Published Date: 2023-05-30 19:06:50 CEST

Subject: PRO/AH/EDR> COVID-19 update (20): countries, Paxlovid, vaccine, WHO

Archive Number: 20230530.8710317

CORONAVIRUS DISEASE 2019 UPDATE (20): COUNTRY UPDATES, PAXLOVID, VACCINE, AIR POLLUTION, FELINE COVID-19, RISK FACTORS, LONG COVID, WHO

****

A ProMED-mail post
http://www.promedmail.org
ProMED-mail is a program of the
International Society for Infectious Diseases
http://www.isid.org

In this update:

******

[1] Country updates

[A] China: current low prevalence, mild symptoms; lockdown unlikely

Date: Sun 28 May 2023 15:53 CST
Source: China Daily, Xinhua News Agency report [edited]
https://www.chinadaily.com.cn/a/202305/28/WS64730883a310b6054fad5707.html

The overall COVID-19 infections in China have entered a low prevalence level since mid-May [2023], and the vast majority of

COVID-19 patients show mild symptoms, medical experts said.

Despite a recent increase, the total [number] of fever clinic patients is far less than that during the peak of the previous infection wave, and most of the patients only have mild symptoms, said Wang Liping, a researcher with the Chinese Center for Disease Control and Prevention (China CDC). Wang said infections caused by the XBB subvariants of omicron will continue to exist for some time, but the overall situation is stable and under control, with little impact on the normal operation of medical services and the whole society.

Another China CDC researcher Chen Cao noted that according to monitoring data, the XBB subvariants are now the predominant COVID-19 strains in both imported and local infections, with no significant change in pathogenicity. Underpinned by China's multi-channel monitoring and early warning system, disease control authorities across the country will take effective response measures if any signal of new risks is detected, said Chen.

In general, reinfected COVID-19 patients show milder symptoms than [in] their 1st infection, said Li Tongzeng, a chief doctor with the Department of Respiratory and Infectious Diseases at Beijing Youan Hospital, Capital Medical University. Clinical data show that most reinfected people have a mild sore throat and can break a fever more quickly, with their symptoms lasting 3 to 5 days, said Li.

--
communicated by:
ProMED

[The recent rise of COVID-19 cases in China has renewed concerns that lockdowns may be imposed to stop the spread. However, an article in The New York Times suggested that this appears to be unlikely, stating that "officials across China appear to be trying to prepare the population for a rise in infections without reintroducing the heavy controls that by late last year [2022] had exhausted public patience."
(https://www.nytimes.com/2023/05/27/world/asia/china-covid-lockdowns-economy.html) - Mod.LWW]

[B] New Zealand: case numbers fall slightly, 36 more deaths
Date: Mon 29 May 2023 14:33 NZST
Source: Stuff [edited]
https://www.stuff.co.nz/national/health/300891699/covid19-14371-new-cases-reported-over-the-past-week-248-people-in-hospital

There were 14 371 cases of COVID-19 reported across the country in the past week, officials say. The Ministry of Health released its latest weekly update -- covering the period from Mon 22 May 2023 to Sun 28 May 2023 -- on Monday afternoon [29 May 2023].

The overall number of reported cases was down slightly compared to 14 657 cases last week. However, the 7-day rolling average of new daily cases was 1982, up from 1891 last week, the ministry reported.

The ministry reported 36 deaths in the past week. Two were aged in their 60s, 6 were in their 70s, 16 were in their 80s, and 12 were aged over 90. The number of deaths attributed to COVID-19 in the past week increased by 49: 42 whose underlying cause of death was COVID-19, and 7 where COVID was a contributory factor.

The ministry said the change in total deaths with COVID may not be equal to the number of new deaths reported, because deaths which occurred more than 28 days after a positive test subsequently determined to be unrelated to COVID are removed from the total. To date, 2942 deaths have been attributed to COVID-19 since the pandemic began.

Of the 14 371 new cases reported in the past week, 6680 (46%) were reinfections. Of these, 183 were in people who had reported

a previous COVID-19 infection in the past 90 days.

Canterbury saw the highest number of new reported cases in the past week: 2290. This was followed by 1696 in Waitematā (north and west Auckland), 1363 in Waikato, and 1296 in Counties Manukau (south and east Auckland).

[byline: Hannah Martin]

--
communicated by:
ProMED

[C] Solomon Islands: restrictions lifted ahead of Pacific Games
Date: Mon 29 May 2023
Source: The National [edited]
https://www.thenational.com.pg/si-relaxes-covid-19-restrictions/

The Solomon Islands, due to host the Pacific Games in November [2023], has lifted all coronavirus (COVID-19) entry requirements. Those arriving will no longer need to provide proof of COVID-19 vaccination or tests. Tourism Solomons chief executive Dagnal Dereveke reiterated the announcement made by the Solomon Islands Ministry of Health and Medical Service. "The decision to drop COVID-19 related entry requirements showcases the Solomon Islands as a welcoming and traveller-friendly destination," he said. "It demonstrates our commitment to facilitating tourism and highlights our confidence in having managed the COVID-19 situation effectively."

However, he added that the country would not let its guard down. Travellers entering the country will still be required to fill in a health declaration form which will be made available to them upon entering the country. Dereveke added that the announcement would be highly significant for the hosting of the Pacific Games in November [2023]. Athletes, support staff, and spectators from 24 countries are expected to attend. "Our main aim now is to continue to train our local tourism industry workforce to ensure they deliver a safe, healthy environment, and experiences for our visitors," Dereveke added. "This involves introducing health and safety guidelines promoting hygiene facilities, maintaining cleanliness, monitoring activities, and educating our people."

