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Letter to the Editor

Letter to the Editor From Singhania et al: "Diabetes Increases Severe COVID-19 Outcomes Primarily in Younger Adults"

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To the editor,
We read with interest the article "Diabetes increases severe COVID-19 outcomes primarily in younger adults" by Diedisheim et al (1) recently published in *The Journal of Clinical Endocrinology & Metabolism*.

The investigators have tried to describe how COVID-related severe outcomes including deaths among people with diabetes vary across age groups, concluding that diabetes is a more prominent risk factor for COVID-related death in younger patients.

Over the last 2 years, the COVID pandemic has taught us several lessons. One such lesson is the intricate relationship between diabetes and COVID. The number of people with diabetes getting infected with COVID, increased hospitalization among people with COVID and diabetes, poorer outcomes including mortality in these patients, and the role of glycemic control (2) have all been proved beyond a doubt by various investigators across the globe (3) The present study by Diedisheim et al also clearly states that diabetes is associated with poorer outcomes in hospitalized patients with COVID-19.

We take this opportunity to raise a few questions to the authors. First, the prevalence of diabetes in this cohort of hospitalized patients with COVID-19 is stated to be 39%. This prevalence is very high compared to studies of patients with COVID-19 hospitalized across the globe. The prevalence of diabetes in hospitalized patients with COVID-19 worldwide has been pegged at 12% to 18% (4). The very high overall prevalence of diabetes in the present study might point to a selection bias or lack of representative data.

Second, the number of men with diabetes is more than women (65% vs 35%) in the present study. But primary outcome (intubation and death) among male and female patients has not been separately mentioned. It is now known from various studies that men are more likely to die of COVID-19 compared to women, though the cause is not clear (5). Compared to women, men tend to engage in more high-risk behavior, like outdoor venturing and less handwashing, that has more potential for contracting COVID-19 infections (6). So, sex as an attribute of increased COVID adverse outcomes must be taken into consideration when deciding the role of diabetes.

Finally, diabetes is not a disease alone. When referring to diabetes as a risk factor, one has to take into account the various microvascular and macrovascular complications that accompany diabetes. COVID-related deaths have been much higher in individuals with diabetes with chronic kidney disease, atherosclerotic heart diseases, and other diabetic complications (3, 7). So, in trying to adjust for comorbidities, it is unjust to neutralize comorbidities that are a direct consequence of the long duration of diabetes. These comorbidities are expected to be more prominent among older patients because of the longer duration of diabetes. Moreover, the study quoted by Gregory et al (8) looks into the aspects related to type 1 diabetes, which affects a younger population and is complicated by ketoacidosis.

While we raise these queries and observations, we congratulate the investigators for presenting their work with a large cohort across French hospitals. This discussion should throw some light on the perplexing association between diabetes and COVID-19, while the end of the pandemic is still not in sight.

Disclosures

The authors have nothing to disclose.

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