Pre-pregnancy obesity associated with lower odds of meeting breastfeeding recommendations when controlling for prenatal intentions

Shannon C. Conrey[1,2], Allison R. Burrell[1,2], Claire P. Mattison[3,4], Daniel C. Payne[5], Mary A. Staat[2,6], Laurie Nommsen-Rivers[7], Ardythe L. Morrow[1,2]

[1] University of Cincinnati College of Medicine, Department of Environmental and Public Health, Cincinnati, OH
[2] Cincinnati Children's Hospital Medical Center, Department of Infectious Disease, Cincinnati, OH
[3] Centers for Disease Control and Prevention, Division of Viral Diseases, Atlanta, GA
[4] Cherokee Nation Assurance, Arlington, VA
[5] Centers for Disease Control and Prevention, Division of Foodborne, Waterborne, and Environmental Diseases, Atlanta, GA
[6] University of Cincinnati College of Medicine, Department of Pediatrics, Cincinnati, OH
[7] University of Cincinnati College of Allied Health Sciences, Department of Rehabilitation, Exercise and Nutrition Sciences, Cincinnati, OH

Background: The CDC recommends exclusive breastfeeding (EBF) to six months of age, with any breastfeeding (ABF) continued to at least one year. Maternal obesity has been associated with reduced duration of EBF and ABF, but few studies have accounted for obesity class or prenatal breastfeeding intentions when comparing outcomes. We compared odds of meeting breastfeeding recommendations by pre-pregnancy obesity class while controlling for prenatal breastfeeding intentions and demographics in PREVAIL, a diverse CDC-funded birth cohort in Cincinnati, OH.

Methods: Enrolled subjects (*n*=245) completed a prenatal (3rd trimester) questionnaire including demographics, pre-pregnancy weight/height, and intention to EBF to six months. BMI (kg/m^2) was categorized as healthy (18.5-24.9), overweight (25-29.9), obesity 1 (30-34.9), or obesity 2+ (≥35). Mothers self-reported breastfeeding initiation, exclusivity, and duration via postnatal quarterly study questionnaires. Logistic regression adjusted odds (aOR) of meeting breastfeeding recommendations across BMI categories (reference=healthy BMI), controlling for race, education, income, and intention to EBF to six months.

Results: Pre-pregnancy maternal obesity prevalence was 41% (n=100), with 23% (*n*=57) meeting obesity 2+ criteria. There were no significant differences among BMI categories in breastfeeding intention or initiation. In those who initiated breastfeeding (*n*=212, 87%), healthy BMI mothers reported the highest (40%), and mothers with obesity 2+ the lowest (4%), rates of EBF to six months (aOR 0.13 (CI 0.02, 0.57)). In addition, healthy BMI mothers (49%) were more likely to ABF to one year than mothers with overweight (13%, aOR 0.11 (CI: 0.04, 0.34)), obesity 1 (16%, aOR 0.11 (CI 0.03, 0.33) and obesity 2+ (10%, aOR 0.15 (CI 0.04, 0.46)).

Conclusion: Despite high breastfeeding initiation rates, increasing BMI class was associated with decreasing odds of meeting CDC breastfeeding recommendations, adjusting for demographics and prenatal intentions in the PREVAIL Cohort. Whether these findings can be explained by physiologic barriers associated with higher BMI merits further attention.

Conference: American Public Health Association