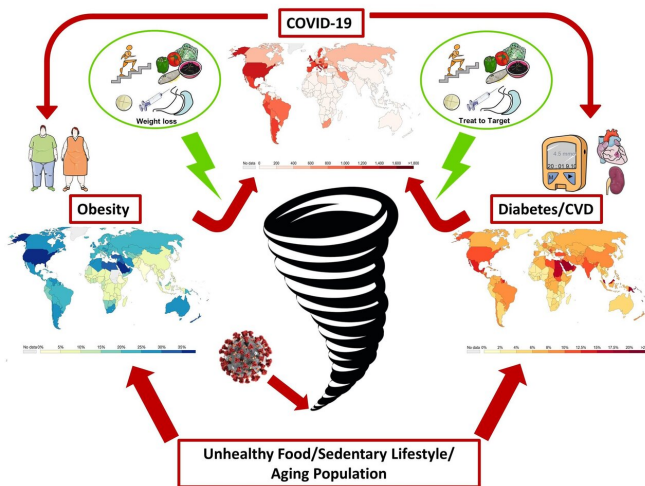


The interconnection of global pandemics: Obesity, impaired metabolic health and COVID-19

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Obesity and cardiometabolic diseases do not only trigger a more severe course of COVID-19, the SARS-CoV-2 infection could promote the development of these conditions. Credit: Norbert Stefan

In a *Nature Reviews Endocrinology* article authors from the German Center for Diabetes Research (DZD) highlight the interconnection of obesity and impaired metabolic health with the severity of COVID-19. First, they provide information about the independent relationships of obesity, disproportionate fat distribution and impaired metabolic health with the severity of COVID-19. Then they discuss mechanisms for a complicated course of COVID-19 and how this disease may impact on the global obesity and cardiometabolic pandemics. Finally, they provide recommendations for prevention and treatment in clinical practice and in the public health sector to combat these global pandemics.

Norbert Stefan, Andreas Birkenfeld and Matthias Schulze summarize and discuss data from large

and well-performed studies that investigated independent relationships of obesity with the severity of COVID-19. Thereby, they can disentangle the contribution of obesity, visceral fatness and impaired [metabolic health](#) for the course of COVID-19. In this respect they found convincing evidence that obesity and overt diabetes, but also visceral obesity and even mild hyperglycemia, represent important risk factors for the disease course. Thus, these risk factors most probably may have an additive effect on the severity of COVID-19.

Then they discuss the impact of the SARS-CoV-2 infection on [organ function](#), focusing on the cardiometabolically relevant tissues and organs as the vessel wall, heart, kidneys, liver, gut and pancreas. Thereby, they address both, the immediate damage of COVID-19 to the organs and the long-term effects of the disease, most probably boosting the development of obesity and cardiometabolic diseases. Thus, obesity and cardiometabolic diseases do not only trigger a more severe course of COVID-19, the SARS-CoV-2 infection does promote the development of these conditions.

The authors further highlight how treatment of obesity and impaired cardiometabolic health helps to avert a severe COVID-19 in patients infected with SARS-CoV-2. In this respect health professionals and politicians should now, more than ever, promote the health benefits of physical activity and support efforts to implement programs and policies to facilitate increased [physical activity](#) and to promote a healthy diet. This might not only be relevant to directly reduce the burden of COVID-19 related morbidity and mortality among those infected, but may also be important in the context of SARS-CoV-2 vaccination, where response should be carefully evaluated in patients

with obesity and/or [diabetes mellitus](#), because of a potentially reduced or shortened response.

More information: Norbert Stefan et al, Global pandemics interconnected—obesity, impaired metabolic health and COVID-19, *Nature Reviews Endocrinology* (2021). [DOI: 10.1038/s41574-020-00462-1](#)

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