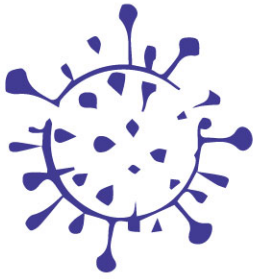
On Call® Advisor

COVID-19 and Diabetes

What is COVID-19

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus (SARS-CoV-2). It is a pandemic of respiratory illness.



What is Diabetes

Diabetes is a group of chronic, progressive metabolic disorders characterised by hyperglycaemia resulting from inadequate insulin secretion or defects in the insulin action causing insulin resistance.

COVID-19 and Diabetes are fast growing health challenges that have been spread worldwide.

In 2021, Global COVID-19 Confirmed Cases (cumulative total) is approximately **261 million**, deaths (cumulative total) is approximately 5.2 million. [1]

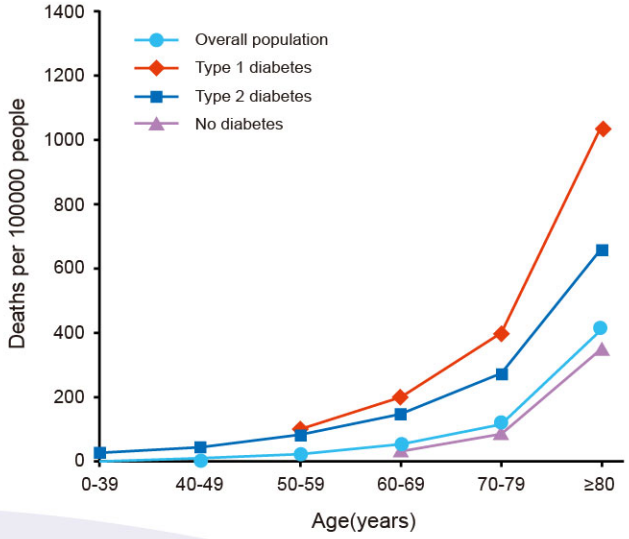
In 2021, **537 million** adults (20-79 years) are living with diabetes - **1 in 10**. This number is predicted to rise to 643 million by 2030 and 784 million by 2045. Diabetes is responsible for **6.7 million deaths** in 2021 - 1 every 5 seconds. [2]

The relationship between COVID 19 & Diabetes

There is growing evidence to suggest that the interaction between Diabetes and COVID-19 could be **bi-directional**. In fact, diabetes has been consistently reported as one of the most important risk factors of severe COVID-19 and related mortality. Meanwhile emerging evidence suggests a specific impact of COVID-19 on diabetes itself. [3]

Diabetes has been associated with COVID-19-related mortality

COVID-19 patients with diabetes experience worsening complications and high mortality rates.



Unadjusted in-hospital COVID-19 mortality rates in England, March 1 to May 11, 2020, by diabetes status [4]

Evidence growing COVID-19 may trigger onset of diabetes

Cases of new-onset diabetes as well as acute, severe metabolic complications of pre-existing diabetes have been observed in people with COVID-19. In particular, there have been reports of life-threatening alterations of glucose metabolism, including both diabetic keto-acidosis (DKA) as well as hyperosmolar syndrome1-3. These manifestations of diabetes pose significant challenges in clinical management and suggest a complex pathophysiology. SARS-Cov-2, the virus responsible for COVID-19, binds to ACE-2 receptors, which are expressed in several key metabolic organs and tissues including the pancreatic β-cells, adipose tissue, small intestine, liver, and kidney. Thus, it is plausible that SARS-Cov-2 could cause multiple co-existing alterations of glucose metabolism that can complicate the pathophysiology of pre-existing diabetes or lead to new mechanisms of disease. There are, in fact, precedents for a viral etiology for ketosis-prone diabetes.[3] **However there is no clear conclusion as to whether COVID-19 can cause diabetes, and further research are needed.**

Prevent COVID-19 & Diabetes

COVID-19 Prevention Measures

Wash your hands regularly

Keep social distance

Wear a properly fitted mask

Clean and disinfect

Get vaccinated

Diabetes Prevention Measures

- Healthy lifestyle (Diet control, take exercise, keep mental health and etc.)
- **Monitor of blood glucose and HbA1c regularly**

The best way to fight COVID-19 and diabetes is **prevention**. Under the global epidemic, the prevention of diabetes and **the control of blood glucose** are particularly important.

Since COVID-19 is a new coronavirus, introduction above is just general information of it. The situation of COVID-19 is not fully clear at this point, so please keep yourself informed about the latest developments. Look out for updates and advice from your government, national diabetes association and other reliable sources.

Reference:
[1] https://diabetesatlas.org/
[2] https://covid19.who.int/
[3] http://covidiab.e-dendrite.com/introduction.html
[4] Barron E, Bakhai C, Kar P, et al. Associations of type 1 and type 2 diabetes with COVID-19-related mortality in England: a whole-population study. Lancet Diabetes Endocrinol. 2020;8(10):813-822. doi:10.1016/S2213-8587(20)30272-2

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