

Artificially sweetened beverages consumed in pregnancy linked to increased infant BMI

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Daily consumption of artificially sweetened beverages by women during pregnancy may be associated with increased infant body mass index (BMI) and may be associated with an increased risk of being overweight in early childhood, according to an article published online by *JAMA Pediatrics*.

Obesity may be rooted in early life with more than 20 percent of preschool children classified as overweight or obese. Added sugar is associated with obesity and as a result sugar replacements or nonnutritive sweeteners (NNSs) are popular. Literature suggests that chronic NNS consumption may paradoxically increase the risk of obesity and metabolic disease. Little is known about the effect of NNS exposure during pregnancy.

Meghan B. Azad, Ph.D., of the University of Manitoba, Winnipeg, Canada, and coauthors studied 3,033 mother-infant pairs to examine the association of consuming artificially sweetened beverages during pregnancy and its effect on infant BMI in the first year of life. A food questionnaire was used for dietary assessments during pregnancy and infant BMI was measured when they were 1 year old.

The authors report the average age of the pregnant women was 32.4 years. For infants, their average BMI z score (which measures deviations in BMI) was 0.19 at 1 year old and 5.1 percent of the infants were overweight. More than a quarter of the women (29.5 percent) reported drinking artificially sweetened beverages during pregnancy, including 5.1 percent of women who reported drinking them daily.

Study results indicate that daily consumption of artificially sweetened beverages, compared with no consumption of such beverages, was associated with an increase in infant BMI z score and a two-fold increased risk of an infant being overweight at 1 year of age. Consumption of [sugar-sweetened beverages](#) was not associated with infant BMI z scores.

The authors acknowledge study limitations that include the potential for error in self-reported dietary outcomes. The study also cannot prove a causal association.

"To our knowledge, our results provide the first human evidence that artificial sweetener consumption during pregnancy may increase the risk of early childhood overweight. Given the current epidemic of childhood obesity and the widespread [consumption](#) of artificial sweeteners, further research is warranted to replicate our findings in other cohorts, evaluate specific NNS and longer-term outcomes, and study the underlying biological mechanisms," the authors conclude.

"Despite these caveats, the findings by Azad et al warrant attention and further research. Experimental studies in animals and small intervention trials among [pregnant women](#) can explore mechanisms. Observational cohort studies should incorporate substitution as well as addition models and pay close attention to confounding. Randomized clinical trials substituting ASBs for SSBs [sugar-sweetened beverages] or, equally valuable, water for ASBs would be particularly helpful," write Mark A. Pereira, Ph.D., of the University of Minnesota, Minneapolis, and Matthew W. Gillman, M.D., S.M., of Harvard Medical School, Boston, in a related editorial.

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