

Infants with strong sucking skills are more likely to gain additional weight

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A new study of African-American infants finds that those who feed more vigorously at 1 month of age have higher weight at 4 months, which may be associated with a later risk for obesity. Researchers will present their study findings Friday at the Endocrine Society's 98th annual meeting in Boston.

"Infants should double their birth weight by 4 months of age on average, but some babies gain weight more rapidly than others," said the study's presenting author, Sani Roy, MD, a pediatric endocrinology fellow at The Children's Hospital of Philadelphia. "Past research shows that rapid weight gain in the first four months of life is associated with a greater risk of obesity by young adulthood."

Because African Americans have among the highest U.S. rates of adulthood obesity, Roy and her colleagues studied African-American infants, specifically 53 healthy, full-term babies who are participating in the Infant Growth and Microbiome Study. This National Institutes of Health-funded study, which is being conducted at The Children's Hospital of Philadelphia, is evaluating maternal and infant factors contributing to growth during the first two years of life in African-American infants.

"Although birth weight and infant feeding practices are known risk factors for obesity, it is not clear whether an infant's intensity of sucking while feeding is a factor," said Roy, who is a 2015 recipient of the Endocrine Society's Endocrine Scholars Award in Growth Hormone

Research.

Such information is important, according to the study's principal investigator, Babette Zemel, PhD, of The Children's Hospital of Philadelphia. "Preventing obesity early on is more effective than treating obesity once it occurs," she said.

In this preliminary study, the researchers evaluated the infants' sucking intensity, which is the maximal sucking pressure and the number of sucks on a baby bottle in a two-minute period. They used a standardized test developed at The Children's Hospital of Philadelphia called the Neonur feeding device. This device uses a flow sensor attached to the nipple of a baby bottle filled with the infant's formula or mother's breast milk. The infants—25 males and 28 females—had this test when they were 1 month old. At that age, 26 of the 53 infants were receiving only formula, and the rest received some or exclusively breast milk, although three months later, 39 infants were receiving only formula.

The researchers also assessed infants' body composition and body fat at 1 and 3 months of age, and weighed the babies again at 4 months. About half of the [infants](#) had obese mothers.

Results showed that higher maximal sucking pressure at 1 month of age was significantly and positively associated with greater weight gain from birth to 4 months. A higher number of sucks, the investigators reported, also predicted greater weight gain from birth to 4 months of age after statistical analyses adjusted for [birth weight](#). However, both infant sucking measures had only marginal effects on the amount of body fat at 1 month and no effect at 3 months.

Whether early feeding behavior remains a marker for excess [weight gain](#) in the first two years of life is currently under study, Roy said. "It will be interesting to see if these differences hold up with time in this group at

high risk of [obesity](#)," she commented.

Provided by The Endocrine Society

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