

Plant-based diet may reduce obese children's risk of heart disease

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Juan Carreño de Miranda's "La monstrua desnuda" (The Nude Monster) painting.

Obese children who begin a low-fat, plant-based vegan diet may lower their risk of heart disease through improvements in their weight, blood pressure, body mass index, cholesterol levels, insulin sensitivity, and high-sensitivity C-reactive, according to Cleveland Clinic research published online today by *The Journal of Pediatrics*.

The four-week study - led by Michael Macknin, M.D., a staff

pediatrician at Cleveland Clinic Children's - compared a plant-based vegan diet to the American Heart Association (AHA) diet in 28 [obese children](#) with high cholesterol between the ages of 9 and 18. One parent of each child also followed the assigned diet plan.

Those on the plant-based diet consumed plants and whole grains, with limited avocado and nuts, no added fat, and no animal products. These children experienced significant improvements in nine measures: BMI, systolic [blood pressure](#), weight, mid-arm circumference, total cholesterol, low-density lipoprotein (LDL) cholesterol, and insulin, as well as two common markers of [heart disease](#), myeloperoxidase and high-sensitivity C-reactive protein.

Those on the American Heart Association diet consumed fruits, vegetables, whole grains and non-whole grains, limited sodium, low-fat dairy, selected plant oils, and lean meat and fish in moderation. These children experienced significant improvements in four measures: weight, waist circumference, mid-arm circumference and myeloperoxidase.

"As the number of obese children with [high cholesterol](#) continues to grow, we need to have effective lifestyle modifications to help them reverse their risk factors for heart disease," Dr. Macknin said. "We've known that plant-based diets are beneficial in adults in preventing and possibly reversing heart disease. This study shows that the same may be true in children too, though more studies are needed.

"Cardiovascular disease begins in childhood. If we can see such significant improvements in a short four-week study, imagine the potential for improving long-term health into adulthood if a whole population of [children](#) began to eat these diets regularly."

Children on the plant-based diet reduced their consumption of animal protein from 42 grams daily to 2.24 grams daily, while also reducing

their percentage of calories from fat and saturated fat to 18 percent and 3.6 percent, respectively.

Children on the AHA diet were to consume less than 30 percent of their total calories from fat, less than 7 percent of calories from saturated fat, less than 1500 mg sodium and less than 300 mg cholesterol.

"Most families in the study were able to follow these dietary guidelines for the four-week study," Dr. Macknin said, "but we found that they had difficulty purchasing the food necessary for a balanced plant-based [diet](#). So we know that plant-based diets are effective, but if they are to be widely used, we need to make access to plant-based, no-added-fat foods easier and more affordable."

Provided by Cleveland Clinic

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