

Iron deficiency in womb may delay brain maturation in preemies

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Iron plays a large role in brain development in the womb, and new University of Rochester Medical Center research shows an iron deficiency may delay the development of auditory nervous system in preemies. This delay could affect babies ability to process sound which is critical for later language development in early childhood.

The study evaluated 80 infants over 18 months, testing their cord blood for iron levels and using a non-invasive tool -- auditory brainstem-evoked response (ABR) -- to measure the maturity of the brain's auditory nervous system soon after birth. The study found that the brains of infants with low iron levels in their cord blood had abnormal maturation of auditory system compared to infants with normal cord iron levels.

"Sound isn't transmitted as well through the immature auditory pathway in the brains of [premature babies](#) who are deficient in iron as compared to premature babies who have enough iron," said Sanjiv Amin, M.D., associate professor of Pediatrics at the University of Rochester Medical Center and author of the abstract presented today at the Pediatric Academic Society meeting in Baltimore. "We suspect that if the auditory neural system is affected during developmental phase, then other parts of the brain could also be affected in the presence of iron deficiency."

As many as 20 to 30 percent of pregnant women with lower socio-economic status are iron deficient. Iron deficiency in pregnant woman can cause anemia, a condition in which there are not enough red blood

cells to carry oxygen around the body. Anemia can cause a range of problems in [pregnancy](#) from exhaustion to preterm labor and low birth weight. But physicians didn't know that an iron deficiency in a fetus may also delay auditory neural maturation, which could lead to language problems.

"We are concerned by these findings because of its potential implications for [language development](#)," Amin said. "More study is needed to fully understand what this delay in maturation means. This finding at least underscores an already understood need to monitor [iron levels](#) in pregnant women."

Source: University of Rochester Medical Center ([news](#) : [web](#))

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