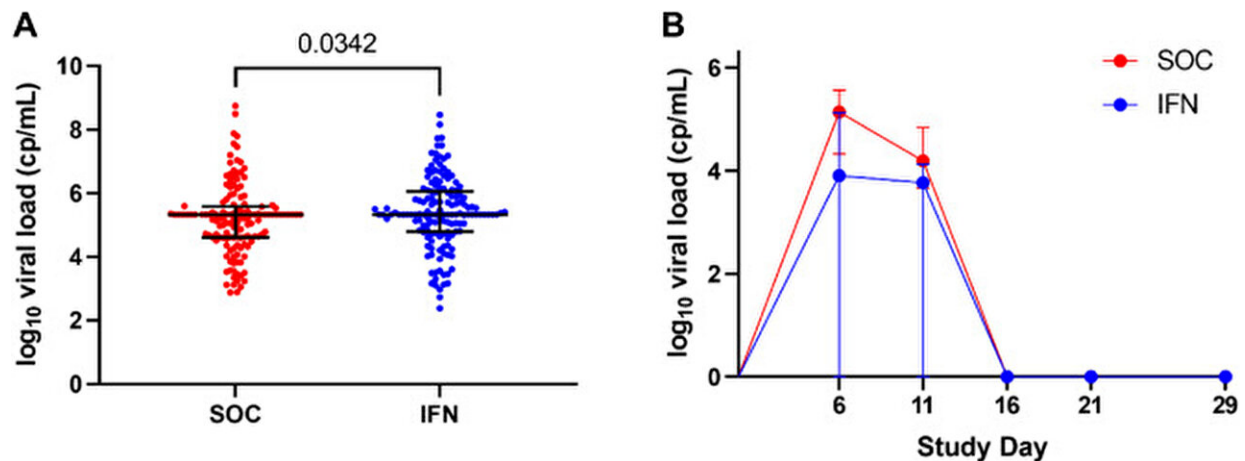


International trial shows that interferon could help reduce the spread of COVID-19

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Descriptive differences in the household contact population. (A) Baseline (study day 1) viral load of index cases in the standard of care (SOC) and IFN β -1a treatment (IFN) arms in the household contact (HC) (SOC: n = 142. IFN: n = 147) population, with data present as median (circle) with interquartile range (whiskers). (B) Viral load of household contacts who test positive for SARS-CoV-2 in the SOC and IFN treatment arms in the (SOC: n = 66, IFN: n = 64) with data presented as median (circle) and interquartile range at each study visit. Zero values represent data below the limit of quantification, reported as zero per the statistical analysis plan. cp/mL = copies/mL. Credit: *eClinicalMedicine* (2023). DOI: 10.1016/j.eclinm.2023.102082

Results of an innovative clinical trial led by Perth researchers have shown that the drug interferon could help reduce the spread of

COVID-19 from a positive person to their household contacts, with the study helping to inform treatment options for a future pandemic.

The trial—CONCORD-19—tracked 1,172 participants in 341 households in Santiago, Chile where there was a positive COVID-19 case between December 2020 and June 2021.

Researchers tested the effectiveness of treating the [infected people](#) and their uninfected household contacts with [interferon](#), with the aim of evaluating whether this drug reduces the severity of the disease and the spread of COVID-19 within families and communities.

Interferon is a naturally occurring protein that is known to boost the [immune system](#) and help the body fight infection, and it is commonly used to treat people with multiple sclerosis. In addition, interferons have been shown to be very safe and to have positive effects in clinical trials against other coronaviruses, including SARS and MERS.

Households were randomly assigned to receive treatment with either three doses of interferon-beta 1a via an injection—administered by a mobile health team member on days one, six and 11 of the isolation period—or the standard care for COVID-19.

Each household was closely tracked over a month to see whether interferon beta treatment can reduce the spread, severity and duration of COVID-19.

As published in *eClinicalMedicine* on 20 July 2023, the study, "Interferon β -1a ring prophylaxis to reduce household transmission of SARS-CoV-2: a cluster randomized clinical trial," showed that where the person infected with COVID-19 had a high viral load there was a reduction in spread of the virus to household contacts in the households who received interferon.

Interferon did not however reduce severity of infection in people infected with COVID-19.

Co-lead of the CONCORD-19 study Professor Stephen Stick, Director of the Wal-yan Respiratory Research Center, said there are currently no drugs to prevent COVID-19 transmission, but this study demonstrated it is possible with available drugs.

"The COVID-19 pandemic has claimed over six million lives. Despite the rapid development and deployment of vaccines in many countries, the number of new cases worldwide is around 500,000 daily.

"While widespread vaccination has had success in reducing the severity of the disease, and measures such as healthy hygiene, self-isolation when sick, physical distancing and use of face masks have all been effective, the solution to halting any pandemic is ending community transmission," Professor Stick said.

"While interferon is unlikely to be used for the COVID-19 pandemic, results from this study can help inform [treatment options](#) for a future pandemic, and observations should be considered when designing future [clinical trials](#) aimed at preventing the transmission of highly contagious viruses."

The international trial was led by the Wal-yan Respiratory Research Center—a partnership between the Telethon Kids Institute, Perth Children's Hospital Foundation and Perth Children's Hospital based in Western Australia. In Chile, it was led by the School of Medicine at Pontificia Universidad Católica de Chile.

CONCORD-19 was co-led by Dr. Castro-Rodríguez and Professor Stephen Stick, and with a multidisciplinary team of co-investigators including Dr. Arturo Borzutzky, RN Carolina Iturriaga; Dr. Cecilia

Perret and Dr. Diego García-Huidobro from Chile; Professor Tobias Kollmann, of Telethon Kids Institute; and Dr. Eleanor Fish from University Health Network and University of Toronto, Canada.

More information: José A. Castro-Rodriguez et al, Interferon β -1a ring prophylaxis to reduce household transmission of SARS-CoV-2: a cluster randomised clinical trial, *eClinicalMedicine* (2023). [DOI: 10.1016/j.eclinm.2023.102082](https://doi.org/10.1016/j.eclinm.2023.102082)

Provided by Telethon Kids Institute

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