

**Title:** The Influence of Maternal Weight and Glucose Tolerance on Infant Birthweight in Latino Mother-Infant Pairs

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## **Abstract**

We assessed the influence of maternal anthropometric and metabolic variables, including glucose tolerance, on infant birthweight. In our prospective, population-based cohort study of 1041 Latino mother-infant pairs, we used standardized interviews, anthropometry, metabolic assays, and medical record reviews. We assessed relationships among maternal sociodemographic, prenatal care, anthropometric, and metabolic characteristics and birthweight with analysis of variance and bivariate and multivariate linear regression analyses. Forty-two percent of women in this study entered pregnancy overweight or obese; at least 36% exceeded weight-gain recommendations. Twenty-seven percent of the women had at least some degree of glucose abnormality, including 6.8% who had gestational diabetes. Maternal multiparity, height, weight, weight gain, and 1-hour screening glucose levels were significant independent predictors of infant birthweight after adjustment for gestational age. Studies of birthweight should account for maternal glucose level. Given the increased risk of adverse maternal and infant outcomes associated with excessive maternal weight, weight gain, and glucose intolerance, and the high prevalence of these conditions and type 2 diabetes among Latinas, public health professionals have unique opportunities for prevention through prenatal and postpartum interventions.