



**Universität
Zürich** UZH



CORONA
IMMUNITAS

Update 17.03.2021: The results have been published in “The British Medical Journal” (BMJ), one of the world’s leading journals in medicine. We are happy to share our findings with an international audience.

Media release

Zurich, 22.12.2020

Significantly more infections, but only a few clustering classes

For the second time, the University of Zurich has tested 2,500 Zurich schoolchildren to determine whether they have been infected with the new corona virus. This second investigation with antibody detection shows: Just under 8% of all children had experienced a Corona infection by mid-October. Not a single whole school and just very few classes showed clustering of infections. In an additional sub-study from early December 2020, the virus was detected by acute testing (swab) in only one in 641 children.

The Ciao Corona study of the University of Zurich has tested 2,500 children from 275 classes and 55 schools for antibodies against the coronavirus twice since June-July. Antibodies in the blood are evidence of an infection in the past. An encouraging 89% of the children from the first study participated also in the second round of testing between late October and mid-November.

In the second test phase, a cluster of children with Corona infection was detected in only seven classes. By the researchers' definition, a cluster is a class with at least three new cases since summer 2020. In three of these seven classes, the cases occurred at the same time, in three other classes the infections were unrelated, and in one class the infections went unnoticed. No school showed a clustering of infections across all classes and grade levels.

The main study of Ciao Corona shows an increase in infections

Since June 2020, the proportion of children who have undergone infection and developed antibodies has increased from 2% to 8%. However, this so-called seroprevalence varied greatly by district, ranging from 4% to 22%. As with the results of the first survey, there were no significant age or gender differences. "With the higher case numbers, we now have more statistical power on symptoms," says Susi Kriemler, study leader and epidemiologist at the University of Zurich. "Compared to the first study, infected children tended to show symptoms such as headaches or fatigue slightly more often. The next test phases will show whether this tendency is confirmed."

Sub-study of Ciao Corona tests for undetected virus carriers

In light of the rapidly increasing number of Corona cases, an additional acute testing was conducted in early December 2020 to support federal and cantonal decision-making. The goal: to find out how many students attend school despite acute infection (direct virus carriers). 641 students and 66 teachers were swabbed twice at one-week intervals in 67 school classes at 14 predominantly city schools in Zurich. The result: only one tested child (0.2%) and no teacher were current virus carriers. "This very low number supports the observation from the main study that with the measures taken by the schools and the guidelines of the cantonal health directorates, there are hardly any unnoticed outbreaks in the current school operation," says Susi Kriemler.

Ciao Corona evidence supports national science task force recommendations

The [Science Task Force's Statement and Recommendation on Children](#), released on December 17, 2020, gives a high weight to the right to education and the risk of social inequalities. It recommends that elementary schools target individual classes and schools with quarantine measures in the event of an accumulation of Corona infections, rather than closing schools in general. This recommendation is now supported by evidence from the Ciao Corona study. Milo Puhan, initiator of the Ciao Corona study and head of the Institute of Epidemiology at the University of Zurich says: "Thanks to our representative school study, the frequency of corona clusters within classes could be determined for the first time. In the Zurich school system, there are obviously only a few classes with a clustering of cases. Thus, in the context of our study, there were only seven classes, and in three of these classes the infections were temporally separated and thus independent of each other. Thus, the risk for infections emanating from such classes for an entire school seems low and can be countered with targeted quarantine measures."

Ciao Corona study and testing procedure

The Ciao Corona study being conducted by the University of Zurich employs long-term monitoring of antibody development to investigate how SARS-CoV-2 spreads among schoolchildren. The study's researchers are examining to what extent school structures and precautionary measures are affecting the transmission of contagion, whether post-infection protection against a subsequent SARS-CoV-2 infection exists and, if it does, how long it lasts. The researchers expect to gain new insights into SARS-CoV-2 symptoms in children and to ascertain whether schoolchildren infect each other or whether virus transmission to them occurs more frequently through adults (school personnel or parents).

The study tests venous blood and/or saliva samples from more than 2,500 schoolchildren and youths aged 6 to 16 years at 55 randomly selected schools in the Canton of Zurich for antibodies in three stages: in June/July 2020, in October/November 2020 and in March/April 2021. In addition, via online questionnaires, the tested subjects answer questions about symptoms, state of health, precautionary behavior, lifestyle and quality of life every two months. Participation in the study is voluntary. In autumn 2020 and spring 2021, the parents of the tested children and the personnel at the selected schools will also be tested. www.ciao-corona.ch

Corona Immunitas: A Switzerland-wide research program by the Swiss School of Public Health

Ciao Corona is part of the Corona Immunitas research program being conducted throughout Switzerland by the Swiss School of Public Health (SSPH+). Corona Immunitas is a scientific program aimed at determining the SARS-CoV-2 immunity of Switzerland's population. The program delivers reliable epidemiological data as a basis for devising appropriate and effective measures to protect the population and makes a major contribution to averting further waves of infection and a renewed lockdown. www.corona-immunitas.ch | www.sspplus.ch

Download for images: <https://www.ciao-corona.ch/medieninfo>

Link to publications: <https://www.ciao-corona.ch/results-test-series2>

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