The scientific literature on COVID-19 is rapidly evolving and these articles were selected for review based on their relevance to 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.

The COVID-19 Literature Report is researched, compiled, and edited daily by students and faculty in the University of Washington Schools of Public Health and Medicine. The editors are Brandon Guthrie PhD and Jennifer Ross MD MPH. Contributors include Diana Tordo MPH, Julianne Meisner BVM&S MS, Lorenzo Tolentino BS, Wenwen Jiang MPH, Sherrilynne Fuller PhD FACMI, Dylan Green MPH, Diana Louden MLib, Ashley Tseng MPH and Jessie Seiler MPH.

Today's summary is based on a review of 371 articles (361 published, 10 in preprint).

**KEY TAKEAWAYS**

- A cohort study of children admitted to hospitals in the UK with proven or highly-likely COVID-19 found that 11% of children met criteria for multisystem inflammatory syndrome, and that acute COVID-19 was associated with age < 1 month, age 10-14 years, and Black ethnicity. [More]

- In a case series of children in South Korea with SARS-CoV-2, 22% of children were asymptomatic and 66% of symptomatic children had symptoms that were unrecognized at the time of diagnosis, indicating that symptom screening would miss a large proportion of infected children. [More]

- An observational study found that treatment of inpatients with COVID-19 with famotidine, a histamine-2 blocker used to treat acid reflux and ulcers, was associated with a decreased risk of in-hospital mortality and a combined outcome of death or intubation. [More]

- An online survey of American and Canadian adults who were not health care workers found that more than one quarter of participants believed that health care workers should be avoided and/or be subject to isolation restrictions to prevent infection. [More]
• A systematic review of stool testing for SARS-CoV-2 (95 studies) showed that 934/2149 (43%) patients tested positive by stool sample or by anal swab, with positive results up to 70 days after symptom onset. Fecal samples of 282/443 (64%) remained positive even after respiratory samples became negative, for a mean of 12.5 days, and viable SARS-CoV-2 was found in 6/17 (35%) patients in whom this was specifically investigated.


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### Testing and Treatment

• A retrospective propensity-matched observational study (n=878) found that famotidine, a histamine-2 blocker used to treat acid reflux and ulcers, was associated with a decreased risk of in-hospital mortality (OR=0.4, 95% CI: 0.2-0.96) as well as combined outcome of death or intubation (OR=0.5, 95% CI: 0.2-0.96). While patients treated with famotidine were younger (63.5 +/- 15 vs 67.5 +/- 15.8), propensity score matching to adjust for age did not change the associations. Forty-eight of 83 (58%) patients in the famotidine group received corticosteroids versus 329/689 (48%) of patients in the non-famotidine group.


• Catteau et al. conducted a retrospective analysis of in-hospital mortality using Belgian national COVID-19 hospital surveillance data (n=8,075) and found that, after adjusting for clinical and demographic features, mortality was lower among patients who received low-dose hydroxychloroquine (2400 mg over 5 days) compared to supportive care alone (HR=0.7, 95%CI: 0.6-0.8).


• A prospective observational cohort study found that people with multiple sclerosis (MS) and those taking immunomodulatory disease-modifying therapies were not at elevated risk of COVID-19. Among people with MS, 237 of 3,910 (6%) participants reported self-diagnosed COVID-19, which was a similar risk to among their siblings without MS (OR: 1.2, 95%CI: 0.9-1.6). Participants taking disease-modifying therapies were less likely to have self-diagnosed COVID-19 (OR=0.64, 95% CI: 0.43-0.96).

Clinical Characteristics and Health Care Setting

- A prospective observational cohort study in the UK of children and young adults (n=651, median age=4.6, IQR 0.3-13.7) found that 52/456 (11%) participants met the WHO case definition for multisystem inflammatory syndrome in children and adolescents temporally related to COVID-19 (MIS-C). Children who met criteria for MIS-C were older than children who did not (median 10.7 years vs 1.6 years) and were more likely to be of non-white ethnicity (64% vs 42%). The most common symptom clusters among the whole cohort were a respiratory illness followed by a systemic mucocutaneous enteric illness cluster that included headache, muscle ache, sore throat, vomiting, abdominal pain, rash, swollen lymph nodes and conjunctivitis. In multivariable analysis, acute COVID-19 was associated with age <1 month (OR: 3.2, 95% CI 1.4-7.7), age 10-14 years (OR: 3.2, 95% CI: 1.6-7.0), and Black ethnicity (OR: 2.8, 1.4 to 5.6).

Swann et al. (Aug 27, 2020). Clinical Characteristics of Children and Young People Admitted to Hospital with Covid-19 in United Kingdom: Prospective Multicentre Observational Cohort Study. BMJ. https://doi.org/10.1136/bmj.m3249

- Han et al. report a case series of children (age <19 years; n=91) with SARS-CoV-2 across 20 hospitals and 2 isolation facilities across Korea (mid-February to March) and found that 22% of children were asymptomatic. Only 9% of symptomatic cases were diagnosed at the time of symptom onset, while among those with symptoms, 66% had unrecognized symptoms before diagnosis and 25% developed symptoms after diagnosis. SARS-CoV-2 RNA persisted in upper respiratory samples for a mean of 17.6 days among all children and 14.1 days among asymptomatic children. Among the symptomatic children, 65% had mild illness, 28% had moderate illness, and 3% had severe illness and received supplemental oxygen via nasal prongs. No children required mechanical ventilation.


- A retrospective cohort study of 1,419 patients with COVID-19 who were seen in emergency departments and discharged found that 66 (5%) returned to a hospital within 72 hours and were admitted. Those age > 60 years were more likely to experience a return hospital admission compared to those age 18-39 (aOR=4.6). Hypoxia (aOR=2.9), presentation with fever (aOR=2.4), and abnormal chest radiography (aOR=2.4) were also associated with return hospital admission.

In a quality improvement study of a radiation oncology department in New Jersey, 128 environmental swabs were obtained following WHO protocols over 6 days from May 1 to May 13 (peak daily rate for New Jersey), of which none were positive for SARS-CoV-2. The investigators suggest routine cleaning and disinfecting protocols appear to be adequate for limiting fomite transmission of SARS-CoV-2.


Mental Health and Personal Impact

An online survey of a random sample of adults from the US and Canada who were not healthcare workers (HCWs) (n=3,551) found that over a quarter of respondents believed that restrictions should placed on HCWs, such as being isolated from their communities and families, and over a third of respondents avoided HCWs for fear of infection. Demographic factors were not associated with HCW stigmatization, while variables related to COVID-19 Stress Syndrome had a stronger association.


OTHER RESOURCES AND COMMENTARIES

- Evaluation of SARS-CoV-2 Serology Assays Reveals a Range of Test Performance – Nature Biotechnology (Aug 27)
- Misconceptions about Weather and Seasonality Must Not Misguide COVID-19 Responses – Nature Communications (Aug 27)
- Symptomatic and Asymptomatic Viral Shedding in Pediatric Patients Infected with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2); Under the Surface – JAMA Pediatrics (Aug 28)
- Drug Interactions of Psychiatric and COVID-19 Medications – Basic and Clinical Neuroscience Journal (July 1)
- Fear, Loss, Social Isolation, and Incomplete Grief Due to COVID-19: A Recipe for a Psychiatric Pandemic – Basic and Clinical Neuroscience Journal (July 30)
- Unexpected Health Insurance Profits and the COVID-19 Crisis – JAMA Health Forum (Aug 27)
- African-Americans Have a Higher Propensity for Death from COVID-19: Rationale and Causation, – Journal of National Black Nurses’ Association (July 31)
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