Plant-based diets can be effective in reducing heart failure risk

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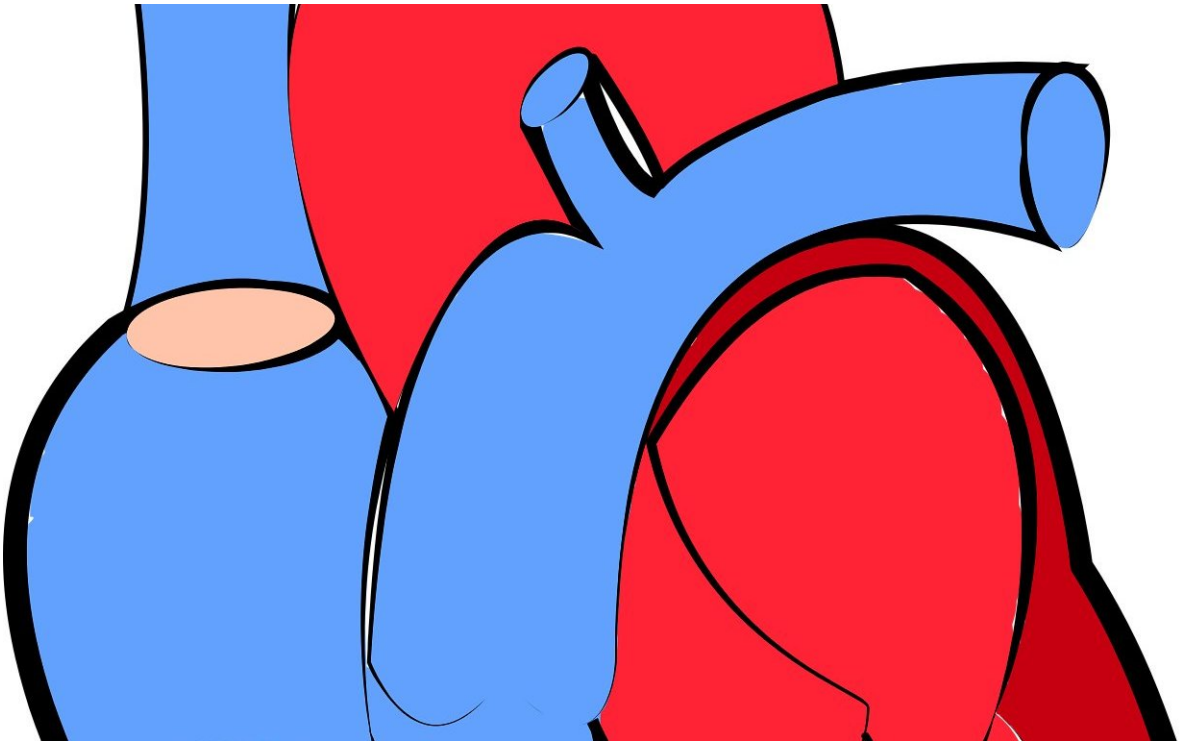

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Plant-based diets are associated with a lower risk of heart failure in adults without known heart disease, while Southern diets consisting of more fried and processed foods and sweetened drinks are associated with greater risk, according to a study published in the *Journal of the American College of Cardiology* that looked at the association between

five dietary patterns and risk of heart failure.

Heart failure affects more than 5.7 million adults and that number is expected to rise. Heart failure prevention strategies currently emphasize quitting smoking, managing high blood pressure and maintaining a healthy diet and weight to prevent heart disease, but research is limited on dietary patterns and incident heart failure in patients without heart disease.

Researchers in this study looked at five major dietary patterns that were identified within the Reasons for Geographic and Racial Differences in Stroke (REGARDS) study population and examined the association between those patterns and incident heart failure hospitalizations in REGARDS participants without known heart disease or heart failure at baseline. Within the REGARDS study, researchers narrowed their sample size to 16,608 black and white adults aged 45 years old and older. Participants were sent a 150-question survey based on 107 food items, which were categorized into the five pre-determined diets:

- "Convenience" (heavily meat dishes, pasta, Mexican dishes, pizza and fast food)
- "Plant-based" (vegetables, fruit, beans and fish)
- "Sweets/fats" (heavy on desserts, bread, sweet breakfast foods, chocolate and other sugar)
- "Southern" (heavy on fried food, processed meats, eggs, added fats and sugar-sweetened beverages)
- "Alcohol/salads" (heavy on wine, liquor, beer, leafy greens and salad dressing)

After 8.7 years of follow up on average, there were 363 new heart failure hospitalizations. Researchers saw a 41 percent lower risk of new heart failure hospitalization for participants who were most adherent to the plant-based diet, compared to the least adherent.

The highest adherence to the Southern diet was associated with a 72 percent higher risk of heart failure hospitalization. However, when the Southern diet was adjusted for BMI, waist circumference, hypertension, dyslipidemia and other factors, the association was no longer statistically significant. Researchers said this could mean that the Southern dietary pattern could increase heart failure risk through factors such as obesity and excess abdominal fat, among the other adjusting factors.

Researchers found no statistically significant associations among the remaining dietary patterns and risk of heart failure.

Researchers also looked at incident heart failure stratified by heart failure subgroups. There were 133 cases of heart failure with preserved ejection fraction and 157 cases of heart failure with reduced ejection fraction. Researchers found no significant differences in associations with heart failure by ejection fraction with any of the dietary patterns.

"The need for population based preventive strategies for heart failure is critical," said Kyla Lara, MD, lead author of the study and a cardiology fellow at Mayo Clinic in Rochester, Minnesota. "These findings support a population-based dietary strategy for lowering the risk of incident heart failure."

One of the study's major strengths was the large, diverse sample size that included people from all demographics and socioeconomic backgrounds. Limitations include potential misclassifications from inaccurate dietary intake reporting and, since diet was only assessed at the beginning of the study, dietary changes may have occurred after the initial assessment.

In a related editorial comment, Dong Wang, ScD, MD, a research fellow at Harvard T.H. Chan School of Public Health, said heart failure prevention should be prioritized considering how difficult it is to treat, the severe debility heart failure patients experience and the high cost of

heart failure care.

"This study represents an important step forward in establishing a robust evidence base for the dietary prevention of heart failure," he said.

Provided by American College of Cardiology