

# Violence during pregnancy linked to low birth weight

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Pregnant women who are assaulted by an intimate partner are at increased risk of giving birth to infants of reduced weight, according to a population-level analysis of domestic violence supported by the National Institutes of Health.

The study analyzed medical records of more than 5 million pregnant women in California over a 10-year period. Although the results showed a pattern of low-weight births among women who experienced an assault, the study was not designed to establish cause and effect, and so could not prove that violence caused the reduced birth weights. Similarly, the study was not designed to provide a biological explanation for how violence against an expectant mother might cause her child to be of lower birth weight.

Infants born to women who were hospitalized for injuries received from an assault during their pregnancies weighed, on average, 163 grams, or one-third pound, less than did infants born to women who were not hospitalized, the study found. Assaults in the [first trimester](#) were associated with the largest decrease in birth weight.

Infants born weighing less than 2,500 grams, or 5.5 pounds, are considered low birth weight and have an increased risk of death or of developing several health and developmental disorders. Low birth weight infants also are at greater risk for [sudden infant death syndrome](#) (SIDS) as well as [breathing problems](#), cerebral palsy, [heart disorders](#) and learning disabilities. The study found that among infants born to mothers

who had experienced an assault, about 15 percent weighed less than 2,500 grams at birth. This rate was higher than the rate of low birth weight infants among pregnant women who were hospitalized after a [car crash](#) or for other injuries (8 to 10 percent) and more than double the rate among women who were not hospitalized while pregnant (6 percent).

Although women's [education level](#), rates of smoking, and nutritional habits are known to affect birth weight, the study concluded that the lower birth weights seen in the study could not be accounted for by these factors and were most strongly linked to the violence itself.

"These findings suggest that violence experienced by pregnant women could put their infants at increased risk for low birth weight and its subsequent health problems," said Rosalind B. King, Ph.D., of the Demographic and Behavioral Sciences Branch of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), the NIH institute that funded the study. "It follows that programs to reduce violence against women might have the added benefit of reducing the number of low birth weight infants."

The study was conducted by Anna Aizer, Ph.D., of Brown University, Providence, R.I. Her findings were published online in the *Journal of Human Resources*.

Using data collected between 1991 and 2002, Dr. Aizer compared the birth records in California to the records of pregnant women hospitalized in California as a result of injuries from assault.

She found that for every 100,000 women who gave birth in that period, 31 had been hospitalized for an injury from an assault while they were pregnant. Although these data did not distinguish between [domestic violence](#) and violence from other types of assault, previous research has

shown that 87 percent of [pregnant women](#) with injuries were injured by an [intimate partner](#).

The overall rate of assaults was 31 per 100,000 women. The study documented higher rates of assault among the poor (49.5 per 100,000), black women (157 per 100,000), and those without a high school education (39 per 100,000).

Dr. Aizer theorized that higher rates of violence among poor women might be a root cause of poor health and poverty that persists in some families from one generation to the next. A connection between violence during pregnancy, adult health, and future earnings is possible because all three factors are linked to low birth weight. Poor women are at greater risk for having low birth weight infants than are other women. In turn, when they reach adulthood, individuals born at low birth weight are at increased risk for such adult health problems as diabetes and heart disease. Also, when they reach adulthood, individuals born at [low birth weight](#) infants also earn less than their counterparts who were born at normal birth weight.

"The costs of violence against women may be borne not just by the victims but by the next generation as well," said Dr. Aizer. "Given the importance of [birth weight](#) in determining adult education and income, these results suggest that the higher levels of violence experienced by poor women may also contribute to the intergenerational persistence of poverty."

The American College of Obstetricians and Gynecologists has developed a slide presentation for physicians, advising them on how to screen patients for intimate partner violence, how to assess patients' safety, and where to refer patients for additional help.

As required by the Affordable Care Act, new health plans will need to

include domestic violence screening and counseling along with other preventive services for [women](#), beginning on Aug. 1, 2012.

Provided by National Institutes of Health

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