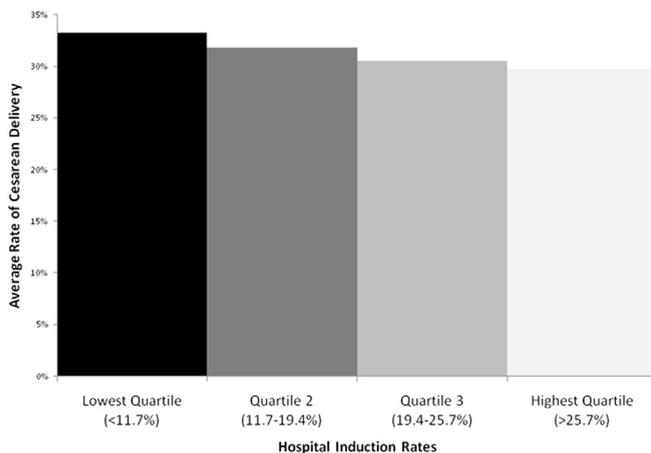


RESULTS: There were 813,693 deliveries at 604 hospitals. Hospital rates of cesarean delivery varied from 5.1 to 75.7% (mean 30.5%) and rates of labor induction varied from 0 to 50.4% (mean 19.1%). Induction and cesarean delivery rates were correlated (Figure), however in the opposite direction than predicted; hospitals with higher inductions rates had lower rates of cesarean delivery (Pearson -0.157 ; $p < 0.001$). This held even when considering only low risk cesareans and elective inductions (Pearson -0.080 ; $p = 0.048$). In logistic regression, individuals at hospitals in the lowest quartile for labor induction had a 4.4% increased odds of cesarean delivery (CI 1.026-1.062; $p < 0.01$), independent of other obstetric risk factors and hospital characteristics.

CONCLUSION: In a large, nationally representative sample, we found that hospitals with the highest rates of labor induction actually had the lowest rates of cesarean delivery. Induction of labor may be resource-intensive; however, we find little evidence to support that it is associated with higher rates of cesarean delivery.



31 Obesity and the risk of stillbirth: a population-based cohort study

Ruofan Yao¹, Cande Ananth², Bo Park³, Leanne Pereira¹, Lauren Plante⁴

¹Drexel College of Medicine, Department of Obstetrics and Gynecology, Philadelphia, PA, ²Columbia University, Department of Obstetrics and Gynecology, College of Physicians and Surgeons, New York City, NY, ³Drexel University School of Public Health, Department of Epidemiology, Philadelphia, PA, ⁴Drexel University College of Medicine, Division of Maternal Fetal Medicine, Philadelphia, PA

OBJECTIVE: Obesity in pregnancy is linked to stillbirth. However, it is unclear what impact increasing prepregnancy BMI has on the risk of stillbirth after 36 weeks of gestation. Therefore, we examined the association between maternal prepregnancy body mass index (BMI) and the risk of stillbirths based on the timing of occurrence of stillbirth (gestation week), with a focus on gestational ages between 37 and 42 weeks.

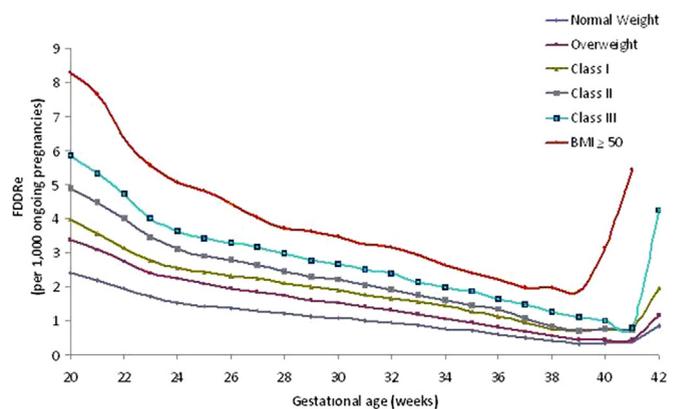
STUDY DESIGN: This is a retrospective cohort study using Washington database from 2003 to 2011 and Texas database from 2005 to 2011. Maternal prepregnancy BMI (kg/m²) was categorized as follows: normal (18.5-24.9), overweight (25.0-29.9), obese class I (30.0-34.9), obese class II (35.0-39.9) and obese class III (40-49.9). Additionally BMI ≥ 50 was analyzed separately. We calculated the hazard ratio (HR) of stillbirth associated with obesity for the following gestational periods: early preterm (32-33 weeks), late preterm (34-36 weeks), early term (37-39 weeks) and late term (40-42 weeks). The results are adjusted for the effects of maternal age, race, smoking and

