Association between diabetes medication and less severe cases of COVID-19

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Published in *PLOS ONE*, a study led by the University of Minnesota Medical School studied adults with type 2 diabetes who were taking metformin, a commonly prescribed diabetes medication. Researchers found an association with less severe cases of COVID-19 for those prescribed metformin. These findings were part of an observational study that analyzed electronic medical charts and compared adults who

were taking either metformin, a sulfonylurea or a DPP-4 inhibitor.

"This study continues to provide justification for further research on metformin for COVID-19. We're fortunate to have biostatisticians and informatics experts in our Clinical and Translational Science Institute who are exceptional in observational analyses," said Carolyn Bramante, MD, an assistant professor at the University of Minnesota Medical School and an internist and pediatrician with M Health Fairview.

The study found that among adults with type 2 diabetes who were taking one oral medication for their condition, those taking metformin had a 45% lower risk of needing a breathing machine or dying from COVID-19 than similar individuals who were not taking metformin. Of the similar analyses that have been done, this study used a database large enough to allow a rigorous study of the utilization and effect of these drugs in a larger, well-defined population. The research team collaborated with national experts in pharmaco-epidemiology.

These findings add to the growing body of data that suggests metformin reduces the severity of COVID-19. Dr. Bramante led the COVID-OUT trial, which published findings earlier this year that showed metformin lowers the odds of emergency department visits, hospitalizations or death due to COVID-19.

Some of this most recent data includes test-tube experiments in which metformin stopped the virus from multiplying. Researchers say metformin is safe, inexpensive and widely available, thus more clinical trials are warranted.

More information: Carolyn T. Bramante et al, Diabetes medications and associations with Covid-19 outcomes in the N3C database: A national retrospective cohort study, *PLOS ONE* (2022). DOI: 10.1371/journal.pone.0271574