--
communicated by:
ProMED

[D] Kazakhstan: all restrictions cancelled
Date: Sun 28 May 2023 10:51 PM IST
Source: United News of India (UNI) [edited]
http://www.uniindia.com/~/kazakhstan-officially-lifts-covid-restrictions/World/news/2980758.html

Kazakhstan has officially lifted restrictive measures as the COVID-19 pandemic has been declared over by the World Health Organization (WHO), the Kazakh Ministry of Healthcare said on Sunday [28 May 2023]. "Due to the announcement by the World Health Organization of the end of the COVID-19 pandemic, stabilization of the epidemiological situation of coronavirus infection in Kazakhstan and in the world, the resolutions of the chief state sanitary doctor of the Republic of Kazakhstan providing for restrictive measures to combat the coronavirus infection among the population, in educational institutions, as well as the Ashyq project [to identify the COVID-19 status of passengers] were canceled," the ministry said.

While the coronavirus has not disappeared, it mostly causes mild versions of COVID-19 now and, therefore, will be monitored regularly to the same extent as other viral diseases, the ministry added.

On 5 May 2023, WHO director-general Tedros Adhanom Ghebreyesus officially declared an end to the COVID-19 pandemic, but emphasized that the novel coronavirus still poses a threat. The COVID-19 pandemic was declared in March 2020.

--
communicated by:
ProMED

[The Solomon Islands and Kazakhstan joined many countries in the world in dropping COVID-19 restrictions after WHO declared that the COVID-19 pandemic is no longer a Public Health Emergency of International Concern (PHEIC). However, many countries still recommend the use of face coverings as a means to reduce the spread of COVID-19 and other respiratory diseases (https://covid19.ca.gov/masks-and-ppe/). - Mod.LWW]

[E] USA: outbreak at CDC conference, 181 infected
Date: Fri 26 May 2023 1:00 PM EDT
Source: The Washington Post [edited]
https://www.washingtonpost.com/health/2023/05/26/cdc-covid-outbreak/

The tally of people infected with the coronavirus after attending a high-profile Centers for Disease Control and Prevention conference in April [2023] has risen to at least 181, the agency reported Friday [26 May 2023]. No one was hospitalized.

The CDC's Epidemic Intelligence Service officers and alumni -- the disease detectives deployed to identify and fight outbreaks -- met 24-27 Apr 2023 at an Atlanta hotel. The conference drew 1800 in-person attendees, the 1st in-person Epidemic Intelligence Service gathering in 4 years. Like many conferences, it was crowded, with much face-to-face contact, many events held in small rooms, and lots of socializing, according to attendees. About 70 per cent of participants who responded to a CDC survey said they did not wear masks at the event.

The outbreak of COVID-19 cases at the conference underscores the persistence of an evolving and highly infectious virus.

Another CDC global health meeting is scheduled for the same hotel in early June [2023]; about 300 to 400 people are expected to attend in person, said one CDC employee who spoke on the condition of anonymity because they were not authorized to speak.

In a "Know Before You Go" document shared with The Washington Post, CDC organizers encourage attendees at the June conference to wear their "own high-quality masks and, if possible, also carry COVID-19 rapid tests with them." Organizers of the 2nd conference were informed about the COVID outbreak at the earlier event, CDC spokeswoman Kristen Nordlund said. The agency will have masks available if employees want to wear one, she said.

With in-person conferences and summer travel under way, infectious disease experts say the CDC event is a reminder that the coronavirus is not going away. "This outbreak dramatically illustrates that if the circumstances are right, this virus can really spread to a lot of people," said William Schaffner, an infectious-disease doctor at the Vanderbilt University School of Medicine. One of his colleagues attended the April CDC conference, and even though the person had a mild illness, like many others at the event, "these were people who were quite discomforted for several days," Schaffner said.

COVID-19 hospitalizations and deaths have fallen dramatically because of immunity conferred by vaccines and prior infections, public health experts have said. Tracking viral circulation or cases has become problematic because many Americans are testing at home, or not all. The end of the public health emergency on 11 May 2023 also meant cases and positive test results stopped being reported to CDC.

The virus can cause significant illness, primarily in unvaccinated people, older adults, people with underlying health conditions,

and those with weakened immune systems. Among the 181 who were sickened at the CDC conference, the median age was 38, nearly all were younger than 65 and 2/3 were women, Nordlund said. No severe illnesses were reported.

Jeffrey Duchin, health officer for Seattle and surrounding King County, said 4 members of his team attended the conference. 2 wore high-quality masks reliably, he wrote in an email. Of the 2 who did not, one was sickened by the virus. "In my view, [Epidemic Intelligence Service] and other conference organizers should take reasonable steps to decrease the risk to participants by optimizing venue indoor air quality ... opting for outdoor venues when possible, minimizing crowding, and providing N95 and KN95 masks for those who want to reduce their risk," Duchin said. "At a minimum, I think it would be useful for conference organizers to inform participants of what steps are being taken to reduce the risk for COVID-19 transmission, so that participants can make informed risk assessments about any additional steps they may want to take, like masking."

At a large travel industry conference that drew nearly 5000 attendees in San Antonio this week, delegates were told they could choose to wear a face mask. "Please respect the decision of attendees who choose to be masked," said health and safety guidance that was provided. Greg Staley, senior vice president for communications at the US Travel Association, the conference organizer, said no cases of COVID-19 have been reported.

