



ORIGINAL RESEARCH

Racial/Ethnic Differences in the Percentage of Gestational Diabetes Mellitus Cases Attributable to Overweight and Obesity, Florida, 2004-2007

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Abstract

Introduction

Gestational diabetes mellitus (GDM) affects 3% to 7% of pregnant women in the United States, and Asian, black, American Indian, and Hispanic women are at increased risk. Florida, the fourth most populous US state, has a high level of racial/ethnic diversity, providing the opportunity to examine variations in the contribution of maternal body mass index (BMI) status to GDM risk. The objective of this study was to estimate the race/ethnicity-specific percentage of GDM attributable to overweight and obesity in Florida.

Methods

We analyzed linked birth certificate and maternal hospital discharge data for live, singleton deliveries in Florida from 2004 through 2007. We used logistic regression to assess the independent contributions of women's prepregnancy BMI status to their GDM risk, by race/ethnicity, while controlling for maternal age and parity. We then calculated the adjusted population-attributable fraction of GDM cases attributable to overweight and obesity.

Results

The estimated GDM prevalence was 4.7% overall and ranged from 4.0% among non-Hispanic black women to 9.9% among Asian/Pacific Islander women. The probability of GDM increased with increasing BMI for all racial/ethnic groups. The fraction of GDM cases attributable to overweight and obesity was 41.1% overall, 15.1% among Asians/Pacific Islanders, 39.1% among Hispanics, 41.2% among non-Hispanic whites, 50.4% among non-Hispanic blacks, and 52.8% among American Indians.

Conclusion

Although non-Hispanic black and American Indian women may benefit the most from prepregnancy reduction in obesity, interventions other than obesity prevention may be needed for women from other racial/ethnic groups.

Introduction

Gestational diabetes mellitus (GDM), defined as carbohydrate intolerance leading to hyperglycemia first recognized during pregnancy, is associated with increased risk for pregnancy and delivery complications, including cesarean section, infant macrosomia, and neonatal hypoglycemia (1,2). Estimates of the prevalence of GDM among pregnant women in the United States range from 3% to 7%, depending on the population studied, the diagnostic tests employed, and data source used (3-5). Most women in whom GDM is diagnosed do not continue to have hyperglycemia after delivery (6). However, up to 50% of women with a history of GDM will develop type 2 diabetes in the decade following their GDM diagnosis (7).

In the United States, similar to racial/ethnic differences in type 2 diabetes, the risk of developing GDM is highest among Asian (particularly South Asian), black, American Indian, and Hispanic women (8-10), and these differences do