

## Assessing Need for Preconception Care in Mississippi: Maternal Chronic Disease and Negative Birth Outcomes in a Non-Hispanic Black-White Birth Cohort

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**Background/Purpose:** Given the historical and rising prevalence of chronic disease and recently increased infant mortality rate in Mississippi, identification of mothers with a propensity to experience negative birth outcomes could provide valuable information for health intervention planning and policy development among MCH populations.

**Objective:** To investigate the impact of maternal chronic medical conditions, race, and age on preterm birth (PTB), low birth weight (LBW), and infant mortality among Mississippi mothers.

**Methods:** A retrospective cohort analysis of linked birth and death certificates was performed. The study included the 1999-2003 Mississippi birth cohort comprising 202,931 singleton infants live-born to black and white women. Dependent variables were PTB, LBW, and infant mortality. Percentage of each dependent variable by maternal age, race and selected maternal chronic medical condition was investigated using logistic regression analysis.

**Results:** PTB, LBW, and Infant mortality were more prevalent among black women, very young women ( $\leq 15$  years), and women with certain chronic medical conditions. Among white mothers, maternal chronic hypertension was a significant factor associated with PTB ( $p < 0.0001$ ) and LBW ( $p < 0.0001$ ); maternal diabetes was a significant factor associated with PTB ( $p < 0.0001$ ) and infant mortality ( $p < 0.0001$ ). Among black mothers, maternal cardiac disease was a significant factor associated with both PTB ( $p = 0.018$ ) and LBW ( $p = 0.0251$ ); maternal chronic hypertension was a significant factor associated with LBW ( $p < 0.0001$ ) and infant mortality ( $p = 0.0427$ ); maternal diabetes was a significant factor for PTB ( $p < 0.0004$ ).

**Conclusions:** Maternal chronic hypertension and diabetes were significantly associated with negative birth outcomes regardless of maternal race. Maternal cardiac disease was only significantly associated with African-American mothers on PTB and LBW in Mississippi.

**Barriers:** Data sources were birth and death certificates. Thus, no data was available to control for severity or management of maternal illness or to investigate relationships between birth outcomes, socioeconomic status, and/or the environment.

### Public Health Implications:

The study underscores the importance of increasing access to preconception care and treating women throughout the lifespan. Appropriate training for women's health care providers in recognizing and understanding the effects of chronic disease in women would also be valuable. The study also accents the need for preventive healthcare as a tool for reducing African American disparities in infant and adult mortality and morbidity, a particularly serious and growing problem in Mississippi. Generally speaking, healthier mothers have healthier babies and policy development geared at improving the health of mothers could improve outcomes for Mississippi infants and their families.