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Press release

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Long COVID: lower risk after an Omicron infection and after re-infection

The risk of developing long COVID is significantly lower following an infection with the Omicron variant than after an infection with earlier coronavirus variants. This was the finding of a study by University Medicine Halle, which was published in the "International Journal of Infectious Diseases". The analysis looked at information gathered from 11,000 people about their infection history, vaccination status, and post-infection symptoms. The data provide strong evidence that the risk for long-term effects after a re-infection with the coronavirus is lower if the patient did not develop long COVID after the initial infection.

Long-term symptoms can develop after a coronavirus infection. This is commonly referred to as "long COVID" or "Post COVID-19 condition". The underlying risk factors are currently under intensive investigation. "We wanted to understand the connection between long COVID and different coronavirus variants, vaccinations, and past infections," explains Sophie Diexer, first author of the new study and researcher at the Institute of Medical Epidemiology, Biometry and Informatics at University Medicine Halle. "Our study shows that the percentage of people who develop long COVID symptoms after an infection was lowest at the time when Omicron was prevalent." The risk was found to be around three to four times lower after an Omicron infection than after an infection with the wild-type variant. Around half of all wild-type infected individuals reported persisting symptoms. It should be noted, however, that the majority of all infections occurred while Omicron was dominant. "In purely numerical terms, this means that most people developed long COVID following an Omicron infection," says Diexer.

The study also provides strong evidence of a protective effect once the patient has recovered from a coronavirus infection. "People who did not develop persistent symptoms after their initial infection had a significantly lower risk of developing long COVID following re-infection than people who were infected with the coronavirus for the first time. We were surprised by the scale of this effect," explains the researcher. However, the scientists were unable to demonstrate that, in the event of a vaccine breakthrough, the vaccine had any protective effect against long COVID. Due to the timing of the study, it was not possible to analyze the vaccine that specifically targeted the Omicron variant.

The study is based on the Germany-wide DigiHero project, which more than 48,000 people participated in until June 2022. "Studies have already looked at the relationship between the risk of long COVID and the different variants, but none has taken into account infection history," explains Professor Rafael Mikolajczyk, director of the Institute of Medical Epidemiology, Biometry and Informatics at University Medicine Halle. "Of the respondents, approximately 11,000 reported at least one coronavirus infection that had occurred in the 12 weeks prior to when the data was collected for our study. Classification was based on the predominant variant at the time of the reported infection." Participants were questioned about 24 typical long COVID symptoms, with 2,822 individuals reporting that they had experienced such symptoms. Of these, 406 (14%) reported experiencing severe fatigue, 237 (8%) severe headaches, and 202 (7%) severe shortness of breath. The intensity of the symptoms was not related to the coronavirus variant.

Follow-up surveys are currently being conducted to explore the persistence of long COVID symptoms. "In addition to possible long-term symptoms following a coronavirus infection, DigiHero is addressing a wide range of health issues

and other impacts of the COVID-19 pandemic," adds Mikolajczyk. On the basis of DigiHero, University Medicine Halle has also launched the Long COVID Registry in cooperation with Otto von Guericke University Magdeburg and the Rechts der Isar Hospital of the TUM School of Medicine. The registry records, for example, long COVID symptoms as well as their progression, severity and alleviation through specific therapies.

Background

DigiHero is a Germany-wide, population-based digital health research study (www.medizin.uni-halle.de/digihero). To date, over 90,000 people from 14 German states have registered. Participants are invited to complete online surveys that explore issues surrounding the development of chronic disease, healthy aging, health behaviors, and the coronavirus. Five clinics and four institutes from University Medicine Halle are taking part. Other project partners include Jena University Hospital, the Leibniz Institute for Prevention Research and Epidemiology – BIPS, and the University of Bremen.
Information about the Long COVID Registry can be found at www.medizin.uni-halle.de/long-covid-register.

