Healthy diet associated with lower risk of type 2 diabetes in minority women

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Consuming a healthy diet was associated with reduced risk for type 2 diabetes among women in all racial and ethnic groups but conferred an even greater benefit for Asian, Hispanic, and black women, according to a new study by researchers at Harvard T.H. Chan School of Public Health and Brigham and Women's Hospital.

"This study suggests that a healthy overall diet can play a vital role in preventing type 2 diabetes, particularly in minority women who have elevated risks of the disease. As the incidence of type 2 diabetes continues to increase at an alarming rate worldwide, these findings can have global importance for what may be the largest public health threat of this century," said lead author Jinnie Rhee, who conducted the research as a doctoral student in the Departments of Epidemiology and

Nutrition at Harvard Chan and is currently a postdoctoral fellow in the Division of Nephrology at Stanford University School of Medicine.

The study appears online January 15, 2015 in *Diabetes Care*.

It's estimated that about 29.1 million people in the U.S. and 47 million around the world have diabetes. The World Health Organization projects that diabetes will be the seventh leading cause of death in 2030. The disease, which is often related to excess body weight and physical inactivity, is more common in African Americans, Latinos, Native Americans, and Asian Americans/Pacific Islanders, and the aged. Previous studies have shown links between diet and risk of type 2 diabetes, but most have been conducted in predominately white populations.

The researchers analyzed data on diet in 156,030 non-Hispanic white women and 2,026 Asian, 2,053 Hispanic, and 2,307 black women in the Nurses' Health Study and Nurses' Health Study II. They adjusted for a variety of factors, such as age, physical activity, smoking, family history of diabetes, alcohol intake, postmenopausal status, menopausal hormone or oral contraceptive use, total caloric intake, and body mass index. The women were followed for up to 28 years and filled out diet questionnaires every four years.

The researchers created a dietary diabetes risk reduction score that included components associated with type 2 diabetes risk. A higher score indicated a healthier overall diet—one with lower intake of saturated and trans fats, sugar-sweetened beverages, and red and processed meats; lower glycemic index foods; and higher intakes of cereal fiber, polyunsaturated fats, coffee, and nuts.

Results showed a protective association of similar magnitude between a healthy overall diet and type 2 diabetes risk in all racial and ethnic

groups. Comparing the highest to the lowest quartile of dietary diabetes risk reduction score, healthy diet was associated with a 48% lower risk of diabetes in white, 42% in Asian, 55% in Hispanic, and 32% in black women. When all the minority women were combined into one group, those in the highest quartile of dietary score had a 36% lower risk of diabetes compared with women in the lowest quartile. However, because minority women were initially at higher risk of diabetes than white women, in terms of the actual number of avoidable cases, a healthier diet had greater benefit for minority women. The analysis showed that 5.3 cases of diabetes can be prevented per 1,000 white women per year with a healthier overall diet compared with 8.0 cases that can be prevented per 1,000 minority women per year.

Among the findings was that in both white and minority women, higher glycemic index foods as well as each serving of sugar-sweetened beverages, and red and processed meats were associated with increased risk of diabetes. In contrast, higher intake of cereal fiber (grams/day) and each cup of coffee per day were associated with reduced diabetes risk in both groups.

"This finding confirms that we are all in the same boat when it comes to preventing type 2 diabetes by diet. Our next challenge is to put this knowledge into practice so everyone can benefit," said Walter Willett, Fredrick John Stare Professor of Epidemiology and Nutrition and chair, Department of Nutrition at Harvard Chan.

More information: "Dietary diabetes risk reduction score, race/ethnicity, and risk of type 2 diabetes in women," Jinnie J. Rhee, Josiemer Mattei, Michael D. Hughes, Frank B. Hu, and Walter C. Willett, *Diabetes Care*, online January 15, 2015. DOI: 10.2337/dc14-1986