

PRESS RELEASE

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New study finds higher dementia risk in insulin-requiring diabetes

Individuals with diabetes are at an increased risk of developing dementia but those with insulin-requiring type 2 diabetes and type 1 diabetes have the greatest risk, according to research presented at the 28th European Congress of Endocrinology in Prague. Specifically, these higher-risk individuals were over twice as likely to develop the neurological disease. The findings suggest that dementia risk is not the same for all types of diabetes and future prevention strategies, such as continuous glucose monitoring, should be implemented in routine diabetes management.

In this study, researchers from Kyung Hee University Hospital at Gangdong and Samsung Medical Center examined over 1.3 million adults in South Korea, aged 40 and older, without dementia, and grouped them according to their diabetes status: no diabetes, type 2 diabetes using oral anti-diabetic medications, type 2 diabetes using insulin and type 1 diabetes. They followed the individuals from 2013 to 2024, or until a diagnosis of dementia, and found that those with diabetes had a higher risk of developing dementia compared to those without diabetes.

In particular, those with type 2 diabetes taking oral anti-diabetic medications were almost 1.3 times more likely to develop dementia, while the rate of dementia onset was 2.1 times as great among those with type 2 diabetes taking insulin and 2.4 times more in those with type 1 diabetes. Similar trends were observed for Alzheimer's disease and vascular dementia.

"This is surprising because it suggests that not all types of diabetes carries the same risk, and that people with more intensive or insulin-dependent treatment may be particularly vulnerable to cognitive decline," said lead author, Professor Ji Eun Jun from Kyung Hee University Hospital at Gangdong.

Professor Jun added: "Recognising diabetes as a potential risk factor for brain health and not just a metabolic condition could help identify a group of patients who may benefit from earlier monitoring for cognitive decline. Improving long-term glucose control and reducing large fluctuations in glucose levels could play a role in lowering dementia risk."

"Our findings may be partly explained by recurrent hypoglycemia and greater glucose fluctuations in insulin-treated patients, thus we are planning further studies to better understand these mechanisms. Ultimately, we hope to identify high-risk patients and determine whether improving glucose stability can help prevent dementia," said Professor Jun.

Previous studies have mainly focused on type 2 diabetes and have consistently shown an increased risk of dementia, but evidence for type 1 diabetes has been more limited and sometimes inconsistent, largely due to smaller study populations. "Our study adds new insight by directly comparing type 1 diabetes, type 2 diabetes, and treatment intensity within a large nationwide population," said Professor Jun.

The results of this study were recently published in [Diabetes, Obesity and Metabolism](#).

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Abstract

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Dementia Risk in Type 1 and Type 2 Diabetes: A Nationwide Population-Based Comparison With the General Population

Objective

We aimed to compare the risk of all-cause dementia, Alzheimer's disease (AD), and vascular dementia (VaD) among individuals with diabetes and non-diabetic participants using a nationwide Korean cohort.

Methods

This population-based retrospective cohort study used data from the Korean National Health Insurance Service (2013–2024). A total of 1,322,651 adults aged ≥ 40 years without prior dementia were included. Participants were classified as non-diabetic, type 2 diabetes (T2DM) with oral hypoglycemic agents (OHA), T2DM with insulin, or type 1 diabetes (T1DM). Incident dementia was identified using ICD-10 codes and anti-dementia prescriptions. Multivariable Cox proportional hazards models adjusted for demographic, lifestyle, and clinical factors estimated adjusted hazard ratios (aHRs) for dementia.

Results

During follow-up, 4.3, 12.7, 17.9, and 21.1 dementia cases per 1,000 person-years occurred in non-diabetic, T2DM with OHA, T2DM with insulin, and T1DM groups, respectively. Compared with non-diabetic participants, adjusted HRs for all-cause dementia were 1.29 (95% CI 1.26–1.32) for T2DM with OHA, 2.14 (2.00–2.28) for T2DM with insulin, and 2.35 (2.12–2.59) for T1DM. Similar gradients were observed for AD and VaD. Dementia risk was highest in individuals with T1DM and insulin-treated T2DM, with no significant difference between the two groups.

Conclusions

Patients with diabetes had a higher risk of dementia compared with non-diabetic individuals. Among diabetic subgroups, both T1DM and insulin-treated T2DM were associated with markedly elevated dementia risks. Proactive cognitive screening and stabilization of glycemic variability—potentially aided by continuous glucose monitoring—may help mitigate dementia risk in these high-risk groups.

Notes for Editors:

1. For press enquiries, or to arrange an interview with the study authors, please contact the ECE 2026 Press Office:

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2. The study '**Dementia Risk in Type 1 and Type 2 Diabetes: A Nationwide Population-Based Comparison With the General Population**' will be available as a poster /e-poster from **Saturday 9 May 2026** at the European Congress of Endocrinology at the Prague Congress Centre (PCC) in the Czech Republic.
3. The 28th European Congress of Endocrinology (ECE) is held at the Prague Congress Centre (PCC) in the Czech Republic, on 9-12 May 2026. See the full scientific programme [here](#).
4. The [European Society of Endocrinology](#) (ESE) provides a platform to develop and share leading research and best knowledge in endocrine science and medicine. By uniting and representing every part of the endocrine community, we are best placed to improve the lives of patients. With over 5,400 individual members and through the 50 National Societies involved with the ESE Council of Affiliated Societies (ECAS) ESE represents a community of over 20,000 European endocrinologists. We inform policy makers on health decisions at the highest level through advocacy efforts across Europe.