280 DOES PRENATAL CARE IN THE UNITED STATES HAVE AN IMPACT ON PRETERM BIRTH RATE? ANTHONY VINTZILEOS[1], CANDE ANANTH[1], JOHN SMULIAN[1], WILLIAM SCORZA[1], ROBERT KNUPPEL[1], [1]UMDNJ-Robert Wood Johnson Medical School/Saint Peter's University Hospital, Obstetrics, Gynecology & Reproductive Sciences, New Brunswick, NJ

OBJECTIVE: To determine the impact of prenatal care (PNC) in the United States (US) in preventing preterm births in the presence, as well as absence, of high-risk (HR) pregnancy conditions for blacks and whites.

STUDY DESIGN: Data were derived from the national data set for the years 1995 – 1998 provided by the National Center for Health Statistics. Analyses were restricted to singleton live births that occurred at ≥20 weeks of gestation. Multiple births, fetal deaths, 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. Preterm delivery was defined as delivery at <37 weeks gestation.

RESULTS: For 13,913,219 births analyzed, 1,306,532 (9.2%) resulted in preterm birth. Preterm birth rates were higher for blacks as compared to whites in the presence (15.1 versus 8.3%) and absence (34.9 versus 21.9%) of PNC. The absence of PNC increased the relative risk (RR) for preterm birth 2.8-fold in both whites and blacks. The impact of PNC in reducing preterm birth rates showed an inverse does-response relationship by gestational age at delivery both among blacks and 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 preterm birth 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 preterm birth rates (%) and adjusted RR for preterm birth in the absence of PNC.

CONCLUSION: In the US, PNC is associated with fewer preterm births in the presence, as well as absence of HR conditions for both blacks and whites. Strategies to increase PNC participation, especially among blacks, may decrease preterm birth rates.

Table

PNC/preterm birth rate

HR CONDITION	PNC	NO PNC	ADJUSTED RR (95%CI)
Maternal anemia	11.3	32.1	5.5 (5.1, 5.9)
Intrapartum fever	9.2	35.9	4.4 (3.9, 4.9)
Bleeding (unknown cause)	14.6	42.2	3.5 (3.1, 3.9)
Prior preterm/SGA birth	27.1	58.8	3.0 (2.8, 3.3)
Renal disease	14.0	37.3	3.0 (2.3, 3.8)
Placenta previa	40.0	68.7	2.8 (2.3, 3.3)
Hydramnios	18.4	40.1	2.4 (2.2, 2.7)
Placental abruption	43.7	69.7	2.2 (2.0, 2.4)
PIH	19.4	40.2	2.1 (2.0, 2.3)
Diabetes	13.3	26.6	2.0 (1.7, 2.2)
Chronic hypertension	20.2	39.2	1.9 (1.7, 2.2)
SGA	9.2	15.2	1.6 (1.5, 1.7)
None of the above	11.5	25.9	2.6 (2.5, 2.8)

281 MULTIFETAL PREGNANCY IN OLDER GRAVIDAS AND PERINATAL OUTCOMES JIM ZHANG[1], SUSAN MEIKLE[2], DAVID GRAINGER[3], ANN TRUMBLE[4]; [1]National Institute of Child Health and Human Development, NI, Bethesda, MD; [2]NICHD, Center for Research on Mother and Children, Bethesda, MD; [3]University of Kansas-Wichita, Reproductive Endocrinology and Infertility, Wichita, KS; [4]NICHD, Epidemiology, Bethesda, MD

OBJECTIVE: Multifetal pregnancy in older gravidas has become an increasingly important issue. We examined the relationship between older maternal age, perinatal and infant mortality in twin and triplet pregnancies.

STUDY DESIGN: We used the Matched Multiple Birth File, a national population-based database, which links the birth, fetal death and infant death certificates who were the product of a multiple gestation in the U.S. from 1995 to 1997. It includes 155,777 twin and 5630 triplet pregnancies. We restricted our analysis to twin and triplet pregnancies in which all fetuses were born ≥24 weeks. The main outcomes include very preterm birth (<33 weeks), very low birth weight (<1500 g), perinatal and infant deaths. Logistic regression was used to control for potential confounders.

RESULTS: Compared with singleton pregnancies, women with multifetal gestation tended to be older, non-Hispanic white, better educated, married, nulliparous, and to have an earlier and more frequent prenatal care. Pregnancies conceived by ART accounted for an increasing number of multiple gestations in older age groups. In women with lower socioeconomic status (SES), older maternal age was associated with higher risks of very preterm birth, very low birthweight and perinatal mortality in twin pregnancy (relative risks ranging from 1.0 to 1.9 with a dose-response pattern). However, in women with better SES, older gravidas did not carry a higher risk of poor perinatal outcomes than younger women.

CONCLUSION: The effect of older maternal age on perinatal outcomes in multifetal pregnancies has been altered by ART, frequent prenatal surveillance and advanced neonatal care. While older age still has an unfavorable effect in lower SES women, older gravidas with higher SES do not necessarily carry a higher risk of perinatal or infant mortality than younger women. Nonetheless, multifetal pregnancies have significantly higher risks of maternal morbidity and perinatal mortality than singleton gestations at all ages and under any care.

