

# Mom's stress during pregnancy can affect baby's iron status

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Newborns whose mothers are under stress during the first trimester of pregnancy may be at risk for low iron status, which could lead to physical and mental delays down the road, according to a study presented at the Pediatric Academic Societies (PAS) annual meeting in Boston.

Iron plays an important role in the development of organ systems, especially the brain. Well-known risk factors for poor iron status in infants are maternal iron deficiency, maternal diabetes, smoking during pregnancy, preterm birth, [low birthweight](#) and multiple pregnancy.

This study, conducted by researchers from Ashkelon Academic College and Barzilai Medical Center in Israel and the University of Michigan, is the first in humans to suggest that maternal stress early in pregnancy is another risk factor for low iron status in newborns.

Researchers, led by Rinat Armony-Sivan, PhD, director of the psychology research laboratory at Ashkelon Academic College, recruited pregnant women who were about to give birth at Barzilai Medical Center. The first group of women (stress group) lived in an area where there were more than 600 rocket attacks ("Oferet Yetzuka" operation) during their first trimester of pregnancy. The control group lived in the same area and became pregnant three to four months after the rocket attacks ended.

Women were questioned briefly at the delivery room reception desk to determine whether they were healthy and without [pregnancy complications](#). Eligible women who agreed to participate in the study were interviewed one or two days after delivery about their background and health during pregnancy. They also filled out questionnaires about depression and anxiety, and rated their stress level during pregnancy.

Cord blood was collected from newborns, and

[serum ferritin](#) (iron) concentrations were measured.

Results showed that the 63 babies whose mothers were in the stress group had significantly lower cord-blood ferritin concentrations than the 77 infants in the control group.

"Our findings indicate that infants whose mothers were stressed during [pregnancy](#) are a previously unrecognized risk group for iron deficiency," Dr. Armony-Sivan said. "Pregnant women should be aware that their health, nutrition, [stress](#) level and state of mind will affect their baby's health and well-being."

Dr. Armony-Sivan concluded that it may be advisable to consider additional blood work before the well-child visit at 12 months of age, especially in high-risk populations, so that [iron deficiency](#), with or without anemia, can be detected early and treated before it becomes chronic and severe.

Provided by American Academy of Pediatrics

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