

Pre-pregnancy Obesity in New York City—2008

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Objective: Obesity increases health risks; maternal pre-pregnancy obesity negatively impact's infant health. We sought to describe maternal pre-pregnancy obesity in NYC for the first time to more fully understand its extent and health impact.

Methods: Based on 2003 National Center for Health Statistics recommendations, New York City (NYC) added mother's height to the 2008 revised NYC birth certificate. This enabled a first time assessment of pre-pregnancy Body Mass Index (BMI) and obesity by selected demographic characteristics and infant outcomes using routinely collected birth certificate data. Pre-pregnancy BMI = (pre-pregnancy weight in pounds*703)/(pre-pregnancy height in inches)². We categorized BMI into four groups: underweight (BMI<18.5), normal weight (BMI=18.5–24.9), overweight (BMI=25–29.9), and obese (BMI≥30).

Results: Among women with live births in NYC during 2008, before their pregnancy 54.6% were normal weight; 23.5% overweight, 16.4% obese, and 5.6% underweight. Non-Hispanic black and Puerto Rican mothers were most frequently obese (28.2% and 28.0% respectively). Obesity was less common among others Hispanic, non-Hispanic white, and Asian mothers at 17.8%, 9.1% and 4.9% respectively. Nearly 10% of NYC's obese mothers' infants had excessive birth weight (>4000 grams): ~1.7 times higher than normal weight mothers. Infant mortality rate was higher for obese mothers and overweight mothers: 6.8/1,000 live births and 5.4/1,000 live births respectively, compared with 4.2/1,000 live births for normal weight mothers (p<0.001 and p=0.016, respectively). Infants of non-Hispanic black obese mothers remain at greater risk for death controlling for mother's age, education, marital status, first birth, Medicaid status, and race/ethnicity (p=0.05).

Conclusions: This first time assessment of prevalence and correlates of pre-pregnancy BMI in NYC found 39.8% of mothers were overweight or obese pregnancy and substantial disparities exist by racial/ethnic groups. Obesity carries an increased risk of infant death. This information further supports NYC health department's prioritization of interventions to prevent obesity.

Keywords: Body Mass Index, Pre-pregnancy Obesity, Macrosomia, Infant Mortality Rate