

Study finds prediabetes patients at heightened risk for cardiovascular and chronic kidney diseases

March 1 2018, by Melva Robertson



Research over the past several decades has shown a strong correlation between diabetes and both cardiovascular and kidney disease. Credit: Emory University

Researchers at the Emory Rollins School of Public Health and U.S. Centers for Disease Control and Prevention have found that high proportions of patients with prediabetes are at substantial risk for

cardiovascular disease and chronic kidney disease. Their findings are published in *The Lancet Diabetes & Endocrinology*.

Mohammed K. Ali, MD, associate professor of global health at the Emory Rollins School of Public Health, is lead author on the paper. The researchers analyzed nationally-representative data from the U.S. National Health and Nutrition Examination Surveys between 1988-2014 and looked for both cardiovascular and renal burdens associated with prediabetes (a diagnostic label for those with [blood sugar levels](#) that are higher than normal, but not yet in the diabetic range).

"Prediabetes is extremely common, and its prevalence is growing. What we've seen through our analysis is that having [high glucose levels](#) is associated with a much higher risk of [high blood pressure](#), high cholesterol, and an increased risk of having a heart attack in the next 10 years," says Ali. "Additionally, over 11 percent of people with prediabetes have some type of kidney dysfunction, which is an early predictor that in the next 10-15 years, they may need to go on dialysis or receive a kidney transplant."

Patterns of cardiovascular and renal risk factors and diseases in people with prediabetes were compared with other glycemic status groups, including patients with diagnosed [diabetes](#), undiagnosed diabetes, and patients with normal glucose levels. Research over the past several decades has shown a strong correlation between diabetes and both cardiovascular and kidney disease. Those years of research have driven practitioners around the country to focus on treating diabetes aggressively and comprehensively, which has led to substantial reductions in rates of heart disease in diabetic adults. Ali stresses the need for a similar approach when developing treatment plans for undiagnosed or prediabetic patients.

"Depending on what definition you use, as many as one in three

American adults has prediabetes-level blood sugars," says Ali. "Whether you're a legislator or a leader of a large health system, our findings suggest that identifying this group is a huge opportunity for cardio-metabolic risk reduction. With a comprehensive approach [helping these patients improve their lifestyle choices, being more aggressive with efforts to lower cholesterol and blood pressure, and helping these patients stop smoking], there's a real opportunity to lower this group's eventual morbidity and mortality risks.

More information: Mohammed K Ali et al. Cardiovascular and renal burdens of prediabetes in the USA: analysis of data from serial cross-sectional surveys, 1988–2014, *The Lancet Diabetes & Endocrinology* (2018). [DOI: 10.1016/S2213-8587\(18\)30027-5](https://doi.org/10.1016/S2213-8587(18)30027-5)

Provided by Emory University

Citation: Study finds prediabetes patients at heightened risk for cardiovascular and chronic kidney diseases (2018, March 1) retrieved 20 April 2024 from <https://medicalxpress.com/news/2018-03-prediabetes-patients-heightened-cardiovascular-chronic.html>

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