Medical Xpress

Study shows fewer American Indians getting heart disease

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A first-of-its-kind study led by researchers at Washington State University shows that new cases of heart disease among American Indians in three U.S. regions have gone down.

Findings from the study—which looked for changes across a span of 25 years—also suggest that fewer Native men are dying from heart-disease -related events, such as heart attacks and strokes. American Indians and Alaska Natives make up just under 2 percent of the U.S. population, but account for 12 percent of all cases of heart disease—more than any other racial group.

"Our findings strongly suggest that delivering on our federal mandate to provide high-quality accessible health care to our Native people will reduce the health disparities seen in this population," said lead author Clemma Muller, a researcher with the WSU Institute for Research and Education to Advance Community Health (IREACH) and an assistant professor in the Elson S. Floyd College of Medicine. "In other words, when we find people before they have the disease and we follow them and make sure they receive the treatment they need, we can prevent the disease."

Published in the *Journal of the American Heart Association*, the team's study was based on data from 5,627 American Indians who participated in two long-running studies that looked at heart disease and related risk factors in Native people living in the Southwest and the Northern and Southern Great Plains. The Strong Heart Study enrolled participants

from 1989 to 1990. The Strong Heart Family Study recruited participants from the Strong Heart Study and their multi-generational relatives between 2000 and 2003, following each participant until 2013. Those who were determined to have heart disease or be at elevated risk for heart disease received treatment referrals.

Muller and her coauthors analyzed data for study participants who were between 30 and 85 years old during their last follow-up visit. They divided participants born within a decade of each other into cohorts and calculated the five-year risk that participants in each birth-year cohort might get heart disease or die from a heart-disease-related event, as well as the overall prevalence of heart disease within each cohort. To determine long-term trends, they compared five-year risks for people who were aged 45, 55, 65, and 75 at the conclusion of the study with risks for those who were the same age a generation earlier.

For all ages, the researchers saw fewer new disease cases in people who were born more recently. They also observed a drop in death rates from heart-disease-related events in men, but not in women. At the same time, overall prevalence of heart disease declined more in women.

"We expected that our results would show that things were getting better uniformly," Muller said. She suggested that heart disease prevalence continuing to be high in American Indian men while new cases and death rates are down reflects the fact that men are living longer with the disease, which pushes the prevalence for men up.

As for women, Muller said there are several possible explanations as to why they aren't seeing the same improvements in death rates from heart disease that men are. Overall, fewer women die from heart disease than men, so the team's analysis didn't include as many deaths in women.

"It's possible that women are in fact benefiting from lower mortality

rates, but we just didn't have the statistical power to detect these improvements," she said.

She also pointed to the possibility that certain risk factors for heart disease—such as smoking—may be increasing at a higher rate in women than in men. Finally, she said that heart disease symptoms in women can be more subtle than those in men. As a consequence, women are less likely to seek care for acute events such as heart attacks.

"We need to more closely examine whether American Indian women and men are having different experiences with their health patterns and why so we can make sure improvements are experienced equally by both groups," Muller said.

The research team—which also included investigators from the University of Minnesota and the Strong Heart Study—plan to delve further into this issue in a future study. They are also planning a study to determine long-term changes in risk factors for heart disease—such as high blood pressure and elevated blood glucose levels—in the same population.

More information: Clemma J. Muller et al, Trends in Cardiovascular Disease Morbidity and Mortality in American Indians Over 25 Years: The Strong Heart Study, *Journal of the American Heart Association* (2019). DOI: 10.1161/JAHA.119.012289

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