

277 CLINICAL PERIODONTAL DISEASE IN A PREGNANT COHORT: RACIAL DISPARITY AT ENROLLMENT AND DELIVERY SUSI LIEFF¹, KIM BOGGESS², PHOEBUS MADIANOS¹, AMY MURTHA³, ROSEMARY MCKAIG¹, KEVIN MOSS¹, MORRIS WORLEY¹, FRANCES SMITH¹, JAMES BECK¹, STEVEN OFFENBACHER¹; ¹University of North Carolina, Center for Oral and Systemic Diseases, Chapel Hill, NC; ²University of North Carolina at Chapel Hill, Obstetrics/Gynecology, Chapel Hill, NC; ³Duke University, Obstetrics & Gynecology, Durham, NC

OBJECTIVE: Recent evidence suggests an association between periodontal disease and adverse pregnancy outcomes. Our objective was to compare the oral health status between African American and Caucasian pregnant women, and to determine if significant changes in oral health occur during pregnancy.

STUDY DESIGN: A prospective cohort of healthy pregnant women were enrolled at <26 weeks and followed until delivery. Maternal demographic and medical information was chart abstracted. Oral examinations were performed at enrollment and delivery. Unadjusted and adjusted OR for oral disease (gingivitis and periodontitis) were compared between African American and Caucasian women, and between enrollment and delivery.

RESULTS: During the study period, 1113 eligible women agreed to participate. 49% were African American, 46% were Caucasian, and 5% were other races. 867 women have delivered and have complete data. African American women were more likely to be unmarried, to smoke, or to receive WIC/food stamps, than Caucasian women. Compared to Caucasian women, African American women were more likely to have gingivitis (74% vs. 57%, OR 1.4, 95% CI 1.2-1.5), severe periodontal disease at enrollment (8% vs 2%, adj OR 4.7, 95% CI 2.0-10.7) and at delivery (12% vs 1%, adj OR 48.1 95% CI 11.9-193). African American women were also more likely than Caucasian women to have worsening of their oral health, with 45% vs 25% experiencing periodontal disease progression (OR 2.4 95% CI 1.7-3.4).

CONCLUSION: Compared to Caucasian women, African American women have significantly worse oral health in early pregnancy and more significant deterioration in their oral health during pregnancy. Attention to oral health is an important consideration during pregnancy, and the racial disparity in oral health needs further study to determine what effect periodontal disease may have on the observed racial disparity in adverse pregnancy outcomes.

278 BIRTH WEIGHT AND FETAL DEATH IN THE US: THE EFFECT OF DIABETES MYRIAM MONDESTIN¹, CANDE ANANTH¹, JOHN SMULIAN¹, ANTHONY VINTZILEOS¹; ¹UMDNJ-Robert Wood Johnson Medical School/Saint Peter's University Hospital, New Brunswick, NJ, Obstetrics and Gynecology and Reproductive Sciences, New Brunswick, NJ

OBJECTIVE: To evaluate the relationship between birth weight (BW) and fetal death (FD) among nondiabetic and diabetic patients.

STUDY DESIGN: This was a population-based cohort study using data from the national linked birth/infant death data sets for singleton births delivered between 1995-97 in the US. Analysis was restricted to births that occurred after 19 completed weeks. Fetuses with congenital or chromosomal abnormalities, pregnancies with missing gestational age data were excluded. There were 10,703,908 patients analyzed. These included 10,432,732 nondiabetic and 271,248 diabetic patients (pregestational and gestational). FD rates among nondiabetic and diabetic patients were determined for different BW categories. The adjusted relative risk (RR) and 95% confidence intervals (CI) for FD among diabetic patients compared with nondiabetic patients were derived through multivariable logistic regression models. We controlled for the following potential confounders: age, gravidity, race, gestational age, smoking, obstetrical complications (hypertension, abruption, previa, premature rupture of membranes), and absence of prenatal care.

RESULTS: In nondiabetic patients the lowest FD rate occurred among the 3500-4499 g BW category, whereas among diabetic patients, the lowest FD rate occurred in the 3000-3999 g BW group. Among diabetic patients as compared with nondiabetic patient there was an increase in relative risk for FD which was directly proportional to increases in BW after 2000 g up to 4999 g. The overall FD rate for nondiabetic patients and diabetic patients were 4.0 and 5.9 per 1000, respectively. (See Table.)

CONCLUSION: Higher BW confers higher risk for FD among both nondiabetic and diabetic patients but this risk is further exacerbated among diabetics. This finding may have implication for pregnancy management.