To unravel the cluster of cases tied to the April CDC conference, the agency conducted a 5-12 May 2023 survey of in-person attendees, with more than 80 per cent responding. Of those who reported testing positive, 52 per cent said they had no known prior coronavirus infection. More than 99 per cent of respondents had at least one dose of a coronavirus vaccine. About 1/4 of those who tested positive received antiviral medication. The risk of infection was 70 percent greater among those who attended 3 or more days compared with those attending 2 or fewer days, an agency statement said. The CDC statement said the findings support data that coronavirus vaccines, antiviral treatments, and immunity from previous infection continue to provide people with protection against serious illness. It did not reference masking.

[byline: Lena H Sun]

--
communicated by:
ProMED

[An updated media statement from the US CDC on Fri 26 May 2023 reported the findings of its rapid assessment team, which surveyed in-person attendees to the conference about their COVID-19 test results and healthcare-seeking behavior.
https://www.cdc.gov/media/releases/2023/s0526-eis.html

"Among 1443 survey respondents (over 80% of the in-person attendees):
- 181 (13%) respondents reported testing positive for SARS-CoV-2
- Of those who reported testing positive, 52% reported no known prior COVID-19 infection
- 1435 (99.4%) of respondents reported at least one COVID-19 vaccine dose
- 49 (27%) of the respondents who tested positive received antiviral medications
- 70% of respondents reported not wearing a mask; the event coincided with a period of low COVID-19 Community Levels, where masking is not recommended in CDC guidance
- None were hospitalized." - Mod.LWW]

******
[2] USA: Paxlovid gains full approval
Date: Thu 25 May 2023 6:58 PM GMT +2
Source: Reuters [edited]
https://www.reuters.com/business/healthcare-pharmaceuticals/us-fda-approves-pfizers-covid-antiviral-pill-2023-05-25/

The US Food and Drug Administration on Thursday [25 May 2023] granted full approval to Pfizer's (PFE.N) oral antiviral COVID-19 treatment Paxlovid, clearing the way for the drugmaker to sell it at market rates once US government supplies dwindle. Paxlovid

initially received emergency use authorization from the FDA in late 2021, when there was a desperate need for effective COVID treatments. The agency on Thursday approved the 2-drug therapy to treat adults at high risk of progression to severe disease.

Paxlovid, taken for 5 days beginning shortly after onset of symptoms, was one of the few treatments launched by drugmakers during the pandemic to show a significant reduction in hospitalizations and deaths from COVID, although the benefit was mostly observed in unvaccinated and other higher-risk people.

US officials have said they plan to work through much of the Paxlovid inventory purchased from Pfizer, which is available for free at pharmacies around the country, before moving to a normal commercial market. As of 21 May 2023, around 14 million treatment courses had been distributed of which over 9 million had been administered, according to federal data.

A Pfizer spokesperson said the company does not plan to provide a new price for Paxlovid. The US drugmaker said in a statement that at this time, the government will continue to oversee distribution and eligible residents will continue to receive it at no charge. Full approval allows Pfizer to expand its Paxlovid marketing campaign. Pfizer has sold the US government nearly 24 million courses of Paxlovid at around USD 530 a course.

The Institute for Clinical and Economic Review (ICER), an influential drug pricing research group, said in December the US price for Paxlovid - based on the benefits and value to patients - should be in the range of $563 to $906 per treatment course. Pfizer received a once-in-a-lifetime cash windfall from sales of its COVID vaccine and treatment. It sold around USD 18.9 billion of Paxlovid last year [2022] and has forecast sales of about USD 8 billion for 2023.

The full approval comes 2 weeks after the US ended the public health emergency status for COVID-19, which has caused about 1.1 million deaths nationwide, according to government estimates. Data presented by both the FDA and Pfizer during an advisory meeting of outside experts helped ease safety concerns around a potential rebound in COVID symptoms after a 5-day Paxlovid course. The concerns emerged after numerous reports about a return of symptoms following treatment with Paxlovid, including in high-profile patients such as president Joe Biden and Dr Anthony Fauci.

--
communicated by:
ProMED

******
[3] COVID-19 vaccines may undergo major overhaul this fall
Date: Tue 23 May 2023 3:45 PM
Source: Science [edited]
https://www.science.org/content/article/covid-19-vaccines-may-undergo-major-overhaul-fall

Earlier this year [2023], US regulators settled on a new strategy for COVID-19 vaccines. Like the annual flu shot, the vaccines will be updated each year based on the virus' evolution, then rolled out in the fall. Accordingly, on 15 Jun 2023, advisers to the US Food and Drug Administration will weigh which strain or strains of SARS-CoV-2 should make up the next iteration of vaccine, so that the agency can greenlight a version for companies to mass-produce.

Regulators may well jettison the original SARS-CoV-2 strain that emerged in China and is long extinct -- but which people are still being vaccinated against today. Many scientists favor eliminating it. The ancestral strain "should go out of the formulation," says William Messer, an infectious disease specialist and viral immunologist at Oregon Health & Science University. Last week [week of 15 May 2023], the World Health Organization (WHO) agreed. But other questions loom, including whether to bundle multiple virus strains into the vaccine or just one.

To date, COVID-19 vaccines have been modified only once, when a bivalent version based on both the original strain and the BA.5 omicron variant was introduced in September 2022. Uptake was disappointing: Only 17% of people in the United States have rolled up their sleeves. (By comparison, about 50% get an annual flu shot.) Furthermore, many researchers say the bivalent

vaccine packed less of a punch than it could have. The decision to preserve the ancestral strain sprang from worries that if an entirely new variant emerged, an omicron-only vaccine might falter against it.