other obstetric complications. We also estimated the risk of stillbirth for ongoing pregnancies (FDDRe) based on gestational age.

RESULTS: Of the 2,868,482 singleton births, the risk of stillbirth was 3.2 per 1000 ($n=9,030$). The HR for stillbirth increased gradually with gestational age for overweight, class I and class II groups and sharply for class III and the BMI ≥ 50 group (Table 1). After 39 weeks, the HR of stillbirth is 2.6 (95% confidence interval (CI): 1.6-4.1) for class III and 6.8 (95% CI: 3.1-14.7) for BMI ≥ 50 . The FDDRe for each obese class declines until 39 weeks and increases thereafter. At 41 weeks, compared to normal weight, the FDDRe is 2.1 times greater for class III and 13.5 times greater for BMI ≥ 50 (Figure 1).

CONCLUSION: Increasing BMI is associated with a greater burden of stillbirth across all gestational ages, but the association appears stronger at term gestations. Women that are extremely obesity are at considerably increased risk of stillbirth.

FDDRe, risk of fetal death for remaining pregnancies risk expressed as per 1000 births



Hazard ratio by gestation period

Obesity Class	Overall (n=2864165)		30-33 Weeks (n=38899)		34-36 Weeks (n=186113)		37-39 Weeks (n=1838880)		40-42 Weeks (n=774311)											
	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI										
	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted										
Overweight	1.40	1.29	1.23	1.36	1.40	1.35	1.17	1.56	1.38	1.26	1.09	1.46	1.37	1.23	1.07	1.40	1.35	1.27	0.98	1.66
Class I	1.67	1.45	1.36	1.54	1.29	1.21	1.01	1.44	1.71	1.51	1.27	1.79	1.78	1.46	1.25	1.71	2.25	2.08	1.57	2.77
Class II	2.07	1.68	1.55	1.81	1.50	1.38	1.11	1.73	1.68	1.43	1.14	1.79	2.16	1.99	1.60	2.48	2.96	2.57	1.61	4.09
Class III	2.50	1.82	1.66	2.00	1.65	1.41	1.08	1.83	1.57	1.25	0.94	1.66	2.95	1.99	1.60	2.48	2.96	2.57	1.61	4.09
BMI ≥ 50	3.60	2.09	1.71	2.56	1.75	1.51	0.83	2.77	1.78	1.29	0.69	2.43	3.12	1.78	1.04	3.05	9.06	6.79	3.14	14.70

Baseline comparison group: normal weight. Results adjusted for race, maternal age, pregestational diabetes, chronic hypertension, gestational diabetes, gestational hypertension and smoking.

32 Umbilical cord arterial lactate compared with pH for predicting neonatal morbidity at term: a prospective cohort study

Methodius Tuuli¹, Anthony Shanks¹, Anthony Odibo¹, George Macones¹, Alison Cahill¹

¹Washington University in St. Louis, Obstetrics & Gynecology, St. Louis, MO

OBJECTIVE: Recent data suggest a potential role for umbilical arterial lactate as a biochemical measure of neonatal well-being at birth. We tested the hypothesis that umbilical cord arterial lactate is superior to pH for predicting neonatal morbidity at term.

STUDY DESIGN: We conducted a prospective cohort study of all consecutive, non-anomalous, singleton, vertex, term births from 2009-2012. Umbilical arterial lactate and pH were measured