

Highlighting diabetes risks in COVID-19

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An international review involving Monash University has found elderly people with diabetes who contract COVID-19 are at a much higher risk of dying from the disease—and the virus may actually trigger the onset of diabetes in normally healthy people.

The study, published in *The Lancet Diabetes & Endocrinology*, found that depending on the global region, 20 to 50 percent of patients diagnosed with COVID-19 during the pandemic had diabetes.

It also noted the risk of dying from COVID-19 was up to 50 percent higher in people with diabetes, particularly elderly type 2 diabetes cases.

In Australia, one third of the 46 people who had died from COVID-19 by April 12 had diabetes, while 20 percent of the 752 people hospitalised with the virus had diabetes.

The Lancet report was done by an international panel of experts in the field of diabetes. They came together to provide guidance and practical recommendations for the management of diabetes for clinicians in both developed and developing countries.

It was co-authored by Monash University Professor Paul Zimmet AO, from the Department of Diabetes. He is also an Honorary President of the International Diabetes Federation and co-chair of a group that has been advising the Federal Minister for Health on the Government's National Diabetes Strategy, independent of the COVID-19 crisis

Professor Zimmet says the data highlights the real dangers COVID-19 poses to people with diabetes, as they are more susceptible to developing severe pneumonia and a septic course.

He says the study is important because it draws together what is currently known across the world about the impact of COVID-19 on people with diabetes and the increased risks they face given that this pandemic is very recent.

"Evidence from epidemiological observations in regions heavily affected by COVID-19 and reports from the Centres for Disease Control (CDC)

and other national health centres and hospitals showed the risk of a fatal outcome from COVID-19 is up to 50 percent higher in patients with diabetes than in those who do not have diabetes," the study says.

Professor Zimmet said that most of the emphasis on this review focussed on people with type 2 diabetes. Most of the current information so far focusses on this older group. He noted the risk from COVID-19 in young people with type 1 diabetes appears to be much less. Providing they have access to satisfactory health care and good control of their diabetes, he said that parents of children and adolescents with type 1 diabetes should be reassured on this issue.

The report noted that "damage to pancreatic β cells (the cells that make insulin) may lead to direct damage to the function of the pancreas."

"Although this has not been verified in humans, they suggest that diabetes might not only be a risk factor for a severe form of COVID-19 disease, but also that infection could result in causing new onset diabetes," the review says.

"Potential pancreas β cell damage caused by the virus leading to insulin deficiency is supported by the observation of Italian colleagues and the co-authors of these recommendations who have reported frequent cases of severe diabetic ketoacidosis (DKA) at the time of hospital admission."

Professor Zimmet said the review proposed implementing testing for diabetes in people with the COVID-19 infection to identify if previously healthy individuals have developed diabetes as a result of contracting the virus.

"We should consider everyone who gets sick with COVID-19 is also tested for diabetes. They should be tested at the time they become ill as

it clearly will influence their medical management and health outcome," he said.

According to the study, patients with diabetes have an increased risk of severe complications including Adult Respiratory Distress Syndrome and multiple organ failure, including lung, heart and kidney.

Professor Zimmet said there should also be a warning to health professionals with diabetes who are engaged in care of COVID-19 patients to ensure they have the protection they need to prevent contracting the virus.

He said the consensus group noted some sub-groups of people with diabetes may also require specific attention. They include:

- Persons with poor metabolic (blood sugar) control of their diabetes.
- Diabetes with complications, and overall, there is a high risk of kidney failure in those critically ill with COVID-19 infection.
- A significant number of persons with type 2 diabetes are obese and this may cause problems in management.
- Management of persons with diabetes who have had bariatric surgery for obesity will require special attention.
- Persons who have had transplantations of the pancreas and kidneys, or are on regular dialysis.
- Those on immunosuppressive therapy for other disorders, and/or on cortisone.
- Those on certain diabetes medications which may affect progress if they are very ill.
- Most patients with type 2 [diabetes](#) have other components of the metabolic syndrome including hypertension and high blood lipid (fats). Therefore, continuation with an appropriate antihypertensive and lipid-lowering regimen in all these patients

is of crucial importance.

More information: Stefan R Bornstein et al. Practical recommendations for the management of diabetes in patients with COVID-19, *The Lancet Diabetes & Endocrinology* (2020). [DOI: 10.1016/S2213-8587\(20\)30152-2](https://doi.org/10.1016/S2213-8587(20)30152-2)

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