This hedging proved unwarranted: All major new variants have flowed from omicron, which was first detected in South Africa in November 2021. And evidence increasingly shows that a vaccine split between a current strain and one that's extinct makes it harder for people to mount a strong immune response to the virus.

On 4 May 2023, for example, David Ho, a virologist at Columbia University, and his colleagues posted a preprint study of 72 people, including some who had received 4 doses of the original vaccine and others who'd gotten 3 doses and a bivalent booster (https://www.biorxiv.org/content/10.1101/2023.05.03.539268v1.full.pdf. Those who got the booster didn't produce antibodies that were notably better at neutralizing Omicron. The reason, Ho explains, is a phenomenon called immunological imprinting, in which repeatedly exposing the immune system to one strain -- in this case, the ancestral one--skews the immune response in that direction. When the decision was made to keep the ancestral strain in COVID-19 vaccines, Ho says, imprinting "was probably not a dominant consideration, but it is now."

Florian Krammer, a virologist at the Icahn School of Medicine at Mount Sinai, agrees. He and his colleagues published a study this month in The Lancet Microbe in which they studied blood from 16 people 1 month before and about 2 weeks after they got a bivalent booster (https://www.thelancet.com/journals/lanmic/article/PIIS2666-5247(23)00118-0/fulltext). After the booster, antibodies in the blood did a slightly better job of neutralizing the ancestral strain than BA.5. Krammer says his team also couldn't find "specific" antibodies solely reactive to BA.5, which could be especially protective if they're plentiful.

Last week [week of 15 May 2023], a WHO advisory group said in a statement that although current COVID-19 vaccines guard against severe disease, "protection against symptomatic disease is limited and less durable." In place of a bivalent shot, the group recommended a single-strain fall vaccine based on the XBB.1 lineage now dominating across continents, although it left the door open to other effective vaccine recipes (https://www.who.int/news/item/18-05-2023-statement-on-the-antigen-composition-of-covid-19-vaccines).

Whether a single-strain XBB.1 vaccine is the best bet or whether multiple omicron strains should be included is a point of debate. In the past few months, 2 closely related XBB substrains, XBB.1.5 and XBB.1.16, have crowded out other omicron variants. "We're basically trying to guess what the next generation of variants will be, descending from which lineage," Ho says.

"From what we know now, matching the vaccine to whatever circulating variants you're trying to protect against probably does best," says Angela Branche, an infectious disease specialist at the University of Rochester. She co-leads a study called COVAIL that is examining immune responses spurred by different boosters. It has found that monovalent vaccines against omicron perform somewhat better than those that include the ancestral strain (https://www.medrxiv.org/content/10.1101/2022.07.12.22277336v1).

An important question is whether vaccines better matched to current strains could reduce not just severe illness, but also transmission -- something current vaccines appear to do poorly. An April [2023] study in The New England Journal of Medicine showed that after BA.5 faded and other omicron strains surged, the bivalent vaccine's ability to prevent transmission peaked at about 30% 2 weeks after someone got the shot and fell to 0% at 16 weeks (https://www.nejm.org/doi/full/10.1056/NEJMc2302462). "It is not an unreasonable supposition" that a closer match could perform a bit better, though the effect is still unlikely to persist, Messer says.

Some researchers also think the updated vaccines should not be limited to the messenger RNA formulations made by Pfizer and Moderna. Novavax makes a protein subunit vaccine, the technology used in hepatitis B and human papillomavirus vaccines. "It would be good to have protein vaccines for the fall," as those may give more durable protection, Branche says. But it's unclear whether the company would be able to mass-produce a new vaccine in time.

Robert Frenck, who directs the Vaccine Research Center at Cincinnati Children's Hospital and helped conduct trials of Pfizer's COVID-19 vaccine, points out that most vaccines for other infectious diseases "use one methodology," without causing concern. The strategy against COVID-19 need not be any different, he says.

Messer hopes regulators and companies will stay flexible as COVID-19 knowledge continues to grow -- and urges targeting the new vaccines to people at highest risk. In the fall, "vaccine fatigue, COVID fatigue, is still going to persist," he says, and "triaging your efforts to get good vaccine uptake" will be vital.

[byline: Jennifer Couzin-Frankel]

--
communicated by:
ProMED

******
[4] Spain (Catalonia): air pollution exposure linked to severe COVID-19 outcomes
Date: Thu 25 May 2023
Source: CIDRAP (Center for Infectious Disease Research and Policy) News [edited]
https://www.cidrap.umn.edu/covid-19/air-pollution-exposure-linked-severe-covid-19-outcomes

Air pollution exposure is associated with a higher risk of experiencing severe outcomes from COVID-19 infections, including intensive care unit (ICU) admissions and death, according to new evidence in Nature Communications from the Barcelona Institute for Global Health (ISGlobal) [see citation below].

While the negative effects of long-term exposure to ambient air pollution on chronic respiratory diseases have long been supported by scientific research, there is less evidence surrounding air pollution exposure and outcomes from reparatory infections.

The study is based on outcomes seen among 4 660 502 adults resident in Catalonia, Spain, in 2020. Researchers matched participants' residential addresses with markers for air pollution, including the mean annual levels of fine particulate matter, nitrogen dioxide, black carbon, and ozone.

Among residents with severe COVID-19, researchers collected data on hospital and ICU admissions, length of hospital stay, and COVID-19-related deaths. The authors found that particulate matter, nitrous oxide, and black carbon exposures were linked to severe outcomes.

Nitrogen dioxide exposure raises risk of hospitalization

In 2020, Catalonia saw 340 608 COVID-19 cases, among which there were 47 174 COVID-19-related hospitalizations (14%), 4,699 ICU admissions (1.4%), and 10 001 COVID-19-related deaths (3.0%). The median hospital stay was 7 days.