Table

Fetal death rate per 1000 births (FDR)

BIRTH WEIGHT (G)	NONDIABETICS		DIABETICS		ADJUSTED RR (95% CI)
	N	FDR	N	FDR	
500-999	65679	141.0	1199	157.0	1.2 (1.1-1.5)
1000-1499	59539	67.3	1721	67.4	1.1 (0.9-1.4)
1500-1999	112931	32.8	3612	36.0	1.2 (1.0-1.4)
2000-2499	401931	9.4	10735	15.4	1.6 (1.3-1.8)
2500-2999	1677271	2.3	37018	5.1	1.9 (1.6-2.2)
3000-3499	3939505	0.9	86924	2.3	2.2 (1.9-2.6)
3500-3999	3100082	0.6	82628	2.4	3.0 (2.7-3.7)
4000-4499	915374	0.6	35642	3.2	3.7 (3.0-4.6)
4500-4999	145957	1.2	9794	7.6	4.9 (3.6-6.6)
5000+	14663	5.3	1975	20.3	3.0 (2.0-4.5)

279 DOES PRENATAL CARE IN THE UNITED STATES HAVE AN IMPACT ON POST-NEONATAL DEATH RATE? ANTHONY VINTZILEOS¹, CANDE ANANTH¹, JOHN SMULIAN¹, WILLIAM SCORZA¹, ROBERT KNUPPEL¹, ¹UMDNJ-Robert Wood Johnson Medical School/Saint Peter's University Hospital, Obstetrics, Gynecology and Reproductive Sciences, New Brunswick, NJ

OBJECTIVE: Previous studies have shown that prenatal care (PNC) in the United States (US) is associated with fewer fetal and neonatal deaths. The objective of the present study was to determine the impact, if any, of PNC on post-neonatal death (PND) in the presence, as well as absence, of high-risk (HR) pregnancy conditions.

STUDY DESIGN: Data were derived from the national linked birth/infant death data sets for the years 1995-1997 provided by the National Center for Health Statistics. Analyses were restricted to singleton live births that occurred after 23 completed weeks of gestation. Multiple births, congenital malformations, chromosome abnormalities, missing data on gestational age, and birth weight <500 grams were excluded. PNC was considered present if there was one or more prenatal visits. PND was defined as death from 28 to 365 days of life.

RESULTS: For 10,394,598 live births analyzed, 21,074 (2/1000) resulted in PND. PND rates were higher for blacks as compared to whites in the presence (3.8 versus 1.7/1000) and absence (11.2 versus 5.3/1000) of PNC. The absence of PNC increased the relative risk (RR) for PND 1.8-fold in blacks and 1.6-fold in whites. Blacks were 3.2-fold more likely to have no PNC as compared with whites. At least one HR pregnancy condition was present in 37% of blacks and 29% of whites. Lack of PNC was associated with increased PND rates for both blacks and whites only for infants born after 28 weeks gestation. Lack of PNC was associated with increased PND rates to a similar degree for the individual HR pregnancy conditions for both blacks and whites; therefore the data were combined in the Table which shows PND rates (per 1000) and adjusted RRs for PND in the absence of PNC.

CONCLUSION: Lack of PNC should be considered a high risk factor for PND for both blacks and whites, especially in presence of HR pregnancy conditions such as post-term pregnancy, PIH, intrapartum fever and fetal growth restriction.

Table

HR condition/prenatal care

HR CONDITION	PNC	NO PNC	ADJUSTED RR (95% CI)
Postterm pregnancy	1.9	5.4	2.3 (1.6, 3.1)
PIH	2.5	10.8	2.2 (1.5, 3.4)
Intrapartum fever	1.8	11.6	2.1 (1.2, 3.5)
Fetal growth restriction	4.8	11.1	1.6 (1.3, 2.0)
Maternal anemia	2.7	8.5	1.5 (1.0, 2.4)
Placental abruption	8.4	25.7	1.4 (1.0, 2.0)
Preterm PROM	9.5	21.1	1.3 (1.0, 1.7)
Bleeding (unknown cause)	2.8	17.9	1.8 (0.9, 3.8)
Placenta previa	4.0	20.3	1.6 (0.8, 3.2)
Chronic hypertension	2.9	9.1	1.5 (0.7, 3.3)
Prior preterm/SCA birth	4.3	12.9	1.1 (0.8, 1.7)
Hydramnios	4.8	8.7	0.9 (0.5, 1.6)
None of the above	3.0	9.9	1.6 (1.3, 2.0)