Tennessee PRAMS, contact the **TN PRAMS Coordinator** by:

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References

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