

Gestational weight gain and birthweight outcomes: racial and ethnic differences in Hawaii

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Purpose: To investigate gestational weight gain (GWG) and its associations with birthweight outcomes among women of various racial/ethnic groups in Hawaii.

Methods: Program/administrative data for Hawaii's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) was used. A total of 15,112 mother-infant pairs with singleton term births were included. Bivariate analyses assessed the associations between GWG, prepregnancy body mass index (BMI), race/ethnicity, and low and high birthweight outcomes. Stratified logistic regression analyses controlling for age and prepregnancy BMI were conducted to assess the effects of GWG on low birthweight (LBW) and high birthweight (HBW) among various racial/ethnic groups.

Results: LBW was prevalent among Filipinos (9.0%), Blacks (8.2%), and Marshallese (7.4%) while HBW was prevalent among Tongans (24.3%), Samoans (16.2%), and Whites (10.2%). Excessive weight gain was prevalent among Tongans (84.6%), Samoans (78.1%), and Hawaiians/Part Hawaiians (68.0%). Inadequate weight gain was prevalent among Japanese (27.2%), Marshallese (25.8%), and Vietnamese (24.2%). After adjusting for age and prepregnancy BMI, stratified logistic regression models showed that every 5 lbs increase in GWG was associated with decreased odds of LBW for Filipinos, Blacks, and Whites, but no association was found for Hawaiians/Part Hawaiians, Samoans, or Micronesians. On the other hand, stratified logistic models predicting HBW showed that increased GWG was associated with increased odds of HBW across all women, but the magnitudes were greater for Koreans and Chinese compared to Samoans, Micronesians, or Tongans.

Conclusion: The effects of gestational weight gain on birthweight differ by racial/ethnic groups in Hawaii's WIC population.

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