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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

New insights on covid-19 susceptibility in obese populations.

Early epidemiological data has shown that obesity is an important risk factor for those infected with SARS-CoV-2. Boston researchers have now provided a more in-depth look at this population in order to assess whether obesity increases susceptibility to infection. The subjects of this study were employees at the Space Exploration Technologies Corporation (SpaceX)—a total of 4,469 participants (53 percent) were enrolled out of a possible 8,400 across seven work sites in four US states (California, Texas, Florida, Washington). Covid-19 status was unknown at the time of enrollment and serial blood sampling was performed monthly during the study period from April to July, and symptoms were also recorded.

One of main aims of the study was comparing relative body mass index (BMI) and seropositivity (the presence of antibodies indicating a prior infection). The mean BMI of all surveyed was just over 27, which is considered "overweight." Most participants were normal weight (~40 percent) or overweight (~36 percent) and almost 1 in 4 met criteria for obesity (24 percent). Only 7 percent of subjects had detectable antibodies (IgG) against SARS-CoV-2, the marker indicating an immune response to the covid-19-causing virus. Of these 322 seropositive people, five required hospitalization (~2 percent). Seropositivity was seen to a greater degree with employees in Texas and Hispanic employees.

Obesity was found to have an association with increased symptoms among those with covid-19, especially fever, in mild infections. But interestingly, the authors did not find an increased susceptibility to acquiring SARS-CoV-2 infection, suggesting that there is no evidence of immunosuppression occurring among this population.

While this paper appears in the preprint server medrxiv.com and has therefore not been subject to peer review, the work was performed by a large team of well-respected researchers. The inclusion of SpaceX CEO Elon Musk as a one of around thirty co-authors of this manuscript does not appear to have had any detrimental effect on its quality, despite his consistent and well-documented history of spreading misinformation about covid-19 on Twitter and elsewhere. Those reservations aside, the results exhibited in this manuscript appear to show that once ill, obesity remains an important risk factor in morbidity and mortality, though simply being obese does not put one at a greater risk of contracting the virus in the first place.

—Christopher Sampson, MD FACEP

POLICY BRIEFING

Coronavirus and mass decarceration.

On Monday, the National Academies of Sciences, Engineering, and Medicine (NASEM) released new guidelines in the *Journal of the American Medical Association* (JAMA) on the process of "decarceration," or decreasing the prison population, during a pandemic. NASEM argued for swift action in this oft-overlooked segment of society, citing a variety of data; by August, 90 of the 100 largest cluster (outbreaks) events were related to prisons and jails. Because such correctional facilities are not routinely included in pandemic planning, and given the susceptibility patterns for incarcerated patients, NASEM expressed concern about the future of these populations.

While the report does acknowledge that jail populations decreased by 22 percent since the start of the pandemic, state prisons had only a four percent population decrease, while federal prisons decreased by 10 percent. The largest legal barrier to expanding this number is limitations on compassionate release. Because of this, the Academies put forth a number of recommendations for clinicians, the healthcare system and insurance companies in hopes of decreasing the number of people exposed to high-risk situations.

First and foremost, clinicians have the ability to advocate for the modernization of "compassionate release allowances" and to make direct appeals for individuals at particular risk of contracting the virus or suffering significant related morbidity.

Furthermore, the Academies highlighted the role of healthcare systems focused on post-incarceration follow up. According to the data, recently released individuals have an increased risk of hospitalization compared to the general public, meaning that there is a need to connect at-risk individuals with health resources prior to release. Important considerations include access to prescriptions and the ability to establish primary care.

Generally speaking, during incarceration, those who have Medicare and Medicaid are ineligible for their benefits. As these benefits are terminated, it adds a logistical hurdle upon release simply to reactivate care. According to the Social Security Administration, however, states have the ability to *suspend* these benefits, rather than fully *terminating* them, which could limit the disruption in coverage. Further, the Centers for Medicare and Medicaid Services (CMS) allow states to initiate programs aimed at covering the cost of coronavirus detection, continuing prescriptions upon release from incarceration, and facilitating access to health resources.

The report ends with a reminder that the incarcerated population will continue to be a potential source of cluster infections, and that a sustained effort must be made by community partners to protect this portion of society. *The National Academies of Sciences, Engineering, and Math*

—Joshua Lesko, MD