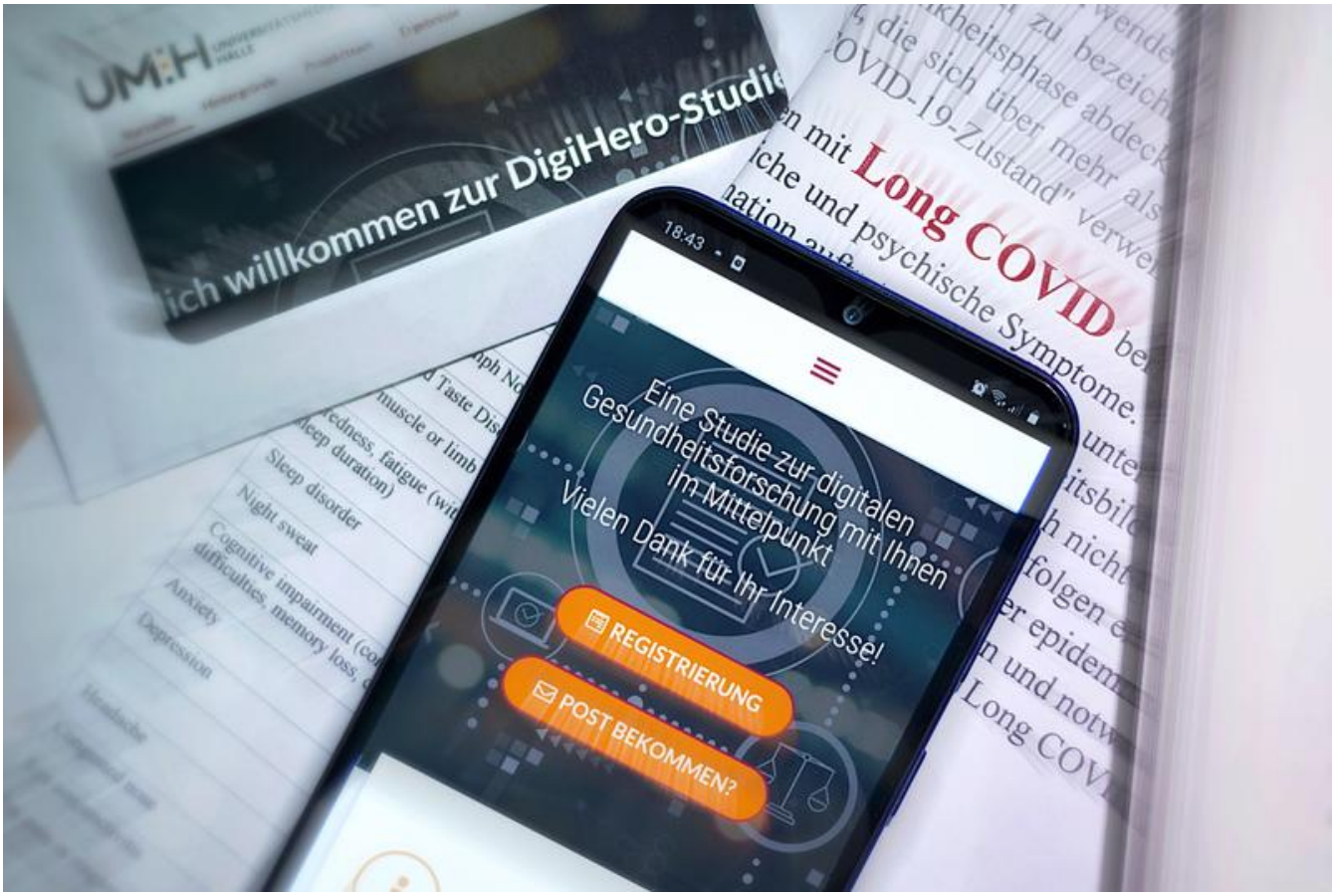
Original publication:

Diexer S, Klee B, Gottschick C, Xu C, Broda A, Purschke O, Binder M, Frese T, Girndt M, Hoell JI, Moor I, Gekle M, Mikolajczyk R. Association between Virus Variants, Vaccination, Previous Infections, and Post COVID-19 Risk. Int J Infect Dis. 2023 Aug 25:S1201-9712(23)00702-6. doi: https://doi.org/10.1016/j.ijid.2023.08.019. Epub ahead of print. PMID: 37634619.

URL for press release: http://www.medizin.uni-halle.de/digihero Information on the DigiHero project

URL for press release: http://www.medizin.uni-halle.de/long-covid-register Information on the Long COVID Registry

URL for press release: https://www.umh.de/imebi Institute of Medical Epidemiology, Biometry and Informatics



The study was done as part of the DigiHero project.
University Medicine Halle