

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Multivariate Adjusted Risk of ASD in offspring Associated With In Utero Exposure to Maternal Diabetes and Gestational Age at GDM Diagnosis at the Index Pregnancy When Children With Congenital Anomalies Were Included

	No. ASD /No. Total	Hazard Ratios ^a (95% CI)	P value
Adjusted for potential confounders^b			
Unexposed	3,276/309,267	1.00 (reference)	
Pre-existing T2D	132/7,201	1.34 (1.09, 1.64)	0.005
GDM	344/26,897	1.03 (0.91, 1.17)	0.62
Gestational wks at GDM diagnosis			
≤26 wks	145/8,075	1.42 (1.17, 1.72)	0.0003
>26 wks	199/18,822	0.87 (0.74, 1.01)	0.07
Adjusted for potential confounders^b plus preeclampsia/eclampsia			
Unexposed	3,276/309,267	1.00 (reference)	
Pre-existing T2D	132/7,201	1.32 (1.08, 1.62)	0.007
GDM	344/26,897	1.03 (0.91, 1.16)	0.65
Gestational wks at GDM diagnosis			
≤26 wks	145/8,075	1.42 (1.16, 1.71)	0.0005
>26 wks	199/18,822	0.86 (0.74, 1.01)	0.07
Adjusted for potential confounders^b plus child birth weight and gestational age at delivery			
Unexposed	3,276/309,267	1.00 (reference)	
Pre-existing T2D	132/7,201	1.30 (1.06, 1.60)	0.01
GDM	344/26,897	1.02 (0.90, 1.15)	0.80
Gestational wks at GDM diagnosis			
≤26 wks	145/8,075	1.39 (1.15, 1.69)	0.0008
>26 wks	199/18,822	0.85 (0.73, 1.00)	0.05

^aFrom Cox regression models where family was specified as a random effect and birth year was included as a covariate.

^bPotential confounders included maternal age, parity, education, household income, race/ethnicity, history of comorbidity, and child gender.

eTable 2. Multivariate Adjusted Risk of ASD Subtypes in Offspring Associated With In Utero Exposure to Maternal Diabetes and Gestational Age at GDM Diagnosis at the Index Pregnancy

	No. ASD /No. Total	Hazard ratios ^a (95% CI)	P value
Autistic disorders			
Unexposed	2,322/290,151	1.00 (reference)	
Pre-existing T2D	97/6,478	1.40 (1.10, 1.77)	0.006
GDM	251/24,976	1.05 (0.91, 1.22)	0.49
Gestational wks at GDM diagnosis			
≤26 wks	107/7,433	1.44 (1.16, 1.80)	0.001
>26 wks	144/17,543	0.88 (0.73, 1.06)	0.18
Asperger's syndrome			
Unexposed	535/288,364	1.00 (reference)	
Pre-existing T2D	14/6,395	1.12 (0.64, 1.97)	0.69
GDM	52/24,777	1.07 (0.79, 1.44)	0.66
Gestational wks at GDM diagnosis			
≤26 wks	19/7,345	1.35 (0.82, 2.22)	0.24
>26 wks	33/17,432	0.96 (0.66, 1.38)	0.81
Pervasive developmental disorder not otherwise specified (PDD-NO)			
Unexposed	106/287,935	NA	
Pre-existing T2D	4/6,385	NA	
GDM	7/24,732	NA	
Gestational wks at GDM diagnosis			
≤26 wks	3/7,330	NA	
>26 wks	4/17,402	NA	

^aFrom Cox regression models where family was specified as a random effect and birth year was included as a covariate, adjusting for maternal age, parity, education, household income, race/ethnicity, history of comorbidity, and child gender.

eTable 3. Characteristics of the Cohort With and Without Data on Maternal Pre-pregnancy BMI and Gestational Weight Gain

	With maternal pre-pregnancy BMI and gestational weight gain N = 68,512 ^a	Without maternal pre-pregnancy BMI and gestational weight gain N = 253,811
	Mean (SD) or N (%)	Mean (SD) or N (%)
Maternal		
Pre-existing T2D (%)	1958 (2.9)	4538 (1.8)
GDM (%)	5981 (8.7)	19054 (7.5)
GDM diagnosed ≤ 26 wks	1976 (2.9)	5480 (2.2)
GDM diagnosed > 26 wks	4005 (5.8)	13574 (5.3)
Age (years)	30 (5.8)	29.4 (5.9)
Parity (%)		
0	27265 (39.8)	99032 (39)
1	19756 (28.8)	84750 (33.4)
≥ 2	17855 (26.1)	69927 (27.6)
Missing	3636 (5.3)	102 (0)
Education (%)		
≤ High school	25021 (36.5)	113411 (44.7)
Some college	20480 (29.9)	68801 (27.1)
≥ College graduate	22328 (32.6)	66985 (26.4)
Missing	683 (1)	4614 (1.8)
Household income (%)		
<\$30,000	3594 (5.2)	23509 (9.3)
\$30,000-\$49,999	20852 (30.4)	89781 (35.4)
\$50,000-\$69,999	23295 (34)	77243 (30.4)
\$70,000-\$89,999	12741 (18.6)	37310 (14.7)
≥\$90,000	8022 (11.7)	23641 (9.3)
Missing	8 (0)	2327 (0.9)
Race/Ethnicity (%)		
Non-Hispanic white	15474 (22.6)	72810 (28.7)
Non-Hispanic black	6195 (9)	26734 (10.5)
Hispanic	36686 (53.5)	122542 (48.3)
Asian/Pacific islanders	9189 (13.4)	28646 (11.3)
Others	968 (1.4)	3079 (1.2)
History of comorbidity (%)	8447 (12.3)	13891 (5.5)
Preeclampsia/eclampsia (%)	2509 (3.7)	9584 (3.8)
GDM diagnostic method (%)		
1-hr GCT alone	817 (13.7)	2383 (12.5)
IFG+IGT	2080 (34.8)	7500 (39.4)
IGT alone	3084 (51.6)	9171 (48.1)
Diabetic medication use (%)	2680 (33.8)	7092 (30.1)
Pre-pregnancy BMI (kg/m ²)	26.9 (6.2)	NA
Gestational weight gain (kg)	12.7 (6.3)	NA
Smoking during pregnancy (%)	639 (0.9)	NA
Child		
Birth Weight (g)	3373.5 (515)	3417.6 (526.4)
Gestational weeks at birth	38.8 (1.6)	39.4 (1.6)
Female sex (%)	34150 (49.8)	124751 (49.2)

^aNumber of children with complete data on maternal pre-pregnancy BMI and gestational weight gain.