282 THE EPIDEMIC OF MATERNAL OBESITY IN PREGNANCY, 1986-2001 HUGH EHRENBERG[1], BRIAN MERCER[1], LEROY DIERKER[1], CYNTHIA MILLUZZI[1], [1]CWRU-MetroHealth Medical Center, Obstetrics and Gynecology, Cleveland, OH

OBJECTIVE: To describe the increasing prevalence of maternal obesity, and correlation with race in an urban center.

STUDY DESIGN: Maternal demographics and perinatal outcomes were obtained from the perinatal database of MetroHealth Medical Center, including all live births ≥20 weeks gestation between January 1986 and June 2001. The prevalence of maternal obesity at delivery in 31,542 pregnancies before January 1997 was compared with 15,600 pregnancies after January 1997. Obesity rates (>200, 200-250, 251-300, >300 lbs.) were evaluated in racial and socioeconomic subgroups for associations and change over time using Chi2 analysis ($P < .05$ significant).

RESULTS: Maternal obesity is significantly more frequent after January 1997 (>200 lbs: 28 versus 21% RR = 1.3, 201-250 lbs: 20 versus 16% RR = 1.3, 251-300 lbs: 5.4 versus 3.7% RR = 1.5, >300 lbs: 1.7 versus 1.2% RR = 1.4; $P < .0001$ for each). This increase in frequency is most evident among African-Americans and Hispanics, while obesity among Asian women has decreased (see Table). This relationship is maintained after controlling for socioeconomic status.

CONCLUSION: We have identified a significant increase in obesity and morbid obesity in pregnant women over the past 15 years. This epidemic crosses racial boundaries, potentially placing these mothers and their infants at increased risk for perinatal morbidity.

Table

Maternal weight at delivery (lbs) before and after 1/1997 ($P < .001$ for each)

	% >200; (RR)	% 201-250; (RR)	% 250-300; (RR)	% >300; (RR)
White	25 vs 20; (1.3)	15 vs 19; (1.3)	3.5 vs 5; (1.4)	0.9 vs 1.1; (1.2)
Black	35 vs 25; (1.4)	18 vs 25; (1.4)	4.6 vs 7; (1.5)	1.8 vs 2.7; (1.5)
Hispanic	17 vs 14; (1.2)	12 vs 14; (1.2)	2 vs 3; (1.5)	0.3 vs 0.7; (2.3)
Asian	7 vs 11; (0.6)	10 vs 6; (0.7)	1 vs 0.6; (0.6)	0.3 vs 0; (0)

283 IMPACT OF STILLBIRTH AND GESTATIONAL AGE ON PERINATAL MORTALITY BRIAN MERCER[1], BASSAM HADDAD[2], DOROTHY BEAZLEY[3], TERESA CARR[3], TERESA BECK[3]; [1]Case Western Reserve University, Obstetrics and Gynecology, Cleveland, OH; [2]Centre Hospitalier Intercommunal de Creteil, Obstetrics and Gynecology, 94010 Creteil, Cedex; [3]University of Tennessee Health Science Center and The Prematurity Center, Obstetrics and Gynecology, Memphis, TN

OBJECTIVE: To evaluate the contribution of stillbirth (SB) to perinatal mortality with increasing gestational age.

STUDY DESIGN: We concurrently reviewed 8658 consecutive deliveries, occurring at ≥20 weeks' gestation in six hospitals. Gestational age was determined based on obstetric findings and first ultrasound. Infants with a 1 or 5 minute Apgar score ≥1 were considered liveborn (LB). Survival was evaluated at discharge from hospital.

RESULTS: There were 1334 preterm births at <37 weeks' gestation (15.4%), 114 with anomalies (13.2/1000), and 146 perinatal deaths (PD: 16.9/1000). Stillbirth (SB) was the cause of 50% of PDs. Neonatal/infant death (ND) complicated 8.5/1000 LBs with 82% of SB and 22% of ND occurring preterm. Of the 127 preterm losses, 60 (47.2%) were SBs, 72% died of prematurity complications, 18% of sepsis, 7% of anomalies, and 3% from asphyxia. Of losses occurring at term (19), 68% resulted from SB, 21% had anomalies, and 11% had perinatal asphyxia. The Table reviews the contribution of SB to PD based on gestational age in non-anomalous infants.

CONCLUSION: Stillbirth is responsible for half of perinatal deaths. While most stillbirths occur preterm, stillbirth is a more frequent cause of loss at term. Given the excellent survival of non-anomalous infants near term, delivery should be considered for pregnancies at risk of stillbirth after 34 weeks, and for pregnancies at high risk of stillbirth after 30 weeks' gestation.

Table

	<28	28	29	30	31	32	33	34	35-44
SB/1000	198	130	94	61	21	14	40	0	3
ND/1000	332	87	63	15	0	14	10	12	0.9
Survival (%)	48	78	84	92	98	97	95	98.7	99.6
LB survival (%)	61	90	96	98	100	98.6	98.9	100	99.98