PRESS RELEASE

15 SEPTEMBER 2025 | FOR IMMEDIATE RELEASE

Gestational diabetes linked to elevated risk of cognitive decline in mothers, ADHD and autism in children

Children exposed to gestational diabetes face a 36% increased risk of ADHD and 56% higher risk of autism spectrum disorders compared to children born to mothers without diabetes.

Singapore, 15 September 2025 — A landmark international study led by Assistant Professor Queenie Li Ling Jun, from the Department of Obstetrics and Gynaecology at NUS Yong Loo Lin School of Medicine (NUS Medicine), has revealed that gestational diabetes (GDM) during pregnancy is strongly associated with declines in intellectual function for mothers and a higher risk of developmental, behavioural, and autism spectrum disorders in children.

Analysing data from more than 9 million pregnancies across 20 countries including Singapore, the researchers found that on average, mothers with a history of GDM scored 2.47 points lower on cognitive assessments than peers without GDM. In children, exposure to GDM resulted in nearly a four-point reduction in IQ, a 36% increased risk of attention-deficit/hyperactivity disorder (ADHD), a 56% increased risk of autism spectrum disorder (ASD), and a 45% higher risk of total or partial developmental delays.

These findings presented at this year's Annual Meeting of The European Association for the Study of Diabetes (EASD) in Vienna hold particular relevance for Singapore, where GDM affects about one in five pregnancies—higher than the global average—and childhood autism rates already stand at about 1 in 150, above many other countries.

While GDM often resolves after birth, findings from this new global synthesis underscores the far-reaching effects of GDM on mother and child. "Our findings highlight an urgent need for early detection and careful management of gestational diabetes—not just to prevent immediate pregnancy complications, but to safeguard the long-term cognitive outcomes for mothers and their children," said Assistant Professor Li. Recent NUS Medicine research suggests that a non-fasting blood test taken in the first trimester may allow earlier detection of GDM.

As it is still not fully clear how GDM affects a child's brain development, the research team calls for longer-term follow-up and studies to clarify the links between GDM and the full spectrum of cognitive functions. "Sustained neurocognitive monitoring after GDM diagnosis could make a real difference through early intervention and support, benefitting the long-term well-being of Singapore families," added Assistant Professor Li, who is also the Assistant Director of Public Affairs at the Global Centre for Asian Women's Health (GloW), NUS Medicine.

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The School is the oldest institution of higher learning in the National University of Singapore and a founding institutional member of the National University Health System. It is one of the leading medical schools in Asia and ranks among the best in the world (Times Higher Education World University Rankings 2025 by subject and the Quacquarelli Symonds (QS) World University Rankings by subject 2025).

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