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Editorial

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Covid-19 Diseases Risk and Risk Factor in Adult in Diabetes:a Cohort Study of Scotlands Entire Populations

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Persons with diabetes were overrepresented in the first case series of people hospitalised with COVID-19 in numerous countries. In the United Kingdom, more than a quarter of individuals hospitalised for COVID-19 had diabetes. 9 Only four investigations, three of which were conducted in the United Kingdom, examined risks in defined populations with and without diabetes. All of them discovered an increased risk of in-hospital and overall fatalities in diabetics. According to the guidelines, all people with diabetes are at an increased risk, but it's likely that some people with diabetes are at a very high risk, necessitating specific precautions, while others aren't at substantially higher risk than the general population. As the pandemic enters its second wave, a better understanding of COVID-19 risk variation in diabetics is needed to adapt protection measures and inform vaccine preparations.

Only one study13 has looked into the drivers of COVID-19 risk in persons with diabetes, and ethnicity, socioeconomic position, glycemic management, and previous cardiovascular disease have all been linked to increased risks. In a large French case series, BMI was the only other predictor of being hospitalised with COVID-19, aside from age, sex, and diabetes duration. We wanted to compare the cumulative risk of fatal or critical care unit-treated COVID-19 in people with and without diabetes, figure out which factors were linked to fatal or critical care unit-treated COVID-19 in people with diabetes, and build a cross-validated risk prediction model for the entire Scottish population. Because rates of testing positive or being hospitalised with COVID-19 are skewed due to selective testing and hospitalisation practises, we focused on fatal or critical care unit-treated COVID-19.

We used data from the first wave of the pandemic in Scotland, from March 1, 2020, when the first case was discovered, through July 31, 2020, when infection rates had declined to the point where protective measures could be formally lifted. The participants comprised the entire population of Scotland (n=5 463 300), as well as all diabetics in the country (n=319 349), who were alive three weeks before the pandemic began in Scotland. Evidence of any identified COVID-19 was defined as a positive RT-PCR test for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a COVID-19 hospital discharge code, or a COVID-19 code (U071 or U072) somewhere on the death certificate for the entire population of Scotland.

The datasets used were the Electronic Communication of Surveillance in Scotland database, which records all NHS virology testing, the RAPID database of daily hospitalizations, the Scottish Morbidity Records-01 of hospital discharges, and the National Records of Scotland death registrations data. Because they all share the Community Health Index unique identifier, several health-related databases in Scotland can be linked. Age, sex, residence postcode, and whether or not someone was in a residential care home were all included in the Community Health Index database. The Scottish Intensive Care Society and Audit Group (SICSAG) database was used to determine if critical care had been delivered in all cases. All admissions to an intensive care unit, a high dependency unit, or a combined intensive care and high dependency unit were considered critical care. A U071 or U072 code anywhere on the death certificate or any death within 28 days of testing positive for COVID-19 were used to define fatal COVID-19. National Register of Scotland and Public Health Scotland adopt these official death definitions.

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