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Covid-19: People who take statins may be less likely to die, research suggests

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Findings from a large study of patients in Sweden have suggested that people who take statins may be less likely to die from covid-19.¹

Researchers at the Karolinska Institutet conducted a population study of almost a million people to determine the relationship between statin treatment and covid-19 mortality, given the effects of the drugs on coagulation and the immune system.

Their findings, published in *PLOS Medicine* suggest that statin treatment had “a modest negative association” with covid-19 mortality. But experts said randomised controlled trials would be required to establish whether there is a causality of the association and stressed that the results should be interpreted cautiously.

“Our findings support the continued use of statins for conditions such as cardiovascular disease and high levels of blood lipids in line with current recommendations during the covid-19 pandemic,” said Viktor Ahlqvist, co-first author of the research and doctoral student at the Department of Global Public Health, Karolinska Institutet.

Using data from Swedish health registers, all Stockholm residents aged 45 or older (963 876 people) were followed from 1 March 2020 until 11 November 2020. Researchers matched data on statins prescribed before the pandemic to healthcare data and data from the Swedish Cause of Death Registry.

In total, 2545 people died from covid-19 during follow-up, including 765 (0.5%) of the statin users and 1780 (0.2%) of non-statin users. Statin treatment was associated with a moderately lower risk of covid-19 mortality (hazard ratio, 0.88; 95% confidence interval, 0.79 to 0.97 $P=0.01$), after accounting for pre-existing health conditions and other factors. The association was corroborated by sensitivity analyses and did not vary substantially across age groups, sexes, or covid-19 risk groups.

Responding to the findings, Tim Chico, professor of cardiovascular medicine and honorary consultant cardiologist at the University of Sheffield, who was not part of the study, said, “This study does not prove that statins reduce death in covid-19, but does provide some supportive clues. It observes that people prescribed statins were less likely to die than similar people. However, this does not prove the statins caused the reduced death rates; to do so needs a randomised controlled trial.”

Chico added that it was important to be “suitably measured” in interpreting the findings, as there had been too much “premature confidence” about other drugs that were purported to be useful for covid but

turned out be ineffective, such as hydroxychloroquine.

“These results do not in any way justify using statins to treat covid-19,” he said. “We already have effective ways to lower risk of death in covid-19—social distancing, hand washing, mask wearing, and vaccination in the population, and use of techniques and drugs with a good evidence base (like dexamethasone) in people with severe covid-19 infections.”

Limitations of the study included that it did not adjust for risk factors of smoking and high body mass index, and that it relied on prescription data without being able to check this against individual drug use.

The researchers received no financing for the study. Co-author Johan Sundström holds shares in Eli Lilly, Boehringer, Bayer, Pfizer, AstraZeneca, and others. No other conflicts of interest were declared.

¹ Bergqvist R, Ahlqvist VH, Lundberg M, et al. HMG-CoA reductase inhibitors and COVID-19 mortality in Stockholm, Sweden: A registry-based cohort study. *PLoS Med* 2021;18:e1003820. doi: 10.1371/journal.pmed.1003820 pmid: 34648516

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