Heavy alcohol use may increase type 2 diabetes risk in middle-aged adults

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Heavy alcohol use may increase middle-aged adults' risk of developing Type 2 diabetes, according to research to be presented this week at the American Physiology Summit in Long Beach, California. The Summit is the flagship annual meeting of the American Physiological Society (APS).

Heavy alcohol use is defined by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) as five or more drinks per day or 15 or more drinks per week for men and, for women, more than four drinks per day or eight or more drinks per week.

Heavy alcohol use can diminish liver and pancreas function. Reduced function of these organs, in turn, can affect the control of glucose (blood sugar) in the body. In regard to heavy drinking, research suggests young adults do not typically experience severe impairment of fasting glucose levels and insulin resistance. However, as the U.S. population ages, the number of people who develop Type 2 diabetes is increasing. The association between alcohol use and diabetes in older adults is not clear.

Researchers from the University of Texas at Arlington's Cardiovascular Laboratory of Health studied two groups of middle-aged adults between the ages of 50 and 64. One group of volunteers ("heavy drinkers") was at risk for developing alcohol use disorder, as defined by the U.S. Alcohol Use Disorders Identification Test—a questionnaire that asks about drinking frequency and volume—and a dried blood spot phosphatidyl ethanol (PEth) test.

A PEth test measures levels of a biomarker that forms in the blood after consuming alcohol. The PEth biomarker can be detected in the blood up to four weeks after drinking alcohol. A PEth score of 20 nanograms per milliliter (ng/mL) or higher indicates alcohol consumption that exceeds

NIAAA recommendations. The second group of volunteers was labeled "nonheavy drinkers," with PEth scores under 20 ng/mL.

The research team analyzed additional blood samples from both volunteer groups. The heavy drinkers had higher fasting glucose levels, which "suggest[s] that heavy alcohol use may have negative effects on glucose regulation in aged populations," the researchers wrote.

Although there were no significant differences in kidney or liver function between the two groups, "alcohol drinking that exceeds the recommended limits causes organ damage throughout the body and increases not only the risk of potentially developing Type 2 diabetes but also other diseases," said Chueh-Lung "Laura" Hwang, Ph.D., PT, senior author of the study.

"Our team recommends not drinking every day. If [people] do drink alcohol, make sure for men, [it's] no more than four drinks on any single day … and for women, no more than three drinks on any single day."

More information: www.physiology.org/professiona … an-physiology-summit

Provided by American Physiological Society

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