Prelim Bits 05-09-2021& 06-09-2021 | UPSC Daily Current Affairs

Breakthrough Infections

Recently, there is a rise in 'breakthrough infections' or confirmed infections in those people who have got the 2nd dose of the vaccine.

- 'Breakthrough infections' occur in people who have been vaccinated, as the virus can penetrate the protective barrier of antibodies.
- If a person gets infected with the SARS-CoV-2 virus 14 days after the 2nd shot of the vaccine, it is called a 'breakthrough infection'.

  The 2-week window is the time it takes for the body to produce necessary antibodies following a shot of the vaccine.

- Mutations like Delta variant (B.1.617.2), Delta-Plus variants and Kappa variant (B.1.617.1) mostly help the virus escape detection by antibodies.
- Breakthrough infections are currently not translating into serious disease requiring hospitalisation.
- **Significance** - Number of breakthrough infections 'recorded' is low.
- Fully vaccinated healthcare workers, who due to prolonged exposure to many patients, are at greater risk of contracting breakthrough infections.
- None of the infections made the healthcare workers sick enough to warrant a test and so it could well be that the number of 'breakthrough infections' are much higher than those 'confirmed' by RT-PCR tests.
- The bigger concern is that those with a 'breakthrough infection' - under the belief that they are fully protected - may be less stringent with using masks and could be carriers of infection.

Efficacy Rates of Vaccines

- In clinical trials, all vaccines available have reported efficacy rates between 70% and 90%.
- This implies that between 10% and 30% of a vaccinated population will be vulnerable to infection.

Karbi Anglong Agreement

The Karbi Anglong Agreement ensuring Assam's territorial integrity was signed to end the decades old crisis.

- This Agreement will ensure greater devolution of autonomy to the Karbi Anglong Autonomous Council (KAAC).
- [KAAC is an autonomous district council in Assam for development and protection of tribals of Karbi Anglong and West Karbi Anglong district.]

- It proposed to notify Karbi as the official language of KAAC. But English, Hindi & Assamese will continue to be used for official purposes.
- A Special Development Package of Rs. 1000 crores over 5 years will be given by the Union Government and Assam Government to undertake specific projects for the focussed development of KAAC areas.
- The Agreement provides for rehabilitation of cadres of the Karbi armed groups, who have agreed to renounce violence and join the peaceful democratic process as established by law of the land.
- Assam Government shall set up a Karbi Welfare Council for focussed development of Karbi people living outside KAAC area.
- The Consolidated Fund of the State will be augmented to supplement the resources of KAAC.

Eklavya Model Residential School (EMRS)

- They were started by the Ministry of Tribal Affairs (MoTA) in 1997-98 to impart quality education to Scheduled Tribes (STs) children in remote areas.
- The schools focus not only on academic education but on the all-round development of the students.
- This will enable the children to avail of opportunities in high and professional educational courses and get employment in various sectors.
- Each school will cater to 480 students from Class VI to XII.
- National Education Society for Tribal Students (NESTS), an autonomous organization has been set up under the MoTA to establish and manage these Schools across the country.
- Eklavya schools will be on par with Navodaya Vidyalaya and will have special facilities for preserving local art and culture besides providing training in sports and skill development.
- **Funding** - Grants were given for construction of schools and recurring expenses to the State Governments under Grants under Article 275 (1) of the Constitution.
- **Target** - As per EMRS Guidelines of 2010, at least one EMRS is to be set up in each Integrated Tribal Development Agency (ITDA) / Integrated Tribal Development Project (ITDP) having 50% ST population.
- By 2022, every block with more than 50% ST population and at least 20,000 tribal persons will have an EMRS.

Eklavya Model Day Boarding Schools (EMDBS)

- These schools will be set up in the areas were density of ST population is higher in identified Sub-Districts (**90% or more**).
- EMDBS will be set up on an experimental basis for providing additional scope for ST Students seeking to avail school education **without residential facility**.

Future of El Niño and La Niña

A study simulated the El Niño-Southern Oscillation (ENSO) using South Korea's supercomputer Aleph.

> El Niño and La Niña are the two natural climate phenomena occurring across the tropical Pacific Ocean. Together, they are called ENSO.
>
> They influence the weather conditions all over the world.

El Niño period is characterised by warming or increased sea surface temperatures in the central and eastern tropical Pacific Ocean.

La Niña event causes the water in the eastern Pacific Ocean to be colder than usual.

- The study completed a series of century-long Climate model simulations covering present-day climate and 2 different global warming levels.
- It notes that the intensity of the ENSO temperature cycle can weaken as carbon dioxide increases.
- It found that increasing atmospheric CO2 can cause a weakening of future simulated ENSO sea surface temperature variability.
- It found that the sea-surface temperature deviates from normal level at CO2-doubling (2×CO2) conditions and became robust at CO2 quadrupling (4×CO2).
- Reasons for the collapse - **Movement of atmospheric heat** was studied to decode the collapse of the ENSO system.
    The future El Niño events will lose heat to the atmosphere more quickly due to the evaporation of water vapour.
    2. There will be a reduced temperature difference between the eastern and western tropical Pacific, inhibiting the development of temperature extremes during the ENSO cycle.
- There can be a weakening of the **tropical instability waves** of the equatorial Pacific in the projected future, which can cause a disruption of the La Niña event.
- There is a **tug-of-war** between positive and negative feedback in the ENSO system, which tips over to the negative side in a warmer climate.
- This means future El Niño and La Niña events cannot develop their full amplitude anymore.

Source: PIB, The Hindu, The Indian Express

SHANKAR IAS PARLIAMENT
Information is Empowering