

News from the UDE



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Around 190,000 PCR tests evaluated

Results alone unsuitable as a basis for pandemic measures

06/18/2021

In the renowned *Journal of Infection* *, researchers from the Medical Faculty of the UDE point out that the results of RT-PCR tests alone are insufficiently meaningful to justify measures to combat pandemics. According to their investigation, positive test results do not sufficiently prove that people infected with SARS-CoV-2 can infect other people with the coronavirus. Together with scientists from the University of Münster and the MVZ Labor Münster, they had previously evaluated around 190,000 results from more than 160,000 people.

The RT-PCR test technique is considered the gold standard when it comes to detecting an infection with the SARS-CoV-2 coronavirus. It can only be carried out in specialized facilities. During the pandemic, the results of corona tests using RT-PCR technology were and will be used to determine the number of nationwide new infections per 100,000 inhabitants (incidence).

This incidence value in turn forms an important basis for the federal and state governments to justify anti-corona measures, for example contact restrictions or curfews. However, the research teams from Essen and Münster question this based on their data analysis. "According to our study, a positive RT-PCR test alone is not sufficient proof that those tested can also transmit the coronavirus to other people," says first author Prof. Dr. Andreas Stang, Director of the Institute for Medical Informatics, Biometry and Epidemiology (IMIBE) at the Essen University Hospital. "The number of SARS-CoV-2 positive testers calculated at the end should therefore not be used as a basis for pandemic control measures such as quarantine, isolation or lockdown."

The authors therefore advise collecting or using data from other areas to assess the pandemic situation. "For example, reliable information on intensive care bed occupancy and mortality, i.e. the respective number of deaths in connection with COVID-19," suggests epidemiologist Prof. Stang, would be more suitable. In his area of expertise, the consequences of epidemics on societies are examined.

The research team also talks about the possibility of improving the informative value of the RT-PCR value in future assessments of the pandemic situation by including the so-called cycle threshold value (Ct value). The number, also known as the threshold cycle value, can be used to make statements about the risk of infection by people who have tested positive. If the Ct value of those who tested positive is 25 or higher, it is currently assumed that they are no longer contagious because the viral load is too low. "On average, around 60% of those tested with COVID-19 symptoms were found to have such high CT values; In weeks 10 to 19 it was even 78% who were very probably no longer contagious," emphasizes Prof. Stang. "Querying the COVID-19 symptoms of those tested would also help, better evaluate the results of RT-PCR tests."

* Original publication:

"The performance of the SARS-CoV-2 RT-PCR test as a tool for detecting SARS-CoV-2 infection in the population" <https://doi.org/10.1016/j.jinf.2021.05.022>

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