



Kent

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## Covid-19: Progression to clinical type 1 diabetes accelerated after infection, study suggests

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The covid pandemic has been linked to quicker progression to clinical disease in young people with presymptomatic type 1 diabetes. This accelerated progression was confined to people who had a confirmed covid infection, German researchers said in a research letter in *JAMA*.<sup>1</sup>

A rise since covid began in the number of diagnoses of type 1 diabetes in children and teenagers had previously been reported, but some of this could be attributed to backlogs and delays when health services were shut.

Between February 2015 and October 2023 a total of 591 young people aged 1 to 16 years with presymptomatic type 1 diabetes (confirmed positive results for two or more islet autoantibodies) were identified as part of Germany's Fr1da screening programme. The young people were asked to participate in a follow-up programme to monitor their progression to clinical disease at three to six month intervals. Parents were asked to report any covid infection, and SARS-CoV-2 antibodies were confirmed in blood samples at study visits.

Of 508 young people included in the study, 358 were followed up during the period up to 1 March 2020 (pre-pandemic) and 396 were followed up from March 2020 (pandemic). Type 1 diabetes developed in 57 participants during the pre-pandemic period and 113 in the pandemic period. Of the 396 participants followed up since the pandemic, 353 had covid infection information and 236 had a SARS-CoV-2 infection.

The incidence of development of clinical type 1 diabetes was 6.4 per 100 person years in the pre-pandemic period and 12.1 in the pandemic period. The incidence of type 1 diabetes during the pandemic period was 8.6 (95% confidence interval 6.2 to 11.7) among those who had tested negative for covid-19 and 14.0 (9.9 to 19.2) among those who tested positive ( $P=0.04$  v pandemic covid-19 negative;  $P<0.001$  v pre-pandemic period).

The study authors, from the Institute of Diabetes Research in Munich, said their findings were consistent with previously reported acceleration of progression in children with presymptomatic type 1 diabetes by enterovirus infection. They said that limitations of their study included missing information on covid-19 in 42 participants before their development of diabetes and no data for the severity of covid-19 disease.

"Further studies are required to determine whether covid-19 also accelerates progression to type 1 diabetes in adults and whether vaccination and monitoring for covid-19 symptoms should be considered for individuals with presymptomatic type 1 diabetes," they concluded.

Hilary Nathan, director of policy at the type 1 diabetes charity JDRF (Juvenile Diabetes Research Foundation), said, "This research study is really important in building our knowledge and understanding of how viral infections may be contributing to the acceleration of [type 1 diabetes] in young people with presymptomatic type 1 diabetes.

"More population based research is required, together with a structured approach to early detection, so that children with pre-symptomatic diabetes and their families can be appropriately supported."

<sup>1</sup> Friedl N, Sporreiter M, Winkler C, et al. Fr1da Study Group. Progression from presymptomatic to clinical type 1 diabetes after covid-19 infection. *JAMA* 2024. doi: 10.1001/jama.2024.11174. PMID: 39008327