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**Discussion Activity**

Compare and contrast: Covid-19 / SARS CoV-2 with Monkeypox / Monkeypox virus

Include the following:

* Outbreak origin;
  + SARS-CoV-2: WUHAN CHINA
  + Monkeypox: DRC
* Transmission:
* SARS-CoV-2: airborne particles / droplets
* Monkeypox: Close or intimate contact with affected person
* Disease symptoms and severity:
  + SARS-CoV-2 Symptoms:
    - Fever or chills
    - Cough
    - Shortness of breath or difficulty breathing
    - Fatigue
    - Muscle or body aches
    - New loss of taste or smell
    - Sore throat
    - Congestion or runny nose
    - Nausea or vomiting
    - Diarrhea
    - Covid-19 can be very severe for some people. Possible severe effects include:
    - Shortness of breath, hypoxia, respiratory failure, septic shock, or multiorgan dysfunction. These effects typically occur in 5% of patients.
  + Monkeypox:
    - Rashes on skin
    - Fever
    - Chills
    - Swollen lymph nodes
    - Exhaustion
    - Muscle aches and backache
    - Headache
    - Respiratory symptom
* Organ(s) impacted:
  + SARS-Cov-2:
    - Eyes: Pink eye
    - Nose: loss of smell / taste
    - Heart: Weakened muscle, arrhythmia, heart attacks
    - LiveR: Damage, enhanced liver enzymes
    - Gut: Loss of appetite, nausea, vomiting, diarrhea, abdominal cramps
    - Toes: Red / purple rash or lesions
    - Hand / Feet: tingling, numbness, swelling, pain
    - Blood: Blots, deterioration of blood vessels
    - Lungs: Cough, shortness of breath, chest pain, inflamed alveoli, blood clots
    - Throat: sore
    - Brain: Headaches, swelling, stroke, confusion.
  + Monkeypox:
    - Skin: Rash and pustules / lesions.
    - Lymph nodes: Swelling
    - Eyes: Rash or infections in conjunctiva and cornea
    - Brain: Inflammation (encephalitis)
    - Blood: Risk of sepsis
    - Lungs: Infection / Pneumonia / Bronchopneumonia
* Who is most at risk:
  + SARS-CoV-2:
    - Older adults
    - Underlying medical conditions (heart disease, hypertension, diabetes, chronic respiratory diseases, cancer)
    - Compromised immune system from medical condition or treatment (chemotherapy)
    - Obesity (BMI > 40)
    - People with asthma
    - Pregnant people.
  + Monkeypox
    - Men who report intimate sexual contact with other men *(Monkeypox exclusive)*
    - People who have multiple sexual partners
    - Pregnant women, newborns, children
    - immunocompromised people, or people with multiple health conditions
* Reservoir - A Reservoir is the source (may be biotic or abiotic) which normally harbors disease-causing agents and can therefore serve as source(s) of disease outbreaks;
  + SARS-CoV-2:
    - Humans
    - Bats
    - Dogs - Up to 40% have antibodies to SARS-CoV-2
    - Could possibly infect other animals including:
    - Tigers, lions, domestic cats, dogs, gorillas, white-tailed deer (30% with antibodies), hamsters, farmed mink, otters, anteaters, manatees, hippopotamuses, etc.
  + Monkeypox
    - Squirrels, Gambian poached rats, dormice, monkeys, rope and sun squirrels, giant-pouched rats are believed to maintain virus in West and Central Africa.
    - Can also infect other species including : monkeys, anteaters, hedgehogs, prairie dogs, squirrels, shrews, and dogs

Virus structure

//TODO

The different between this two viruses are SARS-CoV-2 is an RNA virus, while monkeypox is a DNA virus.

Do you think Monkeypox is at risk of becoming a pandemic? Explain.

No. Unlike SARS-CoV-2 where the virus spreads through airborne particles and droplets, Monkeypox spreads via direct contact with the affected person. This reduces the chance of it being able to spread to another person. Also, a person with Monkeypox will have rashes on their skins, which will be noticeable to other people, whereas SARS-CoV-2 can be spread even when the affected person is asymptomatic.