Serial Interval and Covid-19

Why in News

According to a recent research paper **"Serial Interval of SARS-CoV-2 was Shortened Over Time by Non-pharmaceutical Interventions",** China was able to **contain Covid-19 due to its ability to manage the serial interval.**

> China has now gone **over a month without any locally transmitted Covid-19 cases.**

Key Points

- **Serial Interval:**
  - It is the **duration between symptom onset of a primary case and symptom onset of secondary cases** (contacts) generated by the primary case.
    > In simple terms, the serial interval is the gap between the onset of Covid-19 symptoms in Person A and Person B, who is infected by Person A.
  - **Origin:** The term was first used by **British physician William Pickles**, who had initially referred to it as **transmission interval** with reference to a **hepatitis epidemic** in the UK during 1942-45.
    > Later, another **British physician RE Hope Simpson used the term serial interval,** defining it as the interval between successive illness onsets.
  - The serial interval **depends on other epidemiological parameters** such as the incubation period and the reproduction rate or **R nought.**
    - The **incubation period** is the time between a person's exposure to the virus and symptom onset.
    - The **reproduction rate** is the number of people who will be infected by one infected person.

- **Contribution in Controlling Covid-19:**
  - The serial interval helps to **gauge the effectiveness of infection control interventions** besides **indicating rising population immunity** and **forecast future incidence.**
  - Thus, the **more quickly people** who contracted Covid-19 are **identified and isolated,** the **shorter the serial interval becomes** and cuts down opportunities for transmission of the virus.
  - To manage serial interval, a **robust system of contact tracing, quarantine, and isolation protocols** should be in place.
- **Examples of China and South Korea:**
  - The serial interval in **Wuhan (China) came down from 7.8 days to 2.6 days** between early January and early February. Quarantining contacts within 1 day from symptom onset helped reduce the transmission by 60%.
  - The serial interval in **South Korea was estimated to be 3.63 days.**
  - Both countries put a lot of emphasis on aggressive **contact tracing, quarantine,** and **isolation,** thereby ensuring that infected patients could not infect any more people later in the infection cycle.
  - Interventions such as **suspension of intra- and inter-city travel,** and different **forms of social distancing** widely implemented also kept the serial interval low.

Source: IE