

# Understanding the risky combination of diabetes and the coronavirus

14 April 2020



Credit: CC0 Public Domain

While most people are anxious about the coronavirus, people with underlying conditions such as diabetes may be especially so.

On top of life's usual demands, new strain related to the pandemic is taking a toll, said Jacqueline Alikhaani, a Los Angeles resident and volunteer heart health advocate. Alikhaani has diabetes, a serious congenital heart condition called anomalous origin of the right coronary artery, and other chronic conditions.

She worries about safely getting food, medicine, protective and other supplies, family financial losses, maintaining her household and caring for loved ones. Since the coronavirus crisis began, she has not slept as well, had problems getting medication refills, recorded some high blood sugar readings and is consulting with her doctors about an increase in intermittent chest pain, which she attributes to the stress.

"It's really frightening these days. I'm seeing that the risks are higher for people who have diabetes and heart disease," said Alikhaani, who is focusing

on watching her diet, exercising, monitoring her blood sugar and blood pressure, and keeping her doctor updated. "I'm trying to learn more, understand and take precautions, stay on top of diabetic and heart health needs, and encouraging others to do the same."

As of late March, [preliminary data](#) from the Centers for Disease Control and Prevention for about 7,100 U.S. coronavirus patients showed that along with older age, various health conditions—most commonly diabetes, chronic lung disease and heart disease—put patients at risk of developing severe viral illness.

Specifically among intensive care patients with COVID-19, 32% had diabetes. For hospitalized COVID-19 patients not in the ICU, 24% had diabetes. Yet for people with COVID-19 who did not require hospitalization, only 6% had diabetes.

Earlier, more extensive research from China published in [JAMA](#) showed a 2% fatality rate among COVID-19 patients. But this rate jumped to about 10% for those who also had cardiovascular disease and to about 7% among those with diabetes. A [report from Italy](#) found among 481 patients who died of the virus, about one-third had diabetes. That represents a risk of death five times higher than would be expected based on diabetes' overall prevalence in Italy, said Dr. Robert Eckel, an endocrinologist at the University of Colorado School of Medicine.

While there's much to learn about COVID-19, its course in people with diabetes appears to loosely parallel that of influenza. Outcomes are less stable, ventilators are more commonly needed, and severe complications are more likely in people with diabetes who get the flu, said Eckel, current president of medicine and science at the American Diabetes Association.

The reasons are complicated. In people with Type

2 diabetes, insulin resistance gives rise to chronic, low-grade inflammation, leaving the immune system dulled by this ongoing state of alert. New infections are like "crying wolf"—the immune system does not rally quickly and adequately, therefore allowing the virus to gain and maintain a foothold.

But the flu is not as dangerous as COVID-19 infection. And in COVID-19 patients with diabetes, additional risk factors such as [heart disease](#), sometimes undiagnosed, are compounding the problem, said Eckel, who also is a past president of the American Heart Association.

Doctors' experience with bacterial infections indicates that controlling blood sugar before and during infection can be helpful. During the crisis, Eckel advises hospitalized COVID-19 patients who have diabetes to ensure their glucose is carefully managed—and to monitor it themselves, with their own supplies, if they are able.

A diabetes complication called diabetic ketoacidosis, or DKA, is a risk with other viral infections and a concern in coronavirus patients, he said. DKA occurs when an absolute or relative insulin deficiency prevents cells from using glucose for energy and they burn fat instead, creating chemicals called ketones that build up in the blood and can be toxic.

Amid a serious infection, Eckel said, diabetes drugs called SGLT2 inhibitors contribute to an increased risk for DKA. Patients with COVID-19 should talk to their doctor about stopping these medications at the time of hospitalization, and possibly sooner.

Another diabetes drug, metformin, also might need to be discontinued in hospitalized [coronavirus](#) patients, he said. Under extreme circumstances, including dehydration and kidney disease, metformin could foster acidosis and even exacerbate kidney disease when intravenous contrast agents are used in imaging.

Outside the hospital, the [ADA recommends](#) keeping blood sugar well controlled and consulting health care professionals about managing risk and any viral symptoms. If feeling very ill—including higher fever with cough and shortness of

breath—people should seek emergency care.

"Patients with diabetes need to be alert about not delaying if they're getting sick, particularly over a short time interval," Eckel said.

Alikhaani is an ambassador for [Know Diabetes by Heart](#), a joint initiative of the AHA and ADA to reduce cardiovascular complications in people with Type 2 [diabetes](#). She believes that ultimately more [knowledge about COVID-19](#) will help the public avoid infection and improve self-care.

"People can partner with their doctors better when they understand more about the mechanics of what's going on," she said.

For now, Alikhaani is leaning a lot on faith, family and community. She said when the crisis passes and everyday life resumes, there could be a silver lining. "Maybe when we go back, we'll see that we might not miss everything that right now we think we are missing."

Provided by American Heart Association

APA citation: Understanding the risky combination of diabetes and the coronavirus (2020, April 14) retrieved 3 May 2021 from <https://medicalxpress.com/news/2020-04-risky-combination-diabetes-coronavirus.html>

*This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.*