

Possible link between obesity and severe COVID-19

TO THE EDITOR: While health care systems around the world respond to the unprecedented challenge presented by the coronavirus disease 2019 (COVID-19) pandemic, frontline clinician-researchers are doing their best to understand this new disease. In Australia, as a result of community engagement with public health interventions, local experience with the disease has been relatively limited compared with other countries more severely affected. Evidence from overseas is now beginning to shed light on the risk factors for critical illness due to COVID-19.

Early evidence from China¹ suggested COVID-19-related critical illness was more likely in the presence of common health conditions such as hypertension, diabetes and cardiovascular disease. Evidence from the United Kingdom,² China,³ France⁴ and the United States⁵ suggests a possible link between obesity and more severe COVID-19, especially for young adults.

In the first study to link obesity to severe COVID-19 in 383 patients in China³, the

odds ratio (95% confidence intervals [CIs]) for severe pneumonia in patients with obesity was 5.70 in men (95% CI, 1.83–17.76). In a retrospective cohort study from France describing 124 patients admitted to the intensive care unit, the odds ratio for invasive mechanical ventilation with body mass index (BMI) greater than 35 compared with patients with a BMI below 25 was 7.36 (95% CI, 1.63–33.14; $P = 0.02$). In the first 383 patients admitted with COVID-19 to two New York hospitals, patients receiving invasive mechanical ventilation were more likely to have obesity,⁵ which is consistent with other studies.

The data, while preliminary, indicate that obesity may be the second largest risk factor for severe COVID-19, after older age. This may surprise young adults, as health messaging so far has importantly stressed older people and those with chronic disease as being more at risk from COVID-19.

A recent UK study² looked at more than 8250 hospitalised critically ill patients with COVID-19 across 252 hospitals and found that more than 38% of adults who were critically ill with COVID-19 had obesity. In comparison, only about 29% of UK adults have obesity, which

indicates that patients with obesity are over-represented among critically ill patients with COVID-19, suggesting an association between higher weight and more severe COVID-19.

While some of the risk factors for COVID-19 and severe disease are not easily modifiable, such as male sex⁶ or being a health care worker,⁷ some are. The COVID-19 pandemic has highlighted the need for governments around the world to address the “silent” pandemic⁸ of non-communicable diseases, such as overweight and obesity.

We must take action now to protect our communities and generate resilience against threats such as COVID-19 in the future. We can do this today by addressing the silent pandemic and ensuring that everyone enjoys better health.

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