SUPPLEMENTARY DATA

The Hyperglycemia and Adverse Pregnancy Outcome (HAPO) Study: Associations of GDM and Obesity with Pregnancy Outcomes

Supplementary Table 1. Relationship between maternal GDM, pre-pregnancy obesity, and outcomes

Outcome	N	#	%	Model I OR	95% CI	Model II OR	95% CI
Birthweight> 90th %ile[1]							
No GDM, no obesity	16,194	1,292	8.0%	1.00		1.00	
GDM, no obesity	2,692	408	15.2%	2.06	(1.83, 2.32)	2.23	(1.97, 2.47)
No GDM, obesity	1,665	175	10.5%	1.35	(1.15, 1.60)	1.33	(1.12, 1.59)
GDM, obesity	695	140	20.1%	2.91	(2.40, 3.53)	3.08	(2.51, 3.78)
Cord C-peptide > 90th %ile[2]							
No GDM, no obesity	13,959	892	6.4%	1.00		1.00	
GDM, no obesity	2,323	376	16.2%	2.85	(2.50, 3.30)	2.44	(2.13, 2.81)
No GDM, obesity	1,357	130	9.6%	1.47	(1.20, 1.78)	1.37	(1.11, 1.68)
GDM, obesity	561	117	20.9%	3.63	(2.91, 4.52)	3.10	(2.45, 3.91)
Primary Cesarean[3]							
No GDM, no obesity	14,594	2,451	16.7%	1.00		1.00	
GDM, no obesity	2,346	559	23.8%	1.49	(1.34, 1.66)	1.26	(1.13, 1.41)
No GDM, obesity	1,385	301	21.7%	1.63	(1.42, 1.87)	1.35	(1.17, 1.56)
GDM, obesity	554	163	29.4%	2.31	(1.91, 2.80)	1.68	(1.37, 2.05)
Preeclampsia[4]							
No GDM, no obesity	15,230	554	3.6%	1.00		1.00	
GDM, no obesity	2,428	151	6.2%	1.70	(1.41, 2.05)	1.74	(1.43, 2.12)
No GDM, obesity	1,379	175	12.7%	3.04	(2.52, 3.66)	3.49	(2.88, 4.23)
GDM, obesity	536	107	20.0%	4.93	(3.89, 6.25)	5.58	(4.35, 7.15)
Newborn percent body fat > 90th %ile[5]							
No GDM, no obesity	13,468	1,101	8.2%	1.00		1.00	
GDM, no obesity	2,255	336	14.9%	1.97	(1.72, 2.24)	2.02	(1.77, 2.32)
No GDM, obesity	1,366	156	11.4%	1.45	(1.21, 1.73)	1.40	(1.16, 1.68)
GDM, obesity	562	133	23.7%	3.48	(2.84, 4.27)	3.40	(2.75, 4.21)
Shoulder dystocia/birth injury[4]							
No GDM, no obesity	16,250	210	1.3%	1.00		1.00	
GDM, no obesity	2,706	43	1.6%	1.14	(0.82, 1.59)	1.19	(0.85, 1.68)
No GDM, obesity	1,671	20	1.2%	0.77	(0.48, 1.23)	0.81	(0.50, 1.31)
GDM, obesity	697	18	2.6%	1.51	(0.92, 2.48)	1.66	(1.00, 2.78)

SUPPLEMENTARY DATA

N is the total number in the category, # is the number in the category with the outcome, % is the proportion in the category with the outcome.
[1]90th percentiles for gestational age (30-44 weeks only) were determined using quantile regression analyses for each of eight newborn gender-ethnic groups (Caucasian or Other, Black, Hispanic, Asian), with adjustment for gestational age, field center, and parity (0, 1, 2+). A newborn was considered to have a birthweight> 90th percentile if the birthweight was greater than the estimated 90th percentile for the baby's gender, gestational age, ethnicity, field center, and maternal parity. Otherwise, the newborn was considered to have a birthweight≤ 90th percentile.
Model I: Adjusted for the variables used in estimating 90th percentiles. Model II: Model I adjustment + age, height and gestational age at the OGTT, smoking, alcohol use, hospitalization prior to delivery, family history of diabetes, and mean arterial pressure.
[2]90th percentile of the values for the total HAPO sample. Model I: Adjusted for field Center. Model II: Model I adjustment + age, height and gestational age at the OGTT, smoking, alcohol use, hospitalization prior to delivery, family history of diabetes, parity, baby's gender, mean arterial pressure, and cord glucose
[3]Model I: Adjusted for field center. Model II: Model I adjustment + age, height and gestational age at the OGTT, smoking, alcohol use, hospitalization prior to delivery, family history of diabetes, baby's gender, and mean arterial pressure
[4]Model I: Adjusted for field center. Model II: Model I adjustment + age, height and gestational age at the OGTT, smoking, alcohol use, family history of diabetes, family history of high blood pressure, parity, baby's gender, and maternal UTI
[5]Defined based on gender, ethnicity, field center, gestational age (36-44 weeks), and parity using quantile regression analysis. Model I: Adjusted for the variables used in estimating 90th percentiles. Model II: Model I adjustment + age, height and gestational age at the OGTT, smoking, alcohol use, hospitalization prior to delivery, family history of diabetes, and mean arterial pressure.

Supplementary Table 2. Odds Ratios for birthweight>90th percentile and mean differences in birthweight for combinations of PG and pre-pregnancy BMI with Model II adjustment*

Odds Ratios for Birthweight> 90th Percentile: PG & Pre-pregnancy BMI Combined			
Pre-pregnancy BMI	***Glucose***		
	Z-score <= 0.539	Z-score > 0.539	***GDM***
Normal, Underweight	1.00	1.83	2.75
Overweight	1.40	2.55	3.83
Obese	1.47	2.69	4.04
Mean Difference in Birthweight: PG & Pre-pregnancy BMI Combined (gm)			
Normal, Underweight	0	99	179
Overweight	69	168	248
Obese	97	196	276

*Adjusted for gestational age at delivery, ethnicity, baby's gender, parity, maternal age, height and gestational age at the OGTT, smoking, alcohol use, hospitalization prior to delivery, family history of diabetes, and mean arterial pressure. All odds ratios and differences in birthweight compared to the referent group were significant (p<0.001)
Percentages in pre-pregnancy BMI categories are: Normal, underweight – 68.3%, overweight – 20.6%, and obese – 11.1%.
Percentages in glucose categories are: PG Z-score <= 0.539 – 61.7%, PG Z-score > 0.539 – 22.4%, and GDM – 16.0%.