

People under 40 diagnosed with type 2 diabetes face excess risk of cardiovascular disease, death

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People under age 40 who are diagnosed with Type 2 diabetes are more likely to have or die from cardiovascular disease than those of similar age without diabetes and the excess risks were more pronounced in younger women, according to new research in the American Heart Association's journal *Circulation*.

Researchers also found the excess risk for death, regardless of cause, for people diagnosed with Type 2 diabetes at age 80 or older significantly decreased and was the same as those of similar age without diabetes.

"Our study shows the differences in excess diabetes risk are tied to the how old the person is when they are diagnosed with Type 2 diabetes," said Naveed Sattar, M.D., Ph.D., lead author of the study and professor of Metabolic Medicine at the University of Glasgow in the United Kingdom.

Obesity rates have steadily increased in high-income countries and in [young people](#) over the last 30-40 years. As a result, more adolescents and young adults are being diagnosed with Type 2 diabetes more than ever before, according to the study.

This is the first study to compare the excess risks of dying from or developing [cardiovascular disease](#) in people diagnosed with Type 2 diabetes and to adjust the risk for such outcomes given how long a

person has had diabetes—an [independent risk factor](#) associated with cardiovascular disease risk.

Using data from the Swedish National Diabetes Registry, researchers followed 318,083 Type 2 diabetes patients and 1,575,108 age, sex and county-matched people as a [control group](#) from 1998 to 2013 for heart disease-related conditions. Death resulting from heart disease or any other cause was followed from 1998 to 2014.

Patients with Type 2 diabetes and similar aged controls had their risk for developing [heart disease](#), heart attack, stroke, hospitalization from heart failure and atrial fibrillation assessed. Researchers also evaluated death from cardiovascular disease and any other conditions.

During a median follow-up of nearly two and half years, researchers compared results to control participants of similar age without Type 2 diabetes and found:

- Participants diagnosed before age 40 with Type 2 diabetes had the greatest excess risk for death, stroke, heart attack, heart failure or atrial fibrillation.
- Women generally carried higher excess cardiovascular disease and mortality risks than men in most categories.
- Excess risks for cardiovascular disease and life years lost declined steadily with the age of diagnosis.

"This suggests we need to be more aggressive in controlling risk factors in younger Type 2 diabetes populations and especially in women," Sattar said. "And, far less effort and resources could be spent screening people 80 and older for Type 2 diabetes unless symptoms are present.

Furthermore, our work could also be used to encourage middle-aged people at elevated diabetes risk to adopt lifestyle changes to delay their diabetes by several years."

The study followed a majority white European population, so additional studies examining the role of cardiovascular disease in non-white populations who have Type 2 [diabetes](#) are needed.

More information: *Circulation* (2019).

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