

# Infant Cereal in the Bottle: Its Association with Daily Calorie Intake Among 6-Month-Old Infants in Low-Income Households

Marlen Hernandez, Christina Frazier, Nichole Raynor, Isa Ramos-Castillo, Jigna Dharod  
University of North Carolina at Greensboro



## Background

Infant feeding practices are critical in shaping eating habits and predicting weight status later in life. Recommendations discourage adding infant cereal into the bottle. However, there is limited evidence on how this practice contributes to daily calorie intake among infants.

Objectives:

1. Determine the prevalence and sociodemographic characteristics associated with the practice of adding cereal into the bottle
2. Examine differences in calorie intake among infants who are fed cereal in their bottle and those who are not

## Methods

- Mother-infant dyads from low-income background were recruited from a pediatric clinic to participate in interviews and 24-hour dietary recalls. Both English and Spanish speaking participants were recruited
- Total of 249 mothers with infants aged at 6 months were utilized for this study
- The interviews and 24-h recalls provided socio-demographic, feeding practices (adding cereal into the bottle, breastfeeding, types of other solid foods given), and total calorie and other nutrient intakes
- Chi-square test and ANOVA were carried out using SPSS v 26.0



## Results

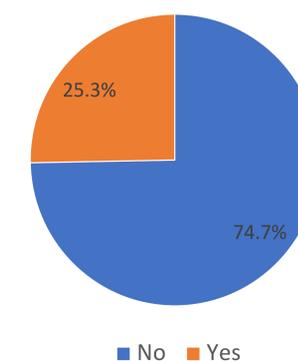
Table 1: Sociodemographic Characteristics and Feeding Practices Among Low-income Mother-infant Dyads (n = 249)

Characteristics	Mean (SD)
<b>Mother's age (in years)</b>	29.8 (6.1)
<b>Household size</b>	4.5 (1.7)
<b>Household income (\$, monthly)<sup>a</sup></b>	1708.8 (1506.8)
<b>Ethnicity</b>	
African American	99 (39.8)
Hispanic	91 (36.5)
Non-Hispanic White	26 (10.4)
Others <sup>b</sup>	33 (13.3)
<b>Marital Status</b>	
Single/Divorced	141 (56.6)
Married/Living with partner	108 (43.4)
<b>Education</b>	
Less than High School	52 (20.9)
High School/GED	137 (55.0)
College degree	60 (24.1)
<b>Food Security Status</b>	
High	159 (64.1)
Marginal/Low/Very Low	89 (35.9)
<b>Primiparous Parity</b>	97 (39.1)
<b>Participation in WIC</b>	204 (81.9)
<b>Participation in SNAP</b>	111 (44.6)
<b>Infant Sex: Male</b>	114 (45.8)
<b>Adding cereal into the formula bottle at 6 months<sup>c</sup></b>	63 (25.3)

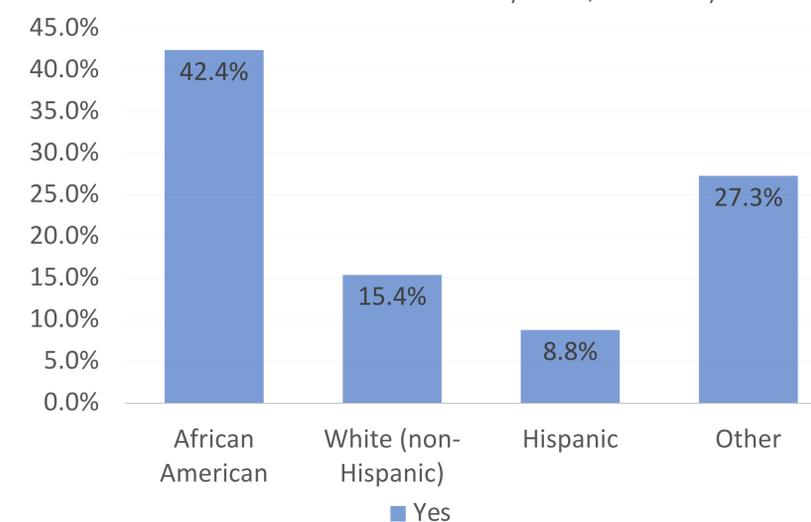
<sup>a</sup>Income sample size=171 (remaining 30 reported either don't know or refused to provide information); <sup>b</sup>Others group represents Asians, Pacific Islanders, Mixed and Native Americans; <sup>c</sup>Adding cereal into the bottle information was based on the 24- h recall.

- About a quarter of total participants added cereal into their 6-month-old infant's bottle
- Adding cereal into the bottle was most common among African American mothers, especially when compared to White and Hispanic mothers
- Total calories consumed was higher among infants who received cereal in their bottle with formula vs not

Added Cereal to Formula at 6 months



Added cereal to formula by race/ethnicity



	Added Cereal to bottle (Mean)		F	Sig.
	Yes	No		
<b>Total Grams</b>	1197.8	1056.5	8.697	0.003
<b>Energy (kcal)</b>	890.9	707.3	22.035	0.000
<b>Total Fat (g)</b>	37.6	36.1	0.729	0.394
<b>Total Carbohydrate (g)</b>	120.4	83.6	40.022	0.000
<b>Total Protein (g)</b>	19.6	14.4	21.861	0.000
<b>% Calories from Fat</b>	39.1	45.8	50.79	0.000
<b>% Calories from Carbohydrate</b>	52.3	45.9	53.562	0.000
<b>% Calories from Protein</b>	8.5	8.0	3.463	0.064

## Conclusions

Adding cereal in the bottle might increase the risk of rapid weight gain among infants by causing higher intake of calories. Further examination of how different feeding practices contribute to growth among low-income infants is warranted.