Strength of intention and BMI category associated with odds of achieving exclusive breastfeeding recommendations

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Background: The WHO recommends exclusive breastfeeding (EBF) until 6 months of age. While maternal obesity has been associated with reduced duration of EBF, few studies have included prenatal EBF intentions.

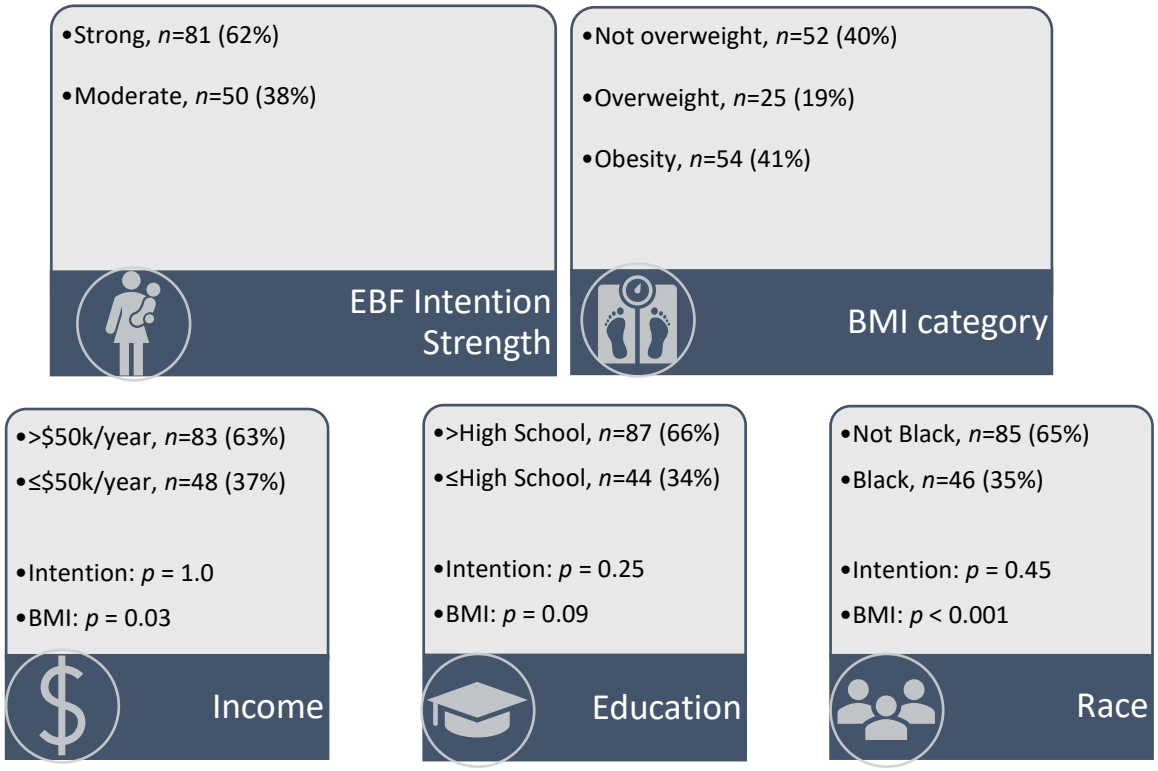
Objective: We compared odds of EBF to 6 months by pre-pregnancy BMI category and strength of EBF intention in PREVAIL, a diverse CDC-funded birth cohort in Cincinnati, OH.

Methods: Participants completed a 3rd trimester questionnaire including demographics, pre-pregnancy weight/height, and intention to EBF to 6 months (EBF intent). This analysis was limited to mothers whose EBF intent was classified as 'strong' or 'moderate'. Pre-pregnancy BMI was categorized as not overweight (<25), overweight (25-29.9), or obesity (≥30). Mothers reported date of formula introduction via periodic postnatal questionnaires. Logistic regression compared odds of EBF to 6 months by EBF intent and BMI category controlling for maternal race, education, and income.

