

The Obesity, Diabetes and Coronavirus ‘Syndemic’- Asking Questions to Meet the COVID Challenge?

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Editorial

As a clinical endocrinologist, my patients often question how diabetes and obesity may increase the risk of complications from COVID-19. As 2020 has progressed, new data has helped better answer this vital question. At this point, given rising numbers of COVID-19 cases worldwide, it remains critical to understand the underpinning factors for mortality in this group.

A new perspective may shed light on the challenges that his disease poses. In the Lancet recently, Richard Horton, the Lancet’s editor-in-chief, aptly described the coronavirus pandemic combined with population challenges of obesity and diabetes as a ‘syndemic’ [1]. In Confucius’ words, “the beginning of wisdom is to call things by their proper name.” What is a syndemic? Essentially, the combination of two or more epidemics in a population with biologic interactions, worsening the prognosis and burden of disease. In naming this combination of factors, we may create a framework to appreciate their interplay.

Recent studies demonstrate that mortality increases in patients with obesity and COVID-19. One recent study from Kaiser Permanente [2] showed that compared to individuals with a normal body mass index (BMI) of 18.5 to 24 kg/m², the risk of death was double for patients with a BMI of 40 to 44 kg/m² (relative risk of 2.68; 95% CI, 1.43 to 5.04). This risk increased fourfold with a BMI of 45 kg/m² (relative risk of 4.18; 95% CI, 2.12 to 8.26).

Data also suggest that patients with type 2 diabetes admitted to hospital with COVID-19 have a significantly increased risk of mortality. Barron et al, writing in the Lancet [3], indicates an increased odds ratio of in-hospital deaths of 2.03 (1.97-2.09) for patients with type 2 diabetes, adjusted for age, sex, deprivation, ethnicity, and geographical region.

The Global Burden of Disease (GBD) Study

Recently published in The Lancet journal may help [4]. The GBD review suggests a “perfect storm” of “chronic disease, infectious disease, and public health challenges that have contributed to the mortality rate we see in the COVID-19 syndemic. Looking at COVID-19 *via* the syndemic lens of chronic disease and population vulnerability, it is critical to tackle the key issues of poor nutrition and physical inactivity. Perhaps the greatest challenge is how the environmental changes created by the virus have further impacted these risk factors and potentially contributed to the obesigenic environment [5].

So, to a solution, a ‘syndemic’ needs a synchronized and coordinated response. A response that serves at-risk populations. An answer that balances financial realities with incentives for urgent solutions. That is the opportunity this unique situation represents. As Horton says: “Approaching COVID-19 as a syndemic

will invite a larger vision, one encompassing education, employment, housing, food, and environment.” That is the challenge.

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