

IDI COVID-19 Science Summary Compiled by Dr Andrew Mujugira (11th Oct to 17th Oct 2020)

11th October 2020

Two stones are not enough for a cooking pot ~ Ugandan proverb

COVID-19: Lessons Learned from Ebola and HIV

- 1) 'Prevention and therapeutic interventions must be based on sound science. "Know your epidemic" and target interventions accordingly'.
- 2) 'Involve affected communities in planning and implementation of research and care. Nonpharmacologic public health strategies, including social distancing and public masking, require community trust and buy-in'.
- 3) 'Multiple strategies are needed for preventing and treating COVID-19, including PrEP, PEP, and vaccines'.

N Engl J Med. 2020 Oct 7

12th October 2020

One thorn pulls out another ~ Ugandan proverb

Common Colds and Partial Immunity to SARS-CoV-2

'People with a history of the common cold may carry some immunity against SARS-CoV-2 infection. Memory B cells generated by human infection with common cold coronaviruses are cross-reactive with SARS-CoV-2 and produce antibodies in response to SARS-CoV-2 infection'.

'Infection with SARS-CoV-2 boosts production of memory B cells which are long-lasting components of immune protection'.

'SARS-CoV-2-reactive antibody levels wane after infection, but memory B-cell populations may rapidly produce highly effective anti-SARS-CoV-2 antibodies if re-infection occurs'.

mBio. 2020 Sep 25;11(5):e01991-20

13th October 2020

The lightning that kills doesn't thunder ~ Ugandan proverb

COVID-19 and mental health

The COVID-19 pandemic is having monumental effects on the mental health and wellbeing of populations worldwide.

A WHO survey of the impact of COVID-19 on mental, neurological, and substance use services in 130 WHO Member States revealed widespread disruption to MNS services worldwide. Healthcare workers are experiencing increased workload and trauma, making them susceptible to stress, burnout, depression, and post-traumatic stress disorder.

Pandemics take a toll on mental health. Communities affected by Ebola virus disease revealed widespread panic and anxiety, depression resulting from the sudden deaths of friends, relatives, and colleagues, and stigmatisation and social exclusion of survivors.

14th October 2020

A leopard doesn't visit a home with no goats ~ Ugandan proverb

SARS-CoV-2 reinfection

'A 25-year old male in the USA was infected with two distinct SARS-CoV-2 infections within a 48-day timeframe, while testing negative in between infections. The patient's second infection was more severe, resulting in hospitalization with oxygen support, indicating previous exposure to COVID-19 may not translate to guaranteed total immunity'. Unanswered questions include:

- 1) Do reinfections occur because of a scant antibody response after first infection?
- 2) Does immunity protect an individual from disease on reinfection?
- 3) What do reinfection cases mean for public health and vaccination endeavours to stop the COVID-19 pandemic?

The Lancet Infectious Diseases, 12th October 2020

15th October 2020

Lips get chapped learning to whistle ~ Ugandan proverb

SARS-CoV-2 Immunity

- 1) 'Humoral immunity to SARS-CoV-2: antibody responses are characterised by robust seroconversion (IgM and IgG) 7–14 days following symptom onset and antibody concentrations persisting for weeks to months after infection and viral clearance'.
- 2) 'Cellular immunity to SARS-CoV-2: both CD4+ T-cell and CD8+ T-cell responses occur in most patients infected by SARS-CoV-2 within 1–2 weeks after symptom onset and produce mainly Th1 cytokines'.
- 3) 'Vaccines against SARS-CoV-2: much remains to be learned regarding SARS-CoV-2 immunity, including the protective immunity induced by vaccines and the maintenance of immunity against this virus'.

The Lancet, 13th October 2020

16th October 2020

The viper assumes the colors of his surroundings ~ African proverb

Duration of SARS-CoV-2 Infectiousness

'Patients with mild to moderate COVID-19 are highly unlikely to be infectious after day 10 of symptom onset'.

'Evidence from a limited number of studies indicates that patients with severe or critical illness, and or those who are immunocompromised, may be infectious for a prolonged period, possibly ≥ 20 days'.

'SARS-CoV-2 RNA can be detected, sometimes for 2-3 months after onset of symptoms, along with cases of repeat SARS-CoV-2 RNA detection after a patient has clinically recovered. However, patients are unlikely to be infectious for the entire duration of viral RNA detection as the presence of viral RNA may not represent transmissible or replication-competent virus'.

J Infect. 2020 Oct 10;S0163-4453(20)30651-4

17th October 2020

We share the same sun but not the same homes ~ Kenyan proverb

Role of environmental factors in SARS-CoV-2 transmission

'Influenza viruses survive for longer on surfaces or in droplets in cold and dry air than in warmer, more humid environments, thus infecting more people in winter than in spring and summer'.

'Researchers who studied the early stages of the COVID-19 pandemic found that warmer weather in spring and summer did not slow transmission of SARS-CoV-2'.

'Weather alone did not explain variability in the spread of SARS-CoV-2, which continued in areas of China with tropical climates as well those that are cold and dry'.

Sci Rep. 2020 Oct 12;10(1):17002