Overall, higher annual average exposure to particle matter and nitrogen dioxide was associated with a greater risk (hazard) of COVID-19-related events. An increase in exposure to particle matter of 3.2 µg/m3 was associated with a 25% increase in hospital admissions (hazard ratio [HR] 1.25, 95% confidence interval [CI] 1.22 to 1.29). Exposure was also associated with an increased risk of ICU admission (HR 1.16; CI 1.09 to 1.24), and death (HR 1.13; CI 1.07 to 1.19).

An increase in exposure to nitrogen dioxide of 16.1 µg/m3 was associated with a 42% increase in ICU admissions, with significantly increased risk for death and hospitalizations.

The authors said their findings were similar to findings seen among COVID-19 cases in Ontario and Los Angeles.

"Our findings add further compelling evidence on the importance of reducing levels of air pollution to improve the health of the population in general and, in particular, to reduce the incidence of severe acute respiratory infections," concludes Otavio Ranzani, ISGlobal researcher and first author of the study in an ISGlobal press release.

Pollution could prime lungs for infection

Several hypotheses could explain the connection between air pollution exposure and severe COVID-19. Air pollution has been linked to chronic health conditions that worsen COVID-19 outcomes, including high blood pressure.

A more explicit connection could be that exposure to air pollution primes the lungs for COVID-19 infection, by increasing the expression of the receptors the SARS-CoV-2 virus binds to. Air pollution has also been linked to the lowering of immune defenses, including a decrease in the type 2 interferon response to SARS-CoV-2 and the antibody response.

The authors explain that they evaluated the effect of air pollution on COVID-19 outcomes during the 1st year of the pandemic, before the availability of vaccines, and before COVID-19 variants altered the pandemic. Further research is needed to define the relationship between pollution exposure and COVID severity in both vaccinated and unvaccinated people.

[byline: Stephanie Soucheray]

--
communicated by
Mary Marshall
<mjm2020@googlemail.com>

[ref: Ranzani O, Alari A, Olmos S, et al. Long-term exposure to air pollution and severe COVID-19 in Catalonia: a population-based cohort study. Nat Commun. 2023; 14(1): 2916; https://doi.org/10.1038/s41467-023-38469-7

Abstract

"The association between long-term exposure to ambient air pollutants and severe COVID-19 is uncertain. We followed 4 660 502 adults from the general population in 2020 in Catalonia, Spain. Cox proportional models were fit to evaluate the association between annual averages of PM2.5, NO2, BC, and O3 at each participant's residential address and severe COVID-19. Higher exposure to PM2.5, NO2, and BC was associated with an increased risk of COVID-19 hospitalization, ICU admission, death, and hospital length of stay. An increase of 3.2 µg/m3 of PM2.5 was associated with a 19% (95% CI, 16-21) increase in hospitalizations. An increase of 16.1 µg/m3 of NO2 was associated with a 42% (95% CI, 30-55) increase in ICU admissions. An increase of 0.7 µg/m3 of BC was associated with a 6% (95% CI, 0-13) increase in deaths. O3 was positively associated with severe outcomes when adjusted by NO2. Our study contributes robust evidence that long-term exposure to air pollutants is associated with severe COVID-19."]

******
[5] Study finds COVID-19 variants in cats followed the same timeline as the human population
Date: Mon 22 May 2023
Source: University of Glasgow [abridged, edited]
https://www.gla.ac.uk/news/headline_936425_en.html

Household cats acquired the same COVID-19 variants as their owners throughout the pandemic, according to new research.

The study, published in Emerging Infectious Diseases and led by the MRC-University of Glasgow Centre for Virus Research (CVR) [see citation below] -- where scientists first detected human-to-cat COVID-19 transmission in April 2021 -- found a retrospective association between the dominant SARS-CoV-2 variant observed in cats and the timeline of variant emergence in the human population.

The scientists -- looking at retrospective samples to assess the prevalence of SARS-CoV-2 in UK cats from April 2020 to February 2022 -- were able to detect cats that had been infected with the alpha and delta variants of concern, following the

emergence of these variants in the human population.

The research also found that patterns of immunity to different variants in cats reflect the human pandemic, indicating multiple ongoing human-to-cat transmission events. However, it is unknown whether individual SARS-CoV-2 variants are more or less likely to be transmitted from humans to cats, or whether infected cats are more or less likely to develop clinical signs.

Grace Tyson, a PhD student at the CVR and lead author of the study, said: "Our findings suggest that there [have] been continued human-to-cat transmissions of SARS-CoV-2. Therefore, it is important that we continue to monitor SARS-CoV-2 infections in pet cats that are in close contact with their COVID-19 positive owners, as it will be important to monitor changes in transmissibility of emerging variants in cats as well as humans."

Professor Margaret Hosie, also from the CVR, added: "We predicted that the low seroprevalence reported in cats early in the pandemic would increase as new, more transmissible variants emerged, and we are continuing to monitor cats for evidence of infection with currently circulating variants. Currently, our recommendation is that if cats are regularly going outside, then they should still be allowed outdoor access if their owners have COVID-19. This decreases the risk of the cats becoming infected from their owners. "Since human-to-cat transmission of SARS-CoV-2 occurs relatively frequently in COVID-19 positive households, the results of this study demonstrate the importance of monitoring coronavirus infections in pet cats that are in close contact with their positive owners, adopting a 'One Health' strategy."

