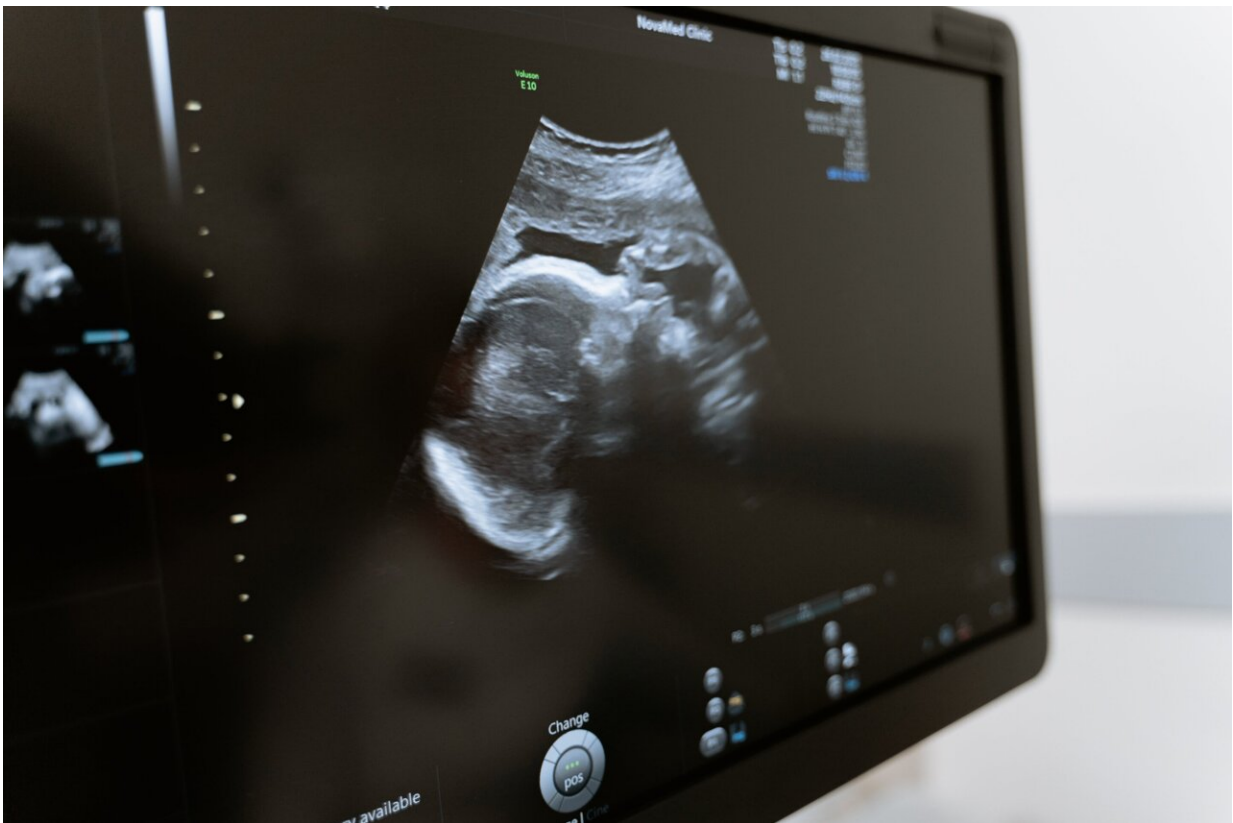


Prenatal opioid exposure tied to infections, eczema and asthma risk in early childhood

January 18 2024



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New research has found that prenatal exposure to prescription opioids, such as oxycodone, methadone and codeine, may impact the development of immune systems.

The study, which was led by The University of Western Australia and [published](#) in the journal *JAMA Network Open*, found that [babies](#) exposed to opioids while in the womb were more likely to be diagnosed with an infection, dermatitis or eczema following birth.

Later in life, the babies were also more likely develop asthma, however prenatal opioid exposure was not associated with an increased risk of allergies, anaphylaxis or autoimmune conditions.

The [retrospective study](#) used the [health records](#) of 401,462 children born in Western Australia between 1 January 2003 and 31 December 2018.

Lead author, Research Fellow Dr. Erin Kelty from UWA's School of Population and Global Health, said the research marked a significant stride in understanding the intricate interplay between prenatal exposures and the developing immune systems.

"Opioids had been found in animal studies to alter the developing immune system, potentially impacting its ability to respond appropriately to infections and other challenges, but we didn't know if this similarly occurred in humans and what role the timing and type of exposure played," Dr. Kelty said.

"We found there were significant differences in outcomes depending on the specific opioid and its intended use, such as for pain treatment or opioid use disorder."

The researchers also established that the presence of neonatal abstinence syndrome (NAS), a condition where babies experience withdrawal symptoms from opioids after birth, might contribute to the risk of certain health issues like infection and skin conditions during the perinatal period.

However, as babies grow beyond this early period, NAS may not be the main factor influencing immune-related conditions.

"The findings highlight the importance of further study into opioid-induced immune changes during pregnancy and the potential impact on long-term health in exposed children," Dr. Kelty said.

More information: Erin Kelty et al, Prenatal Opioid Exposure and Immune-Related Conditions in Children, *JAMA Network Open* (2024). DOI: [10.1001/jamanetworkopen.2023.51933](https://doi.org/10.1001/jamanetworkopen.2023.51933)

Provided by University of Western Australia

Citation: Prenatal opioid exposure tied to infections, eczema and asthma risk in early childhood (2024, January 18) retrieved 28 April 2024 from <https://medicalxpress.com/news/2024-01-prenatal-opioid-exposure-infections-eczema.html>

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