

Maternal type 1 diabetes, overweight/obesity linked to heart defects in offspring

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Maternal type 1 diabetes and overweight and obesity are associated with an increased risk for congenital heart defects (CHDs) among offspring, according to a study published online Jan. 5 in *JAMA Network Open*.

Riitta Turunen, M.D., Ph.D., from Helsinki University Hospital and the University of Helsinki, and colleagues conducted a nationwide

population-based register study in a [birth cohort](#) from Finland comprising all children born between 2006 and 2016 (620,751 individuals) and their mothers to examine the association of maternal [diabetes](#) and overweight or obesity with CHDs.

Overall, 1.7 percent of the children had an isolated CHD. The researchers found that compared with no maternal diabetes, maternal type 1 diabetes was associated with increased odds of having a child with any CHD (odds ratio, 3.77) and six of nine CHD subtypes (odds ratio range, 3.28 for other septal defects to 7.39 for transposition of greater arteries).

Compared with normal maternal body mass index, maternal overweight was associated with left ventricular outflow tract obstruction and ventricular septal defects (odds ratios, 1.28 and 0.92, respectively), while obesity was associated with complex defects and right outflow tract obstruction ([odds](#) ratios, 2.70 and 1.31, respectively).

"Primary prevention of maternal overweight and obesity and careful treatment of pregestational diabetes may hold the opportunity to reduce the burden of disease," the authors write.

More information: Riitta Turunen et al, Maternal Diabetes and Overweight and Congenital Heart Defects in Offspring, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2023.50579](https://doi.org/10.1001/jamanetworkopen.2023.50579)

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