The researchers studied residual blood samples from 2309 cats, submitted to the University of Glasgow Veterinary Diagnostic Services laboratory (VDS) between April 2020 and February 2022. The samples represented a cohort that was broadly representative of the UK domestic cat population, including samples from 112 of the 126 UK postcode areas.

Since the start of the pandemic, the World Organisation for Animal Health has reported that 31 different animal species had been infected with SARS-CoV-2 by 10 Mar 2023.

The study, 'Rising SARS-CoV-2 seroprevalence and patterns of cross-variant antibody 1 neutralization in 2 UK domestic cats,' is published in Emerging Infectious Diseases. The study was funded by the Biotechnology and Biological Sciences Research Council (BBSRC), part of UK Research and Innovation (UKRI).

--
communicated by:
ProMED

[ref: Tyson GB, Jones S, Logan N, et al. SARS-CoV-2 seroprevalence and cross-variant antibody neutralization in cats, United Kingdom. Emerg Infect Dis. 2023;29(6):1223-1227; https://wwwnc.cdc.gov/eid/article/29/6/22-1755_article]

******
[6] Immunovirological and environmental screening reveals actionable risk factors for fatal COVID-19 during post-vaccination nursing home outbreaks
Date: Mon 22 May 2023
Source: Nature Aging journal [edited]
https://doi.org/10.1038/s43587-023-00421-1

ref: Cuypers L, Keyaerts E, Hong SL, et alImmunovirological and environmental screening reveals actionable risk factors for fatal COVID-19 during post-vaccination nursing home outbreaks. Nat Aging. 2023

Abstract

Coronavirus disease 2019 (COVID-19) vaccination has resulted in excellent protection against fatal disease, including in older adults. However, risk factors for post-vaccination fatal COVID-19 are largely unknown. We comprehensively studied 3 large

nursing home outbreaks (20-35% fatal cases among residents) by combining severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) aerosol monitoring, whole-genome phylogenetic analysis and immunovirological profiling of nasal mucosa by digital nCounter transcriptomics. Phylogenetic investigations indicated that each outbreak stemmed from a single introduction event, although with different variants (delta, gamma, and mu). SARS-CoV-2 was detected in aerosol samples up to 52 days after the initial infection. Combining demographic, immune, and viral parameters, the best predictive models for mortality comprised IFNB1 or age, viral ORF7a, and ACE2 receptor transcripts. Comparison with published pre-vaccine fatal COVID-19 transcriptomic and genomic signatures uncovered a unique IRF3 low/IRF7 high immune signature in post-vaccine fatal COVID-19 outbreaks. A multi-layered strategy, including environmental sampling, immunomonitoring, and early antiviral therapy, should be considered to prevent post-vaccination COVID-19 mortality in nursing homes.

--
communicated by:
ProMED

******
[7] Study suggests definition of long COVID
Date: Thu 25 May 2023 11:00 AM EDT
Source: The Washington Post [edited]
https://www.washingtonpost.com/wellness/2023/05/25/long-covid-symptoms-recover-study/

More than 200 lingering symptoms have been reported in patients who suffer ongoing health problems after a covid infection. Now a new study has identified 12 key symptoms that best define the debilitating condition known as long COVID.

The findings, published Thursday in JAMA [ref below], are based on 9764 participants in a study called the RECOVER initiative, which stands for researching covid to enhance recovery, a 4-year, USD 1.15 billion study of long COVID funded by the National Institutes of Health.

The research is expected to help standardize the definition of long COVID and have a significant impact on how the condition is diagnosed and studied, said Leora Horwitz, a physician and co-principal investigator for the RECOVER Clinical Science Core at NYU Langone Health. "If you look up simple questions like 'how many people get long COVID,' the answers are all over the place because people define it differently," Horwitz said. "To really advance the science, we need a common language."

In addition to identifying the key symptoms of long COVID, the study used a point scoring system based on how likely the symptom was a true signal of long COVID versus another condition. For instance, when researchers analyzed patients' self-reported symptoms, they found that some symptoms were commoner in people who had been infected with COVID, but were less common in people who never had COVID. These included loss of taste or smell or post-exertional malaise, which is a worsening of symptoms following even minor physical or mental exertion. Other symptoms, such as brain fog or chest palpitations, were found to be common in long-COVID patients but were also common in other conditions, so those symptoms received fewer points.

To meet the study's definition of long COVID, a participant needed to score a total of 12 points once all their symptoms were added up. The 12 key symptoms and their corresponding scores are:
- Loss of smell or taste: 8 points.
- Post-exertional malaise: 7 points.
- Chronic cough: 4 points.
- Brain fog: 3 points.
- Thirst: 3 points.
- Heart palpitations: 2 points.
- Chest pain: 2 points.
- Fatigue: 1 point.
- Dizziness: 1 point.

- Gastrointestinal symptoms: 1 point.
- Issues with sexual desire or capacity: 1 point.
- Abnormal movements (including tremors, slowed movements, rigidity, or sudden, unintended, and uncontrollable jerky movements): 1 point.

In general, the higher someone's score was, the worse their ability to carry out everyday activities, said Tanayott Thaweethai, study lead author and researcher at Massachusetts General Hospital and Harvard Medical School. Higher symptom scores also correlated with a lower quality of life, he said. "This offers a unifying framework for thinking about long COVID, and it gives us a quantitative score we can use to understand whether people get better or worse over time," he said.

