



## 2019-nCoV Literature Situation Report (Lit Rep)

June 4, 2020

The scientific literature on COVID-19 is rapidly evolving and these articles were selected for review based on their relevance to Washington State decision making around COVID-19 response efforts. Included in these Lit Reps are some manuscripts that have been made available online as pre-prints but have not yet undergone peer review. Please be aware of this when reviewing articles included in the Lit Reps.

### Key Takeaways

- **A randomized trial of convalescent plasma to treat cases of “severe” and “life-threatening” COVID-19 in Wuhan, China found no significant difference in time to clinical improvement within 28 days. However, the study was stopped early and was insufficiently powered for the primary outcomes. Though non-significant, the findings showed promising trends for efficacy, particularly among those with “severe” as opposed to “life-threatening” disease.**
- **A case series reports clinical features of 20 children admitted to PICUs in Paris with shock, fever, and suspected SARS-CoV-2 infection and found that all of the children had features of acute myocarditis.**
- **Self-collected non-nasopharyngeal swabs had >90% sensitivity for the diagnosis of COVID-19 compared to nasopharynx swabs collected by a healthcare worker. Adoption of sampling by patients may reduce PPE use and provide a more comfortable patient experience.**
- **There has been little improvement in depression and anxiety levels since lockdown commenced in the UK, suggesting that greater efforts are needed to help individuals manage their mental health during the pandemic.**

### Transmission

- SARS-CoV-2 RNA was detected on disposable wooden chopsticks used by 5 consecutive asymptomatic and post-symptomatic patients. This demonstrates a potential that chopsticks or other dining utensils could be a vehicle for transmission. This has potential implications for communal meals, especially in communities with a custom of sharing dishes or utensils.  
*Lui et al. (June 3, 2020). SARS-CoV-2 RNA Detection on Disposable Wooden Chopsticks, Hong Kong. Emerging Infectious Diseases. <https://doi.org/10.3201/eid2609.202135>*

### Geographic Spread

- Kai-Wang et al. conducted a seroepidemiology investigation using enzyme immunoassay and microneutralization assay on stored samples from before and after the start of the COVID-19 pandemic. They conclude that SARS-CoV-2 was not circulating in the Hong Kong population before the COVID-19 pandemic and that there was no increase in the seroprevalence from 2018 up until the second month of the COVID-19 outbreak in Hong Kong.



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- Among Hong Kong returnees evacuated from Hubei province in March, 2020, the SARS-CoV-2 seropositivity was 4%, indicating a large number of cases of subclinical COVID-19 that were not detected during the epidemic period in Hubei.

*Kai-Wang et al. (June 3, 2020). Seroprevalence of SARS-CoV-2 in Hong Kong and in Residents Evacuated from Hubei Province, China: A Multicohort Study. The Lancet Microbe.*

[https://doi.org/10.1016/S2666-5247\(20\)30053-7](https://doi.org/10.1016/S2666-5247(20)30053-7)

## Testing and Treatment

- **Retraction:** Authors of an article previously published in the Lancet regarding treatment of COVID-19 with hydroxychloroquine or chloroquine retracted the article after Surgisphere declined to make the primary data available for an independent third party review.

*Mehra, Ruschitzka & Patel. (June 4, 2020). Retraction: "Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis". Lancet.*

[https://doi.org/10.1016/S0140-6736\(20\)31324-6](https://doi.org/10.1016/S0140-6736(20)31324-6)

- Li et al. conducted a multicenter randomized trial of convalescent plasma therapy among 103 participants with “severe” or “life-threatening” COVID-19 in Wuhan, China. The trial was stopped early, which resulted in insufficient power to fully evaluate the primary outcomes.
- Overall, there were no statistically significant differences in clinical improvement within 28 days between those who did and did not receive convalescent plasma. However, an accompanying [editorial](#) points to promising trends among those who received convalescent plasma. This is particularly true of the finding that among those with “severe” disease (as opposed to the more serious group with “life-threatening” disease) clinical improvement occurred within 28 days among 91.3% (21/23) of those who receive convalescent plasma compared to 68.2% (15/22) of those in the control group (p=0.03).

