

# Higher rates of heart issues in men with COVID-19 not explained by pre-existing cardiovascular conditions

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COVID-19 typically presents as a respiratory illness, but cardiovascular complications such as irregular heartbeat (arrhythmia), lack of blood

flow to the brain (stroke) and heart failure are also reported in some patients. Men typically have worse outcomes from COVID-19 than women. As pre-existing cardiovascular disease is a known risk factor for severe COVID-19, and has a higher incidence in men, it had been proposed as a possible explanation for these sex differences.

Dr. Carinna Hockham at The George Institute for Global Health, UK who led research on this topic in partnership with Imperial College London, said, "Our research aimed to understand whether [sex differences](#) in COVID-19 severity—including risk of death—and in cardiovascular complications, were explained by the higher prevalence of pre-existing cardiovascular disease in men compared to women."

The research is published in *BMJ Medicine*.

The study analyzed 11,167 patients who were hospitalized with COVID-19 between May 2020 and May 2021 across 13 countries. The team found that 13 of every 100 women and 17 of every 100 men developed some form of cardiovascular complication during their hospital admission, representing a 30% lower risk in women.

Arrhythmia was the most common cardiovascular complication, seen in 5 in every 100 women and 8 in every 100 men. Other complications, such as cardiac ischemia and pulmonary embolism, were less common.

Researchers found that differences between the sexes in rates of [cardiovascular complications](#) were evident regardless of whether they had pre-existing cardiovascular disease. They argued that the results not only have implications for the overall understanding of sex differences in health and disease, but also demonstrate the critical importance of considering sex and gender differences across all aspects of human health.

Hockham said, "Our finding that the so-called 'male disadvantage' in severity of COVID-19 cannot solely be explained by pre-existing [cardiovascular disease](#) burden indicates that other factors are contributing to disease severity. Further research is needed to better understand why men are at higher risk of severe COVID-19, including looking at whether the viral mechanisms differentially impact women and men."

**More information:** Sex differences in cardiovascular complications and mortality in hospital patients with COVID-19, *BMJ Medicine* (2023). [DOI: 10.1136/bmjmed-2022-000245](https://doi.org/10.1136/bmjmed-2022-000245)

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