--
communicated by:
ProMED

[ref: Thaweethai T, Jolley SE, Karlson EW, et al. Development of a definition of postacute sequelae of SARS-CoV-2 infection. The Journal of the American Medical Association (JAMA). Published online 25 May 2023; https://jamanetwork.com/journals/jama/fullarticle/2805540

Abstract

"Importance
SARS-CoV-2 infection is associated with persistent, relapsing, or new symptoms or other health effects occurring after acute infection, termed postacute sequelae of SARS-CoV-2 infection (PASC), also known as long COVID. Characterizing PASC requires analysis of prospectively and uniformly collected data from diverse uninfected and infected individuals.
"Objective
To develop a definition of PASC using self-reported symptoms and describe PASC frequencies across cohorts, vaccination status, and number of infections.
"Design, setting, and participants
Prospective observational cohort study of adults with and without SARS-CoV-2 infection at 85 enrolling sites (hospitals, health centers, community organizations) located in 33 states plus Washington, DC, and Puerto Rico. Participants who were enrolled in the RECOVER adult cohort before April 10, 2023, completed a symptom survey 6 months or more after acute symptom onset or test date. Selection included population-based, volunteer, and convenience sampling.
"Exposure
SARS-CoV-2 infection.
"Main outcomes and measures
PASC and 44 participant-reported symptoms (with severity thresholds).
"Results
A total of 9764 participants (89% SARS-CoV-2 infected; 71% female; 16% Hispanic/Latino; 15% non-Hispanic Black; median age, 47 years [interquartile range (IQR) 35-60]) met selection criteria. Adjusted odds ratios were 1.5 or greater (infected vs uninfected participants) for 37 symptoms. Symptoms contributing to PASC score included postexertional malaise, fatigue, brain fog, dizziness, gastrointestinal symptoms, palpitations, changes in sexual desire or capacity, loss of or change in smell or taste, thirst, chronic cough, chest pain, and abnormal movements. Among 2231 participants first infected on or after 1 Dec 2021 and enrolled within 30 days of infection, 224 (10% [95% CI, 8.8%-11%]) were PASC positive at 6 months.
"Conclusions and relevance
A definition of PASC was developed based on symptoms in a prospective cohort study. As a first step to providing a framework for other investigations, iterative refinement that further incorporates other clinical features is needed to support actionable definitions of PASC."

******

[8] WHO: weekly epidemiological update (25 May 2023)
Date: Thu 25 May 2023
Source: WHO [abridged, edited]

https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---25-may-2023

Overview

Globally, nearly 2.3 million new cases and nearly 15 000 deaths were reported in the last 28 days (24 Apr to 21 May 2023), a decrease of 21% and 17%, respectively, compared with the previous 28 days (27 Mar to 23 Apr 2023) (Figure 1, Table 1 --available at the source URL above). The situation is mixed at the regional level, with increases in reported cases seen in the WHO African and Western Pacific Regions and increases in deaths in the African, the Americas, South East Asia, and Western Pacific Regions. As of 21 May 2023, over 766 million confirmed cases and over 6.9 million deaths have been reported globally.

At the regional level, the number of newly reported 28-day cases decreased across 4 of the 6 WHO regions: the Eastern Mediterranean Region (-48%), the European Region (-45%), the Region of the Americas (-41%), and the South East Asia Region (-31%); while cases increased in two WHO regions: the African Region (+11%), and the Western Pacific Region (+38%). The number of newly reported 28-day deaths increased across 4 regions: the African Region (+6%), the Region of the Americas (+21%), the South East Asia Region (+61%), and the Western Pacific Region (+9%); while deaths decreased in 2 WHO regions: the Eastern Mediterranean Region (-63%), and the European Region (-44%).

At the country level, the highest numbers of new 28-day cases were reported from the Republic of Korea (462 726 new cases; +52%), the United States of America (256 909 new cases; -47%), Japan (164 367 new cases; -24%), Brazil (146 105 new cases; -28%), and Australia (125 992 new cases; +49%). The highest numbers of new 28-day deaths were reported from the United States of America (4135 new deaths; -31%), Brazil (1206 new deaths; -7%), France (810 new deaths; -1%), Spain (745 new deaths; +92%), and the Russian Federation (663 new deaths; -33%).

SARS-CoV-2 variants of interest and variants under monitoring
---
Globally, from 24 Apr to 21 May 2023 (28 days), 25 415 SARS-CoV-2 sequences were shared through GISAID. WHO is currently monitoring 2 variants of interest (VOIs), XBB.1.5 and XBB.1.16, along with 7 variants under monitoring (VUMs) and their descendent lineages: BA.2.75, CH.1.1, BQ.1, XBB, XBB.1.9.1, XBB.1.9.2, and XBB.2.3.

Globally, XBB.1.5 has been reported from 113 countries. In epidemiological week 18 (1 to 7 May 2023), XBB.1.5 accounted for 41.6% of sequences, a decrease from 50.4% in epidemiological week 14 (3 to 9 Apr 2023). XBB.1.16 has been reported from 58 countries. In week 18, XBB.1.16 accounted for 13.2% of sequences, an increase from 6.9% in week 14.

