

Study highlights the importance of heart health for preventing diabetes

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DIABETES



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Heart healthy middle-aged adults are less likely to develop type 2 diabetes during their lifetime, according to a study published on World Heart Day in the *European Journal of Preventive Cardiology*, a journal of the European Society of Cardiology (ESC).

The research found that the importance of favorable cardiovascular health was apparent regardless of an individual's genetic likelihood of developing type 2 diabetes. Favorable cardiovascular health was defined as having a healthy body weight, [blood pressure](#), and cholesterol, not smoking, eating a [balanced diet](#), and being physically active.

It is estimated that 463 million adults have diabetes and that 10% of global health expenditure is spent on the condition (USD 760 billion).²

Study author Dr. Fariba Ahmadizar of Erasmus University Medical Centre, Rotterdam, the Netherlands, said: "While genetics do contribute to the probability of developing type 2 diabetes, the findings indicate that maintaining healthy lifestyle habits, and especially having a [healthy body weight](#), can help lower the [lifetime risk](#) of the condition."

The study included 5,993 participants of the population-based Rotterdam Study who were free of type 2 diabetes at baseline. The average age was 69 years and 58% were women. Participants received a cardiovascular health score of 0 to 12 according to body mass index, blood pressure, blood cholesterol, smoking status, diet and physical activity at baseline, with higher scores corresponding to better cardiovascular health. Participants were then divided into three categories of cardiovascular health according to their score: poor (0-5), intermediate (6-7) and ideal (8-12).

To assess [genetic predisposition](#) to type 2 diabetes, the researchers used 403 independent genetic variants related to the condition to calculate a genetic risk score. Participants were then categorized as low, intermediate or high genetic risk according to their score.

A total of 869 individuals developed type 2 diabetes during 69,208 person-years of follow-up. The researchers estimated and compared the [lifetime](#) risk for type 2 diabetes within the cardiovascular health and

genetic risk categories.

Looking at cardiovascular health alone, the researchers found that the remaining lifetime risk of type 2 diabetes was lower in those with better heart health. For example, at age 55, participants with ideal cardiovascular health had a 22.6% risk of developing type 2 diabetes in their lifetime, compared to 28.3% and 32.6% risks for those with intermediate and poor cardiovascular health, respectively.

When genetic risk was taken into account, the lifetime risk for type 2 diabetes was still lower in those with better cardiovascular health. At age 55, for example, the remaining lifetime risk of diabetes in the high genetic risk group was 23.5% for those with ideal cardiovascular health, compared to 33.7% and 38.7% for those with intermediate and poor cardiovascular health, respectively. The same relationships were seen within the low and intermediate genetic risk groups.

Dr. Ahmadizar said: "Our results highlight the importance of favorable heart [health](#) in preventing type 2 diabetes among middle-aged adults regardless of whether they are genetically at high or low risk of the condition. In other words, a healthy lifestyle is associated with a significantly lower risk of type 2 diabetes within any genetic risk category. The findings applied equally to men and women and indicate that healthy habits in midlife are an effective strategy for avoiding [diabetes](#) later on."

More information: *European Journal of Preventive Cardiology* (2021).
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