*Li et al. (June 3, 2020). Effect of Convalescent Plasma Therapy on Time to Clinical Improvement in Patients With Severe and Life-Threatening COVID-19: A Randomized Clinical Trial. JAMA.*

<https://doi.org/10.1001/jama.2020.10044>

- Tu et al. evaluated the sensitivity of non-nasopharyngeal swabs self-collected by patients, compared to nasopharynx swabs collected by a health care worker, for the diagnosis of COVID-19. The estimated sensitivities of the tongue, nasal, and mid-turbinate self-collected samples were 89.8% (97.5%CI 78.2-100.0), 94.0% (83.8-100.0), and 96.2% (87.0-100.0), respectively.

*Tu et al. (June 3, 2020). Swabs Collected by Patients or Health Care Workers for SARS-CoV-2 Testing. The New England Journal of Medicine. <https://doi.org/10.1056/NEJMc2016321>*

## Clinical Characteristics and Health Care Setting

- Benameur et al. present a case series of 3 patients with COVID-19 who developed encephalopathy and encephalitis. All 3 patients had increased cerebrospinal fluid (CSF) levels of anti-S1 IgM, IL-6, IL-8, and IL-10. No SARS-CoV-2 was identified in any CSF sample. These changes provide evidence of CSF peri-infectious/post-infectious inflammatory changes with neurologic complications.

*Benameur et al. (June 2, 2020). Encephalopathy and Encephalitis Associated with Cerebrospinal Fluid Cytokine Alterations and Coronavirus Disease, Atlanta, Georgia, USA, 2020. Emerging Infectious Diseases. <https://doi.org/10.3201/eid2609.202122>*

- Grimaud et al. report a case series of 20 children admitted to PICUs in Paris with shock, fever, and suspected SARS-CoV-2 infection. SARS-CoV-2 PCR and serology were positive for 10 and 15 children, respectively. All of the children had cardiac abnormalities consistent with acute myocarditis. All children had highly elevated C-reactive protein and procalcitonin. None of the patients had sufficient criteria for typical Kawasaki disease.

*Grimaud et al. (June 1, 2020). Acute Myocarditis and Multisystem Inflammatory Emerging Disease Following SARS-CoV-2 Infection in Critically Ill Children. Annals of Intensive Care. <https://doi.org/10.1186/s13613-020-00690-8>*

- A systematic review of 4 randomized trials involving 8,736 healthcare workers showed that, compared to surgical masks, wearing N95 respirators was associated with a lower risk of clinical respiratory infections (RR=0.43, 95%CI 0.29-0.64), corresponding to 73 (46-91) fewer infections per 1000 persons. No direct high-quality evidence was found on whether N95 respirators were better than surgical masks for protection from SARS-CoV-2.

*Iannone et al. (June 3, 2020). The Need of Health Policy Perspective to Protect Healthcare Workers during COVID-19 Pandemic. A GRADE Rapid Review on the N95 Respirators Effectiveness. PloS One. <https://doi.org/10.1371/journal.pone.0234025>*

- A case series of 50 children and adolescents hospitalized with COVID-19 in New York City showed that patients with severe disease had significantly higher C-reactive protein and procalcitonin levels at admission, as well as elevated peak IL-6, ferritin, and D-dimer levels during hospitalization. Infants and immunocompromised patients were not at increased risk of severe disease.

*Zachariah et al. (June 3, 2020). Epidemiology, Clinical Features, and Disease Severity in Patients With Coronavirus Disease 2019 (COVID-19) in a Children's Hospital in New York City, New York. JAMA Pediatrics. <https://doi.org/10.1001/jamapediatrics.2020.2430>*

## Mental Health and Personal Impact

- [pre-print, not peer reviewed] Fancourt et al. conducted a nationwide study exploring anxiety and depression over the first two months of lockdown in the UK. In total 24% of the population had moderate-severe anxiety (GAD-7 score  $\geq 10$ ), and 31% had moderate or severe depressive symptoms (PHQ-9 score  $\geq 10$ ) at first wave of data collection. There was a slight decrease in anxiety levels and depression levels between weeks 3-6 that then increased again in weeks 7-8.
- The sustained high levels of anxiety and depression during stay-at-home orders may indicate a need for a response to mental health challenges during the pandemic.

