Vaccination halves risk of long COVID, largest study to date shows

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Being vaccinated against COVID halves people's risk of developing long COVID, according to new research from the University of East Anglia.

Long COVID still affects some two million people in the U.K., and new research published today reveals the risk factors associated with developing the condition.

Overweight people, women, smokers and those over the age of 40 are also more likely to suffer from long COVID according to the study—which includes more than 860,000 patients and is thought to be the largest of its kind.

The study also finds that co-morbidities such as asthma, COPD, type 2 diabetes, coronary heart disease, immunosuppression, anxiety and depression are also associated with increased risk of long COVID.

And patients who are hospitalized during their acute COVID infection are also more likely to experience long COVID.

Prof. Vassilios Vassiliou, from UEA's Norwich Medical School and Honorary Consultant Cardiologist at the Norfolk and Norwich University Hospital, said, "Long COVID is a complex condition that develops during or after having COVID, and it is classified as such when symptoms continue for more than 12 weeks.

"Just over two million people in the U.K. are thought to suffer with long COVID and it affects people in different ways. Breathlessness, a cough, heart palpitations, headaches, and severe fatigue are among the most prevalent symptoms.

"Other symptoms may include chest pain or tightness, brain fog, insomnia, dizziness, joint pain, depression and anxiety, tinnitus, loss of appetite, headaches, and changes to sense of smell or taste.

"We wanted to find out what factors might make people more or less susceptible to developing long COVID."

The team looked at data from 41 studies around the world, involving a total of 860,783 patients, to investigate the risk factors for developing long COVID.

Prof. Vassiliou said, "We found that female sex, older age, increased BMI and smoking are associated with an increased risk of long COVID.

"In addition, co-morbidities such as asthma, COPD, type 2 diabetes, coronary heart disease, immunosuppression, anxiety and depression are also associated with increased risk.

"Furthermore, severe illness during the acute phase as reflected by the need for hospitalization or admission to an intensive care unit, is also associated with the development of long COVID.

"Conversely, it was reassuring to see that people who had been vaccinated had significantly less risk—almost half the risk—of developing long COVID compared to unvaccinated participants.

"These findings are important because they enable us to better understand who may develop long COVID and also advocate for the benefit of vaccination."

Co-author Dr. Eleana Ntatsaki from UCL and Ipswich Hospital (part of East Suffolk and North Essex NHS Foundation Trust), said, "Our findings help define the full demographic characteristics and the risk factors for developing Long COVID. We can now better understand and serve this population with long term care planning, support for Long COVID clinics and increase awareness of the prevalence and impact of the condition.

"Furthermore, we can have a better strategy for optimizing any modifiable risk factors, with public health promotion campaigns,

encouraging smoking cessation, vaccination and healthy weight management in the target population.

"Risk Factors Associated With Post-COVID-19 Condition—A Systematic Review and Meta-Analysis" is published in the journal *JAMA Internal Medicine*.