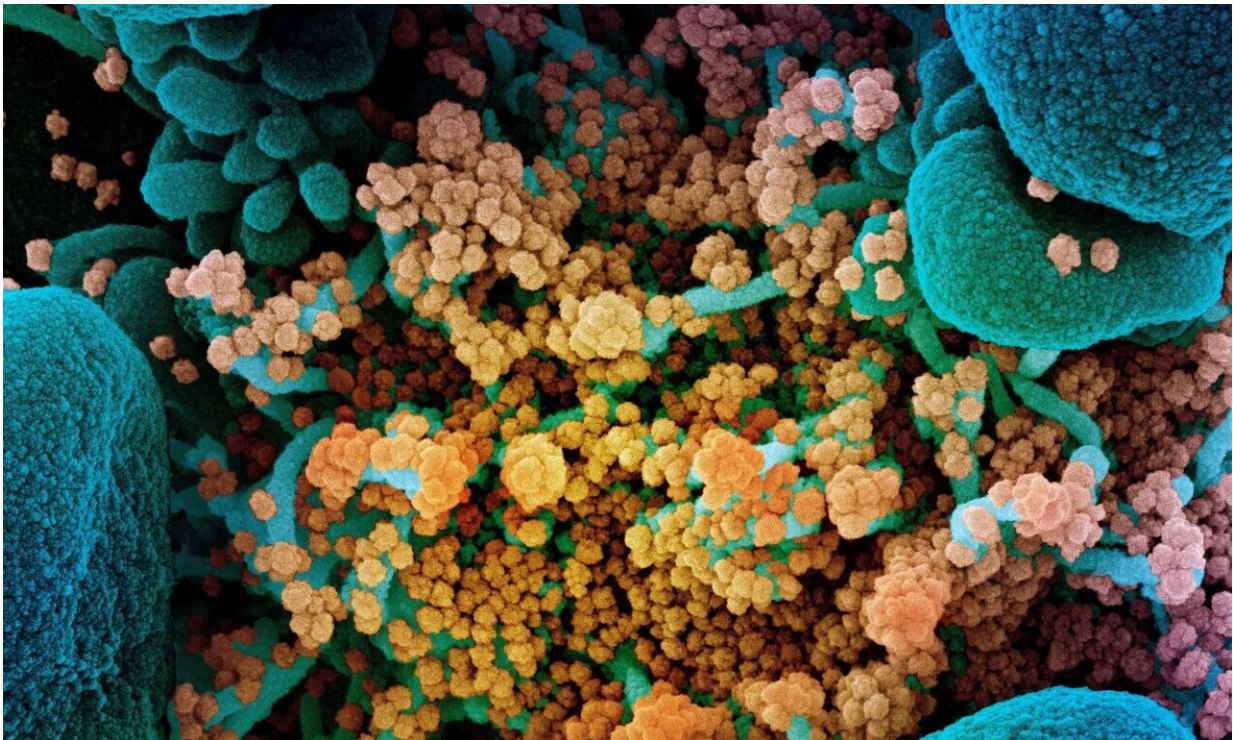


Men more susceptible to COVID-19 than women

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Colorized scanning electron micrograph of a dying cell (blue) heavily infected with SARS-CoV-2 (yellow), the virus that causes COVID-19. Credit: NIAID Integrated Research Facility, Fort Detrick, Maryland.

Males are more likely to test positive for COVID-19, more likely to have complications and more likely to die from the virus than females, independent of age, according to a new study published this week in the

open-access journal *PLOS ONE* by Farhaan Vahidy of Houston Methodist Research Institute, US, and colleagues.

As the COVID-19 pandemic unfolds and evolves across the globe, researchers have identified population sub-groups with higher levels of disease vulnerability, such as those with advanced age or certain pre-existing conditions. Small studies from China and Europe have indicated that males tend to experience higher disease severity compared to [females](#). However a comprehensive analysis of COVID sex in a large and diverse US metropolitan area has been lacking.

In the new study, researchers used data from a large healthcare provider in the Houston, Texas [metropolitan area](#) to determine the associations between sex and COVID-19 epidemiology. Data on COVID testing, hospital stays, mortality and demographics were extracted from Electronic Medical Records (EMRs) of all 96,496 adults over 18 years old who were tested for SARS-CoV-2 by the health system between March 6 and August 22, 2020.

Overall, 15.5% (95% CI 15.3-15.8) of individuals in the cohort tested positive for SARS-CoV-2. After adjusting for sociodemographic factors and comorbidities, males had a higher likelihood of SARS-CoV-2 positivity (aOR 1.39, 95% CI 1.33-1.45) than females. Similarly, the proportion of patients requiring ICU care was significantly higher among males (34.1% (32.2—36.0)) as compared to females (27.6% (25.8—29.5)), OR: 1.36 (1.20—1.53). Moreover, more males (19.0% (17.5—20.6)) underwent [mechanical ventilation](#) than females (14.7% (13.3—16.2)), OR: 1.36 (1.17—1.59) and the proportion of [males](#) who experienced in-hospital mortality (11.6% (10.4—13.0)) was significantly higher as compared to females 8.3% (7.3—9.6), OR: 1.44 (1.18—1.75). The authors conclude that there is a clear and strong independent association between male sex and SARS-CoV-2 susceptibility, complications and poor outcomes and say that understanding sex

differences in the disease is a fundamental step toward improved disease management and intervention strategies for both men and women.

The authors add: "Males seem to be more likely to contract the SRAS-CoV-2 virus and also have a poor clinical course and outcomes related to COVID-19, compared to females. The exact contribution of gender and sex factors in susceptibility and outcomes of COVID-19 need further investigation."

More information: Farhaan S. Vahidy et al. Sex differences in susceptibility, severity, and outcomes of coronavirus disease 2019: Cross-sectional analysis from a diverse US metropolitan area, *PLOS ONE* (2021). [DOI: 10.1371/journal.pone.0245556](https://doi.org/10.1371/journal.pone.0245556)

Provided by Houston Methodist

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