*Fancourt et al. (June 4, 2020). Trajectories of Depression and Anxiety during Enforced Isolation Due to COVID-19 Longitudinal Analyses of 59318 Adults in the UK with and without Diagnosed Mental Illness. Pre-print downloaded June 4 from <https://doi.org/10.1101/2020.06.03.20120923>*

## Public Health Policy and Practice

- Among 1,216 adults in the March 2020 Kaiser Family Foundation 'Coronavirus Poll', in contrast to white respondents, non-white respondents were more likely to have low knowledge scores related to COVID-19 (58% vs. 30%;  $p < 0.001$ ) and low attitude scores (52% vs. 27%;  $p < 0.001$ ). Non-white respondents were more likely to have high practice scores to reduce risk of COVID-19 (81% vs. 59%;  $p < 0.001$ ).

*Alobuia et al. (June 3, 2020). Racial Disparities in Knowledge, Attitudes and Practices Related to COVID-19 in the USA. Journal of Public Health. <https://doi.org/10.1093/pubmed/fdaa069>*

- Emergency department visits declined 42% during the early COVID-19 pandemic, from a mean of 2.1 million per week (March 31–April 27, 2019) to 1.2 million (March 29–April 25, 2020), with the steepest decreases in persons aged ≤14 years, females, and those in the Northeast. The proportion of infectious disease-related visits was four times higher during the early period. CDC recommends continued use of virtual visits and triage help lines and adherence to CDC infection control guidance. *Hartnett et al. (June 3, 2020). Impact of the COVID-19 Pandemic on Emergency Department Visits — United States, January 1, 2019–May 30, 2020. MMWR. Morbidity and Mortality Weekly Report.* <https://doi.org/10.15585/mmwr.mm6923e1>
- Strickland et al. found that states operating under centralized public health governance structures enacted social distancing 4 days after decentralized states and had a 73% reduced likelihood of enacting a social distancing policy (HR=0.27, 95%CI 0.08-0.86). Public health governance structures may affect the implementation of measures to control COVID-19. *Strickland et al. (June 1, 2020). Associations Between State Public Health Agency Structure and Pace and Extent of Implementation of Social Distancing Control Measures. Journal of Public Health Management and Practice.* <https://doi.org/10.1097/PHH.0000000000001215>

### Other Resources and Commentaries

- [SARS-CoV-2 serology: Test, test, test, but interpret with caution!](#) – Clinical medicine (London, England) (June 2)
- [A Randomized Trial of Convalescent Plasma for COVID-19-Potentially Hopeful Signals](#) – JAMA (June 3)
- [Effectiveness of N95 Respirator Decontamination and Reuse against SARS-CoV-2 Virus](#) – Emerging Infectious Diseases (June 3)
- [Coronavirus lockdowns have changed the way Earth moves](#) – Nature (March 31)
- [The Importance of Advancing SARS-CoV-2 Vaccines in Children](#) – Clinical Infectious Diseases (June 3)
- [Universal Masking in the Covid-19 Era](#) – NEJM (June 3)
- [The Faith Community and the SARS-CoV-2 Outbreak: Part of the Problem or Part of the Solution?](#) – Journal of Religion and Health (June 2)
- [Is the coronavirus airborne? Experts can't agree](#) – Nature (April 2)
- [Comorbid Chronic Diseases are Strongly Correlated with Disease Severity among COVID-19 Patients: A Systematic Review and Meta-Analysis](#) – Aging and Disease (May 13)
- [How sewage could reveal true scale of coronavirus outbreak](#) – Nature (April 3)
- [These methods from psychiatry can help you beat stress during the coronavirus pandemic](#) – Nature (June 2)
- [How to Obtain a Nasopharyngeal Swab Specimen](#) – NEJM (May 28)
- [A Review on SARS-CoV-2 Virology, Pathophysiology, Animal Models, and Anti-Viral Interventions](#) – Pathogens (Basel, Switzerland) (May 29)
- [Harnessing Our Humanity — How Washington's Health Care Workers Have Risen to the Pandemic Challenge](#) – NEJM (May 28)

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