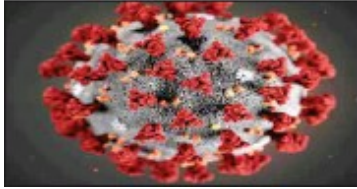


**- Virus**

## Men have high levels of enzyme key to COVID-19 infection: Study

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Men's blood has higher levels than women's of a key enzyme used by the new coronavirus to infect cells, the results of a big European study showed on Monday — a finding which may help explain why men are more vulnerable to infection with COVID-19.



Angiotensin-converting enzyme 2 (ACE2) is found in the heart, kidneys and other organs. In COVID-19, the respiratory disease caused by the novel coronavirus, it is thought to play a role in how the infection progresses into the lungs, Reuters reported.

The study, published in the *European Heart Journal*, also found that widely-prescribed drugs called ACE inhibitors or angiotensin receptor blockers (ARBs) did not lead to higher ACE2 concentrations and should therefore not increase the COVID-19 risk for people taking them.

ACE inhibitors and ARBs are widely prescribed to patients with congestive heart failure, diabetes or kidney disease. The drugs account for billions of dollars in prescription sales worldwide.

“Our findings do not support the discontinuation of these drugs in COVID-19 patients,” said Adriaan Voors, a professor of cardiology at the University Medical Center (UMC) Groningen in The Netherlands, who co-led the study.

The COVID-19 pandemic has infected more than four million people worldwide and killed almost 277,000, according to a Reuters tally. Death and infection tolls point to men being more likely than women to contract the disease and to suffer severe or critical complications if they do.

Analyzing thousands of men and women, Voors' team measured ACE2 concentrations in blood samples taken from more than 3,500 heart failure patients from 11 European countries.

The study had started before the coronavirus pandemic, the researchers said, and so did not include patients with COVID-19.

But when other research began to point to ACE2 as key to the way the new coronavirus gets into cells, Voors and his team saw important overlaps with their study.

“When we found that one of the strongest biomarkers, ACE2, was much higher in men than in women, I realized that this had the potential to explain why men were more likely to die from COVID-19 than women,” said Izhiah Sama, a doctor at UMC Groningen who co-led the study.

ACE2 is a receptor on the surface of cells which binds to the new coronavirus and allows it to enter and infect cells.

Sama and Voors noted that as well as in the lung, ACE2 is found in the heart, kidneys, in tissues lining blood vessels, and in particularly high levels in the testes.

They said its presence in the testes might partially explain higher ACE2 concentrations in men, and why men are more vulnerable to COVID-19.