Results: Prenatally, 81 PREVAIL mothers had strong and 50 had moderate EBF intent; obesity prevalence, race, income, and education did not differ by EBF intent. Overall, 30 (37%) mothers with strong and 7 (14%) mothers with moderate intention achieved EBF to 6 months. In the adjusted model, odds of EBF to 6 months were 10-fold greater (aOR=10.2, (CI:2.9, 44.9)) in mothers with strong *vs* moderate intention, and 16-fold lower in mothers with overweight (aOR=0.06, (CI:0.01, 0.24)) or obesity (aOR=0.06, (CI:0.01, 0.22)) *vs* not overweight.

Conclusion: In the PREVAIL cohort, intention strength and BMI category were strong, independent predictors of EBF to 6 months, suggesting that both should be considered when developing interventions to improve EBF duration. Whether these differences can be explained by physiological differences associated with increased BMI requires further investigation.

Figure 1: Characteristics of mothers with intention to exclusively breastfeed to 6 months of age in the PREVAIL cohort



Mothers were enrolled in the Pediatric Respiratory and Enteric Viral Acquisition and Immunogenesis Longitudinal (PREVAIL) cohort in the 3rd trimester of pregnancy and completed a questionnaire including family demographics, pre-pregnancy weight and height, and intention to exclusively breastfeed (EBF) to 6 months of age. Mothers described their intention to EBF to 6 months of age using the Breastfeeding Intentions Scale, a validated 5-point Likert scale ranging from strongest intention ('very much agree') to strongest disinclination ('very much disagree'). This analysis was limited to the 131 mothers who indicated either "very much" (strong intention) or "somewhat" (moderate intention) agree to intention to EBF to 6 months of age. Pre-pregnancy BMI (kg/m^2) was calculated and categorized as having not overweight (<25), overweight (25-29.9), or obesity (≥30). Proportional distribution of demographic factors by strength of intention and BMI category were compared using Fisher's Exact test, with multiple comparisons adjusted using Holm corrections. Black and lower income mothers were more likely to have obesity while non-Black and higher income were more likely to have not overweight BMI. There were no significant differences in proportions of overweight or strength of EBF intentions by any demographics category or in strength of EBF intentions by BMI category.

Table 1: Odds of achieving prenatal exclusive breastfeeding goals by strength of intention and pre-pregnancy BMI category in the PREVAIL Cohort

Odds of EBF to 6 months of age

	~Intention, crude			~BMI class, crude			adjusted model		
Predictors	*Odds Ratios*	*CI*	*p*	*Odds Ratios*	*CI*	*p*	*Odds Ratios*	*CI*	*p*
Strong Intention	3.61	1.51 – 9.69	**0.006**				10.21	2.97 – 44.55	**0.001**
Overweight				0.16	0.04 – 0.50	**0.003**	0.06	0.01 – 0.24	**<0.001**
Obesity				0.09	0.03 – 0.24	**<0.001**	0.06	0.01 – 0.22	**<0.001**
Black race							0.63	0.10 – 3.22	0.592
Income <$50k							0.09	0.01 – 0.42	**0.004**
Education <=HS							0.43	0.06 – 2.45	0.357
Observations	131			131			131		
R^2 Tjur	0.062			0.216			0.452		

Mothers were enrolled in the Pediatric Respiratory and Enteric Viral Acquisition and Immunogenesis Longitudinal (PREVAIL) cohort in the 3rd trimester of pregnancy and completed a questionnaire including family demographics, pre-pregnancy weight and height, and intention to exclusively breastfeed (EBF) to 6 months of age. Mothers ranked their intention level to EBF using the Breastfeeding Intentions Scale, a validated 5-point Likert scale ranging from strongest intention ('very much agree') to strongest disinclination ('very much disagree'). This analysis was limited to the 131 mothers who indicated either "very much agree" (strong) or "somewhat agree" (moderate) intention to EBF to 6 months of age. Pre-pregnancy BMI (kg/m^2) was calculated and categorized as not overweight (<25), overweight (25-29.9), or obesity (≥30). Mothers self-reported date of formula introduction via postnatal quarterly study questionnaires. Logistic regression compared odds of EBF to 6 months by strength of intention (Intention, crude; moderate intention, *ref*.), BMI category (BMI class, crude; not overweight, *ref*.) and when controlling for intention strength, BMI class, and maternal race, income, and education level (adjusted model; not Black, income ≥$50k, >high school, *ref*. respectively.

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