--
communicated by:
ProMED

*****
[9] Global update: Worldometer accessed 25 May 2023 22:11 GMT
Date: Thu 25 May 2023
Source: Worldometer [edited]
https://www.worldometers.info/coronavirus/#countries

Total number of reported cases: 689 235 761
Total number of reported deaths: 6 882 332
Number of newly confirmed cases in the past 7 days: 721 218
Number of newly reported deaths in the past 7 days: 6502

--
communicated by:

ProMED

[The 10 countries reporting more than 10 000 new cases in the week between 17 May 2023 and 25 May 2023 are USA (236 230), South Korea (146 402), Australia (38 658), Greece (33 873), UK (33 181), Brazil (25 691), France (19 852), Russia (17 118), Italy (14 343), New Zealand (14 151), Philippines (14 128), Brunei (11 075), and Viet Nam (10 992). Daily and weekly case numbers reflect the size of COVID-19 epidemics and testing/reporting requirements in each country or territory. These may vary based on national or local responses and anti-epidemic measures in place during the reporting period. - Mod.LWW]

See Also

COVID-19 update (19): countries, vaccine composition, XBB1.16, WHO, global 20230522.8710178
COVID-19 update (18): country/regional, vaccine policies, vaccination, WHO, global 20230516.8710088
COVID-19 update (17): WHO, USA, India, China, XBB.1.16, research, global 20230508.8709926
COVID-19 update (16): XBB.1.16, reinfections, microglia, sequelae, WHO, global 20230502.8709789
COVID-19 update (15): India, XBB.1.16, fetal brain damage, HCW, global 20230417.8709526
COVID-19 update (14): countries, vaccines, XBB.1.16, long COVID, WHO 20230407.8709377
COVID-19 update (13): India, surveillance, HCW, rats, infant hospitalizations, WHO, global 20230329.8709196
COVID-19 update (12): countries, variants, susceptibility, vaccines, WHO, global 20230321.8709066
COVID-19 update (11): country responses, complications, treatment, WHO, global 20230312.8708900
COVID-19 update (10): Hong Kong, XBB.1.5, Iran, UAE, bivalent vacc 20230308.8708776
COVID-19 update (09): XBB.1.5, vaccine, WHO 20230228.8708641
COVID-19 update (08): countries, immunity, vaccines, treatment, masks, WHO, global 20230219.8708482
COVID-19 update (07): countries, molnupiravir, vaccines, PACS, cockroach, WHO 20230212.8708331
COVID-19 update (06): China, demographics, symptoms, PACS, WHO 20230204.8708165
COVID-19 update (05): PHEIC continues, WHO 20230130.8708059
COVID-19 update (04): PHEIC, China, susp outbreaks, responses, vaccines, global 20230130.8708043
COVID-19 update (03): China, guidelines, vacc, immunity, sequelae, WHO 20230122.8707910
COVID-19 update (02): China, XBB.1.5, Hong Kong, mAb, pathogenesis, WHO, global 20230115.8707786
COVID-19 update (01): China, Hong Kong, XBB.1.5, PAHO, treatment, testing, WHO 20230107.8707667
2022

COVID-19 update (193): surge, travel restrictions, screening, treatment, WHO 20221230.8707528
COVID-19 update (191): omicron BF.7, bivalent vaccines, China, WHO, global 20221224.8707437
COVID-19 update (190): China, Australia, vaccines, sequelae, WHO, global 20221219.8707306
COVID-19 update (189): mortality, mAb, intranasal vacc, NPIs, sequelae, WHO, global 20221209.8707146
COVID-19 update (188): China, omicron BA.2.76, outdoor transmission 20221130.8706983
COVID-19 update (187): boosters, omicron BQ.1.1, Asia, Australia, WHO, global 20221129.8706920
COVID-19 update (185): chr. COVID, bladder, recovery, renal, deaths, WHO, global 20221111.8706665
COVID-19 update (184): vaccination response, disparity, WHO, global 20221104.8706549
COVID-19 update (183): cardiac events, exercise, US deaths, boosters, WHO, global 20221028.8706414
COVID-19 update (182): frontline workers, life expectancy, subvariants, WHO, global 20221021.8706286
COVID-19 update (181): Africa vacc hesitancy, pre-eclampsia, boosters, nasal vacc, WHO, global 20221014.8706143
COVID-19 update (180): long COVID, neuropsy. illness, Paxlovid, subvariants, WHO 20221007.8706007
COVID-19 update (170): case severity, boosters, physical activity, WHO, global 20220825.8705236
COVID-19 update (160): vaccine rollout disparities, smell & taste, WHO, global 20220731.8704776
COVID-19 update (150): France, omicron 2nd gen variant, paxlovid, WHO, global 20220705.8704255
COVID-19 update (140): Thailand, human to cat to human transmission 20220612.8703819
COVID-19 update (130): surveill., cardiac eff., long COVID subtypes, WHO, global 20220601.8703606
COVID-19 update (120): N Korea, pandemic exit, youth vaccine, US deaths, WHO 20220518.8703327
COVID-19 update (110): mutations, mental health, China, S Africa, Paxlovid, WHO 20220505.8703018

COVID-19 update (100): vacc. intervals, deaths, long COVID, subvariants, global 20220420.8702717
COVID-19 update (90): strategy, 2nd booster, WHO 20220407.8702454
COVID-19 update (80): animal, USA, deer, transmission 20220325.8702212
COVID-19 update (70): case count, UK, BA.2, USA, WHO, global 20220312.8701940
COVID-19 update (60): animal, China, origin, research 20220227
COVID-19 update (50): Hong Kong, estrogen risk, maternal vaccine benefits, WHO 20220217.8701501
COVID-19 update (40): Denmark, rosemary, pregnancy, stroke, WHO 20220205.8701276
COVID-19 update (30): variants in immuno-comp., stability, endemic, WHO 20220126.8701074
COVID-19 update (20): Africa vacc., Taiwan, waning immunity, persistence, global 20220117.8700915
COVID-19 update (10): animal, omicron origin statement, OIE 20220110.8700763
COVID-19 update (01): omicron severity & changes, Germany, T-cell reactivity 20220101.8700616
and other items in the archives
.....sb/cs/lww/mj/sh