

Stressful life events may increase stillbirth risk, study finds

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Pregnant women who experienced financial, emotional, or other personal stress in the year before their delivery had an increased chance of having a stillbirth, say researchers who conducted a National Institutes of Health network study.

[Stillbirth](#) is the death of a [fetus](#) at 20 or more weeks of pregnancy. According to the National Center for Health Statistics, in 2006, there was one stillbirth for every 167 births.

The researchers asked more than 2,000 women a series of questions, including whether they had lost a job or had a loved one in the hospital in the year before they gave birth.

Whether or not the pregnancy ended in stillbirth, most women reported having experienced at least one stressful life event in the previous year. The researchers found that 83 percent of women who had a stillbirth and 75 percent of women who had a [live birth](#) reported a stressful life event. Almost 1 in 5 women with stillbirths and 1 in 10 women with livebirths in this study reported recently experiencing 5 or more stressful life events. This study measured the occurrence of a list of significant [life events](#), and did not include the woman's assessment of how stressful the event was to her.

Women reporting a greater number of [stressful events](#) were more likely to have a stillbirth. Two stressful events increased a woman's odds of stillbirth by about 40 percent, the researchers' analysis showed. A

woman experiencing five or more stressful events was nearly 2.5 times more likely to have a stillbirth than a woman who had experienced none. Women who reported three or four significant life event factors (financial, emotional, traumatic or partner-related) remained at increased risk for stillbirth after accounting for other stillbirth [risk factors](#), such as [sociodemographic characteristics](#) and prior pregnancy history.

Non-Hispanic [black women](#) were more likely to report experiencing stressful events than were non-Hispanic [white women](#) and [Hispanic women](#). Black women also reported a greater number of stressful events than did their white and Hispanic counterparts. This finding may partly explain why black women have higher rates of stillbirth than non-Hispanic white or Hispanic women, the researchers said.

"We documented how significant stressors are highly prevalent in pregnant women's lives," said study co-author Marian Willinger, Ph.D., acting chief of the Pregnancy and Perinatology Branch of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), one of two NIH entities funding the research. "This reinforces the need for health care providers to ask expectant mothers about what is going on in their lives, monitor [stressful life events](#) and to offer support as part of prenatal care."

The NIH Office of Research in Women's Health also funded the study.

"Because 1 in 5 [pregnant women](#) has three or more stressful events in the year leading up to delivery, the potential public health impact of effective interventions could be substantial and help increase the delivery of healthy babies," added lead author Dr. Carol Hogue, Terry Professor of Maternal and Child Health at Emory University's Rollins School of Public Health, Atlanta.

Dr. Willinger collaborated with colleagues at the NICHD and Emory

University; Drexel University School of Medicine, Philadelphia; University of Texas Medical Branch at Galveston; Children's Healthcare of Atlanta; Brown University School of Medicine, Providence, R.I.; University of Texas Health Science Center at San Antonio; University of Utah School of Medicine and Intermountain Healthcare, Salt Lake City; and RTI International, Research Triangle Park, N.C.

Their findings appear in the *American Journal of Epidemiology*.

The research was conducted by the NICHD-funded Stillbirth Collaborative Research Network (SCRN). The researchers contacted all women delivering a stillbirth as well as a representative portion of women delivering a live birth in defined counties in Georgia, Massachusetts, Rhode Island, Texas and Utah. The women were enrolled in the study between 2006 and 2008 in 59 community and research hospitals.

Within 24 hours of either a live birth or a stillbirth delivery, the women in the study were asked about events grouped into four categories: emotional, financial, partner-related and traumatic. They answered yes or no to 13 scenarios, including the following:

- I moved to a new address.
- My husband or partner lost his job.
- I was in a physical fight.
- Someone very close to me died.

Some of the stressful events were more strongly associated with stillbirth than were others. For example, the risk of stillbirth was highest:

- for [women](#) who had been in a fight (which doubled the chances for stillbirth)
- if she had heard her partner say he didn't want her to be pregnant
- if she or her partner had gone to jail in the year before the delivery

"At prenatal visits, screening is common for concerns such as intimate partner violence and depression, but the questions in our study were much more detailed," said co-author Uma Reddy, M.D., M.P.H., also of NICHD. "This is a first step toward cataloguing the effects of stress on the likelihood of stillbirth and, more generally, toward documenting how pregnancy influences a woman's mental health and how pregnancy is influenced by a woman's mental health."

Provided by NIH/National Institute of Child Health and Human Development

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