

# Exploring the Factors Important in Determining Breastfeeding Longevity in a Cohort of Black and White Adolescent Mothers

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**Introduction:** Breastfeeding duration is dependent on multiple factors, both social and biological. Known factors like mother and infant health, family and social support, and socioeconomic status have the potential to impact breastfeeding initiation and duration. Recently, the rise of obesity has been correlated to decreased rates of breastfeeding. Obese women in these studies were more likely to experience delayed lactogenesis and breastfeed for a shorter period of time than women with a healthy body weight. This study sought to explore how factors impact breastfeeding rates in adolescents, a population with little targeted research in this field. These results suggest that obesity does not play a role in adolescent breastfeeding rates and socioeconomic status may be modulating these rates via maternal age.

**Methods:** Data for this analysis was collected from the National Heart, Lung, and Blood Institutes Growth and Healthy Study, or NGHS, which was conducted partially by the University of Cincinnati Medical Center and Children's Hospital Medical Center in 1987. 2379 girls aged 9 and 10 who self-reported as black or white living in racially concordant households enrolled. Follow-up studies conducted in Cincinnati, OH followed 550 of the same girls from 1996-2001 and 2001-2007. Collected data included information about family structure, socioeconomic status, height, weight, pregnancy and breastfeeding experiences, body composition, and fasting insulin and glucose levels. Pregnancy and breastfeeding data were collected during the last 14 years of the study. Breastfeeding information available for the participant's first child was compiled together with socioeconomic status and obesity data, and analyzed via chi-square, ANOVA, and PCA analyses.

**Results:** Of the 550 women included in the follow-up studies, 266 women had given birth and were able to be used in this study (average age = 17 yo). Measures of socioeconomic status were found to be significantly associated with breastfeeding initiation (parental education:  $P < 0.0001$ , parental income:  $P < 0.0006$ ) and duration (parental education:  $P < 0.001$ , parental income:  $P < 0.0035$ ). After adjusting for maternal age, however, the data suggests that these factors may more directly influence maternal age ( $P < 0.0001$ ). Maternal age, then, was the main predictor of breastfeeding rates in adolescents. Race was not found to be an influential factor (initiation:  $P = 0.59$ , duration:  $P = 0.51$ ). Measures of obesity were also not found to be significantly associated with breastfeeding initiation (BMI:  $P = 0.34$ , HOMA-IR:  $P = 0.09$ ) or duration (BMI:  $P = 0.41$ , HOMA-IR:  $P = 0.21$ ). Delivery complications were also found to be a significant predictor of low breastfeeding rates in adolescents, independent of maternal age ( $P < 0.0001$ ).

**Conclusion:** Unlike in adult populations, obesity rates in this adolescent population were not able to predict breastfeeding rates amongst adolescent mothers. Measures of socioeconomic status, however, were found to be predictive of maternal age, which was then predictive of breastfeeding rates. Delivery complications were then found to negatively impact breastfeeding rates independent of social and biological factors.

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