

BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

Covid-19 variant B.1.1.7 (UK) is associated with slight increased risk of death.

With the knowledge that SARS-CoV-2 variants appearing in various parts of the world, the research and scientific communities have been attempting to understand more about the potential infectivity and mortality of these new coronavirus threats. In a study published this week in the [British Medical Journal](#), researchers described early findings about the B.1.1.7 variant that has cropped up in the United Kingdom. Until now, there had been some data to support the idea that the variant was more contagious, but less was known about whether outcomes were worse, compared to the “original” or “wild type” strain that caused the pandemic in the first place.

Carried out in community testing centers in the U.K., the study examined a cohort of over 54,000 matched pairs of patients with SARS-CoV-2. What this means is that researchers identified around 54,000 patients with the B.1.1.7 variant and then found 54,000 other patients with the “regular” version of the virus. The investigators made sure that the matches were of similar age and came from similar locations in order to make the most reliable comparison.

The researchers were primarily concerned with the mortality difference 28 days after infection. Those infected with the B.1.1.7 variant cohort were, on average, 64 percent more likely to die. A notable caveat to this statistic, however, was that the results were gleaned from a period when hospital occupancy was particularly high (which is known to increase mortality overall), and this was a largely unvaccinated population. However, the baseline mortality in this cohort was still relatively low. Among those with the “original” virus, around 3 out of 1,000 people died; by comparison around 4 out of 1,000 died in patients with the B.1.1.7 variant. This comes out to a “case fatality rate” of 0.3 or 0.4 percent respectively. While that sounds low, the average age of this cohort was 46. As expected, the study showed that older age was correlated with increased mortality. Also interestingly, the hazard ratio between the two cohorts remained similar between days 0 and 14. The mortality differences became noticeable between days 15-28.

There are a number of significant limitations to the study, though overall it was thoughtfully done. It should also be noted that while the overall risk of death in covid-19 patients in this cohort was relatively low, the difference was real. Fortunately, the [SIREN study](#) conducted in the UK shows promising data that the Pfizer-BioNtech vaccine is quite effective at preventing covid-19 illness even for those with the B.1.1.7 variant. In addition, Moderna-derived antibodies have also been shown to still provide protection against the variant in lab tests. [12 March 2021](#).

—Joshua Niforatos, MD, MTS

Does wearing a clear face mask have an effect on the clinician-patient relationship?

A creative and important study was [published](#) today in *JAMA Surgery* looking at the effect that mask wearing has on communication in medical settings. More specifically, the clinical question for this study was whether healthcare providers wearing clear (see-through) versus covered masks had any effect on communication between surgeons and patients.

This effort was a randomized clinical trial in the outpatient setting of a large academic medical center. New patients were recruited from outpatient clinic visits and randomized to visit a surgeon who wore either a clear or covered face mask. The clear face mask allowed the patient

to see both the mouth and the nose of the surgeon, while the standard covered mask did not. The primary outcome was patient perspectives of their surgeon, including trust and empathy, which were measured by survey questions, as well as validated tools measuring patient satisfaction. The study used clear masks that have been shown to be as effective as the opaque surgical masks. In cases where a patient was deemed to be at too high a risk of SARS-CoV-2 infection or transmission, surgeons wore N95 masks. Those encounters were not included in the analysis.

200 patients were enrolled across 15 surgeons' clinics. Perhaps not surprisingly, outpatient clinical encounters with a surgeon wearing a clear face mask were associated with higher scores for providing understandable explanations of patient care, knowing the patient history, demonstrating empathy, and building trust. No significant difference was noted between surgeons who wore clear versus covered face masks for the categories of listening, answering questions directly, showing respect, amount of time spent with the patient, and comfort with the surgeon who would be operating on them.

Moreover, patients preferred their surgeon to wear a clear face mask compared to a standard covered face mask. Interestingly, 8 of the 15 surgeons (53 percent) who participated in the study did not prefer wearing a clear face mask.

The overall results suggest that patients may prefer surgeons who wore clear masks in the outpatient setting, though it remains to be determined whether these results would remain stable in other clinical settings, such as pre-and-post surgical care units, emergency departments, inpatient settings, and other locales. Furthermore, it is uncertain whether patient preference for clear masks has any impact on surgical outcomes; although surgeons who wore clear masks were perceived by patients to be better communicators, have more empathy, and elicit greater trust, there was no difference between the groups with regards to patient comfort, feeling respected, or ability of the surgeon to listen.

This study adds a necessary and needed humanistic component to the seemingly endless influx of pharmacotherapy studies, laboratory-based science, and epidemiological behavioral studies related to covid-19. Given that perception is the lens by which we view reality (as some physicians might say: patient perception is reality), it may be worth it to wear clear masks in the clinical setting to bolster the clinician-patient relationship during the pandemic. [11 March 2021](#).

—Joshua Niforatos, MD, MTS

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. [9 March 2021](#).

—Christopher Sampson, MD, FACEP

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Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health policy, and public policy.