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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

More data points towards obesity as a risk factor for worse covid-19.

As the numbers of those dying from covid-19 rose last year, researchers sought to discover what risk factors put some at greater risk. Some of those, like smoking, diabetes, and kidney disease, have turned out to confer more risk. Others that we thought might, like asthma, have not. One risk potential risk factor for developing severe covid-19 that was proposed early on in the pandemic was obesity—defined as body mass index BMI ≥ 30 kg/m². Theories on why obesity carries an increased risk of developing severe covid-19 and possibly higher rates of death include chronic inflammation leading to a disruption of immune and thrombogenic responses to pathogens. Impaired lung function secondary to excess weight is another theory.

Released this week in the CDC's Morbidity and Mortality Weekly Report ([MMWR](#)) is an extensive overview of BMI and the risk it adds those infected with SARS-CoV-2, the virus that causes covid-19. Researchers took data from an all-payer database of patients from around 800 hospitals in the United States during the 2020 portion of the pandemic. The database included patients who were inpatients as well as emergency department patients. Of the 800 hospitals, 238 reported patient heights and weights, thus enabling the calculation of BMI and allowing researchers to track outcomes accordingly.

From a starting pool of around 3.2 million adult patients, just under 5 percent had a diagnosis of covid-19 in their medical record (using billing codes to track cases). Among this group, approximately half met criteria for obesity. When BMI was calculated among the subset of hospitalized patients (i.e. those who had to stay in the hospital, rather than being sent home from the emergency department), under 2 percent were underweight, 28 percent were overweight, and around 51 percent had obesity. Of these almost 150,000 patients, just under half required admission (48 percent) and almost half (49 percent) required intensive care unit (ICU) admission. Among the hospitalized patients, 13 percent required invasive mechanical ventilation (i.e. intubation) and 11.7 percent died. This data also pointed to obesity as a risk factor for both hospitalization and death in a “dose-response relationship,” meaning that the higher a person's BMI was, the greater the risks were. The need for mechanical ventilation was also increased in those who are overweight or obese. Patients who were 65 years old or younger, and in the highest BMI category (≥ 45 kg/m²) had a double risk compared to those in healthy weights.

On the other end of the spectrum, those who were underweight were also found to have an increased risk for hospitalization when diagnosed with covid-19, indicating that a range of body types and metabolisms should be studied further.

These results strengthen what previous studies have shown regarding obesity as a risk factor in covid-19-related complications. However, it is unclear whether body mass alone is the driving force here, or whether the measure may be a proxy for other markers of health.

—Christopher Sampson, MD, FACEP

POLICY BRIEFING

Vaccinated Americans get CDC approval to take another step toward normalcy.

With mounting evidence that the new covid-19 vaccines are effective and reduce infection of SARS-CoV-2 to at least some extent, the US Centers for Disease Control and Prevention (CDC) took a bold step towards a semblance of normalcy. Yesterday, the agency released new [recommendations](#) geared towards those who are fully vaccinated—in other words, those who are two weeks out from a full complement of vaccine doses (two shots in the case of Moderna and Pfizer, or one dose for Johnson & Johnson). The announcement came after some delays last week, and was met with mostly positive reviews from public health experts, though some felt that the new policies do not go far enough in loosening recommended behavioral changes, especially with regards to travel.

In broad strokes, the new guidelines state that vaccinated individuals can gather indoors without masks. At a more granular level, the CDC also specifically stated that vaccinated grandparents should be able to visit unvaccinated grandchildren in most cases, and that vaccinated persons could spend time with individuals from a single household who might not be vaccinated, provided they are at low risk for serious disease if they were to become infected.

The guidelines continue to recommend that all persons continue to wear a well-fitting mask when outside their home and practice social distancing in public, regardless of vaccine status. As before, the agency guidelines remain that any person experiencing symptoms consistent with covid-19 should quarantine and seek further testing, however vaccinated individuals who are exposed to someone diagnosed with covid-19 do not need to isolate unless they become symptomatic.

As mentioned, travel guidelines were not updated, though future iterations are expected soon, as more Americans get inoculated. At the time of the announcement, around 9 percent of the US population has been fully [vaccinated](#), though over 60 percent of the older population has received protection via vaccines, meaning that mortality rates are expected to plummet in the months ahead, provided that variants neither render the vaccinated population less protected nor cause an increase in severe and critical disease among younger persons.

—Jordan M. Warchol, MD, MPH

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