

Study finds improved WIC food packages reduced obesity risk for children

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Sweeping changes designed to make a major federal food assistance program more nutritious for low-income families were effective in reducing obesity risk for 4-year-olds who had been on the program since birth, according to a new study by researchers from Tulane University, the University of California, Los Angeles, and PHFE WIC.

The study, published in the *American Journal of Clinical Nutrition*, is among the first to use a rigorous research design to demonstrate the impact of major food [package](#) changes made by the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) in 2009 on [obesity risk](#) and growth trajectories for different groups of children receiving the [program](#). It is the most comprehensive study of the impact of these changes on [obesity](#) risk in Los Angeles County where over half of all children under age 5 are enrolled in WIC.

WIC is a federal nutrition assistance program for pregnant, breastfeeding and postpartum women, as well as infants and children under the age of 5 who live in low-income households.

"Our study shows that improving nutrition quality made a measurable impact in lowering obesity risk for children receiving the new food package compared to those receiving the old," said lead author Pia Chaparro, assistant professor of nutrition at Tulane University School of Public Health and Tropical Medicine. "Our results suggest that changes in children's diet early in life could have a positive effect on their growth and reduce obesity risk, which could be informative for policymakers

considering further improvements to the WIC program."

WIC overhauled food packages to make them more healthful by adding fruits, vegetables and whole grains and reducing the amount of juice, milk and cheese. It also cut fat levels allowed in milk and calibrated infant formula amounts based on infants' age and needs.

Researchers from Tulane and the UCLA Fielding School of Public Health worked with Los Angeles-based PHFE WIC, a program of Heluna Health, to examine health and [population data](#) from more than 180,000 children served by the WIC program in Los Angeles County. WIC serves more than 400,000 residents per month in the area, and PHFE WIC has compiled extensive health data on participants since 2003 through a funding partnership with First 5 LA.

Researchers examined data from 2003-2016 for four groups of children: those receiving a full-dose (i.e. participating in WIC continuously from birth to age 4) of the new food package; those receiving a full-dose of the old food package; those receiving a late-dose (i.e. joining WIC at age 2 and participating till age 4) of the new food package; and those receiving a late-dose of the old food package.

Children receiving a full dose of the new food package had healthier growth trajectories and lower obesity risk at age 4 than children receiving a full dose of the old food package. Obesity risk was 12% lower for boys and 10% lower for girls compared to 4-year-olds who received the full dose of the old food package.

When researchers examined growth trajectories between the two groups, they noticed the sharpest differences began to develop at six months of age, suggesting that a more nutritious diet set a course for healthier growth early in life.

"The beneficial effect of being exposed to the new food package, compared to the old one, was much stronger during the six months to 1-year age interval, and this difference between the two groups during this age interval was large enough to set [children](#) in the new food package group on a healthier growth trajectory through age 4," Chaparro said.

Of those who joined the WIC program later at age 2, researchers found an 11% lower obesity risk for boys receiving the new [food](#) package but no reduced risk for girls. It is not clear whether the disparity in risk reduction was due to biological or sociocultural differences, Chaparro said.

Provided by Tulane University

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