Infant Growth following Maternal Participation in a Gestational Weight Management Intervention

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BACKGROUND: Obesity is widespread and treatment strategies have demonstrated limited success. Changes to obstetrical practice in response to obesity may support obesity prevention by influencing offspring growth trajectories.

METHODS: This retrospective cohort study examined growth among infants born to obese mothers who participated in Nutrition in Pregnancy (NIP), a prenatal nutrition intervention at one urban hospital. NIP participants had Medicaid insurance and BMIs of 30 kg/m2 or greater. We compared NIP infant growth to a historical control cohort, matched on maternal factors: age, race/ethnicity, prepregnancy BMI, parity, and history of prepregnancy hypertension or preterm birth.

RESULTS: Growth data were available for 61 NIP and 145 control infants. Most mothers were African American (94%). Mean maternal BMI was 39.9 kg/m2 (standard deviation [SD], 5.6) for NIP participants and 38.8 kg/m2 (SD, 6.0) for controls. Pregnancy outcomes, including preterm birth, gestational diabetes, and birth weight, did not differ between groups. NIP participants were more likely to attend a postpartum visit (69% vs. 52%; p value, 0.03). At 1 year, 17% of NIP infants and 15% of controls had weight-for-length (WFL) ?95th percentile (p value, 0.66). Other markers of accelerated infant growth, including crossing WFL percentiles and peak infant BMI, did not differ between groups.

CONCLUSIONS: There was no difference in growth between infants whose mothers participated in a prenatal nutrition intervention and those whose mothers did not. Existing prenatal programs for obese women may be inadequate to prevent pediatric obesity without pediatric collaboration to promote family-centered support beyond pregnancy.

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