

SARS

February 11, 2020

Source: *The Hindu*

Manifest pedagogy: Two coronaviruses, MERS-CoV and SARS-CoV, cause much more severe respiratory infections in humans than other coronaviruses. In 2012, the coronavirus MERS-CoV was identified as the cause of Middle East respiratory syndrome (MERS). In late 2002, SARS-CoV was identified as the cause of an outbreak of severe acute respiratory syndrome (SARS).

In news: China has reported cases of the mysterious SARS-like virus.

Placing it in syllabus: Health and diseases (explicitly mentioned)

Dimensions:

- SARS and other respiratory diseases
- Causes and magnitude of the problem
- Solutions

Content:

SARS and other respiratory diseases:

- **Severe acute respiratory syndrome** (SARS) is a **contagious and sometimes fatal respiratory illness** caused by a coronavirus.
- **SARS coronavirus** is thought to be an **animal virus** (animal reservoir perhaps being bats) that spread to other animals (civet cats).
- SARS **first appeared in 2002 in China.**
- It is extremely rare, like fewer than 5 thousand cases per year (India).
- For diagnosis, lab tests or imaging is always required.
- In general, SARS begins with a **high fever** (temperature

greater than 100.4°F).

- Other symptoms may include **headache, an overall feeling of discomfort, body aches and difficulty in breathing.**
- After 2 to 7 days, SARS patients may develop a dry cough with most patients developing pneumonia.

How does it spread?

- By airborne respiratory droplets (coughs or sneezes)
- By touching a contaminated surface (blanket or doorknob)
- By saliva (kissing or shared drinks)
- By skin-to-skin contact (handshakes or hugs)

MERS (Co-V):

- Middle East respiratory syndrome-related coronavirus (MERS-CoV), is a **single-stranded RNA virus of the genus Betacoronavirus.**
- Initially called novel coronavirus, it was first reported in 2012.
- As of July 2015, MERS-CoV cases have been reported in over 21 countries.
- MERS-CoV is one of several viruses identified by the WHO as a likely cause of a future epidemic.
- MERS-CoV is **distinct from SARS coronavirus and the common-cold coronavirus.**

Recent case and magnitude of problem:

- On December 31, 2019, **China** informed the World Health Organization (WHO) of a cluster of cases of pneumonia of an unknown cause in **Wuhan City in Hubei province.**
- On January 9, 2020, WHO issued a statement saying Chinese researchers have made “preliminary determination” of the virus as a novel coronavirus in a person with pneumonia.
- On January 11, China shared the whole genome sequence data with WHO and submitted them to the **Global Initiative on Sharing All Influenza Data (GISAID)**

platform to allow researchers across the world to access the data.

- Since then, five more genome sequences have been submitted to GISAID.
- Using the genomic test kit, China was able to accurately identify that only 41 of the 59 suspected cases have been infected.
- Based on preliminary epidemiological investigation, **most of the patients had come in close contact with animals** or frequently visited a wholesale seafood market (which authorities in Wuhan claim as the centre of the outbreak)
- According to the WHO, the fact that certain cases do not seem to be linked with the seafood market would mean that **there is a possibility of “limited human-to-human transmission”**.
- As of January 20, three people have died.
- There are **confirmed cases in South Korea and Japan**.
- Before this outbreak, six coronaviruses had been identified in humans.
- Four caused relatively mild cold-like symptoms while the other two, **SARS and Middle East Respiratory Syndrome (MERS) can be fatal**.

Solutions:

There is **no confirmed treatment** that works for every person who has SARS. Researchers are currently working on a vaccine for SARS, but there have been **no human trials for any potential vaccine**.

Supplemental oxygen or a ventilator may be prescribed if necessary. **In severe cases, blood plasma from someone who has already recovered from SARS may also be administered.**

Until then, people with SARS may receive mainly supportive therapy, with oxygen and fluids to help ease symptoms, and antibiotics to help prevent or treat secondary infections.

Antibiotics do not, however, kill the SARS virus.

Some of the precautions to be taken as per WHO direction are:

