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WEARING A RESPIRATOR AND HAND WASHING AND DISINFECTION REDUCE SARS-CoV-2 VIRUS OCCURRENCE EVEN AT THE MOST-BUSY PLACES

How to reduce the spread of the SARS-CoV-2 virus as much as possible? Experts from around the world are seeking the answer to this question with varying degrees of success. Amidst the peak of the pandemic, national lockdown and implementation of blanket measures, scientists from the Institute of Animal Physiology and Genetics CAS and Masaryk University in Brno, have proven that the SARS-CoV-2 virus did not occur in public areas where people obeyed the safety measures by wearing respirators and disinfecting their hands.

“We were interested in finding out the real risk of infection with SARS-CoV-2 virus in public areas visited by large numbers of people during the pandemic and whether it is necessary to close shops,” says the research team leader Omar Šerý from the Institute of Animal Physiology and Genetics CAS, explaining the research objective. The scientists therefore took samples from a shopping centre in Olomouc, the central post office in Brno and the covid unit of a smaller hospital, which served as a reference group.

As long as people obeyed the measures, the virus stayed out even of places visited by thousands

“The SARS-CoV-2 virus did not occur in public areas when people followed the recommendations in place - especially wearing a respirator and hand washing or disinfection. On the other hand, in the hospital covid unit, where patients naturally do not wear respirators and there is a higher accumulation of people tested positive in a smaller space, the surfaces were contaminated with the virus,” describes Omar Šerý the study results.

Social distancing rules and the prescribed number of people per square metre could not be captured by the research method, but these measures were nonetheless in place and adhered to at the time of testing. *“Moreover, it appears that the droplets tend to fall to the ground, since the floor as well as the shoe soles of the covid unit healthcare professionals were the surfaces most contaminated with the coronavirus RNA. Viral RNA was also found on surfaces touched by COVID-19 patients, such as plastic handles,”* adds Šerý.

Scientists did not find any traces of virus on surfaces touched by hundreds of people, which means, for example, that there is no justification for disinfecting food items after bringing them home from the shop. On the contrary, if the safety measures such as a properly fitting respirator and hand washing and/or disinfection are obeyed, then there is little risk of contracting coronavirus in public areas.

“Closing shops during a pandemic does not seem to be necessary as the risk of infection is minimal. However, what needs to be pointed out is that at the time when the experiments were performed, everyone obeyed the safety measures and wore a face mask or respirator,” adds Omar Šerý.

How was the study conducted?

The first sampling was performed on 17 December 2020 in the evening after 6 p.m. at the central post office in Brno, with a turnout of 2,600 people on that day. This was during the period when the daily percentage of newly identified cases of those tested exceeded 30%. The second sampling was performed on 17 February 2021 after 6 p.m. in the Šantovka shopping centre in Olomouc, in which the supermarket and food court remained open. The samples came predominantly from the super market. The percentage of newly identified cases in that period still remained above 30%. A total of over 10,000 people visited the Šantovka shopping centre on the sampling day. The last sampling was performed on 6 May 2021 in a hospital unit set up for the treatment of patients who tested positive for SARS-CoV-2.

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Photos:



Coronavirus sampling from the display of the automatic ordering system at the main post office in Brno (PHOTO: Omar Šerý's archive)