



# World Polio Day 2020

## Why in News

Every year, **24<sup>th</sup> October** is observed as [World Polio Day](#) in order to call on countries to stay vigilant in their fight against the disease.

- It was established to **commemorate the birth of Jonas Salk**, who developed an **Inactivated** (killed) **Polio Vaccine** (IPV).

## Key Points

- In the last three decades, the **Global Polio Eradication Initiative** (GPEI), led by national governments and the [World Health Organisation](#) (WHO), has been monitoring the disease situation globally.
- As per the WHO, **since 1980**, the cases of wild poliovirus have **decreased by over 99.9%** as a result of vaccination efforts made around the world.
- **Polio Eradication:**
  - For a country to be declared polio-free, the **wild transmission of all three kinds of Polioviruses** has to be stopped.
  - For **eradication**, **cases** of both wild and vaccine-derived polio infection **have to be reduced to zero**.
    - **Eradication** of a disease refers to the **complete and permanent worldwide reduction to zero new cases** through deliberate efforts. If a disease has been eradicated, **no further control measures are required**.
    - However, **elimination** of a disease refers to reduction to zero or a very low defined target rate of new cases in a defined geographical area. It requires **continued measures to prevent re-establishment** of disease transmission.
- **Recent Outbreaks:**
  - In **2019**, polio outbreaks were **recorded in the Philippines, Malaysia, Ghana, Myanmar, China, Cameroon, Indonesia and Iran**, which were mostly **vaccine-derived** in which a **rare strain of the virus genetically mutated** from the strain in the vaccine.
    - According to the WHO, if the oral vaccine-virus is excreted and allowed to circulate in an unimmunised or under-immunised population for at least 12 months, it can mutate to cause infections.
  - **Afghanistan and Pakistan** are the two countries that are the **last stronghold of the wild poliovirus**.
- **Polio in India:**
  - **India received polio-free certification by the WHO in 2014**, after three years of zero cases.
    - This achievement has been spurred by the successful **pulse polio campaign** in which all children were administered polio drops.

- The **last case** due to wild poliovirus in the country was **detected on 13<sup>th</sup> January 2011**.

## Polio

### ▪ About:

- Polio is a **crippling and potentially deadly viral infectious disease** that affects the nervous system.
- There are **three individual and immunologically distinct wild poliovirus strains**:
  - Wild Poliovirus type 1 (WPV1)
  - Wild Poliovirus type 2 (WPV2)
  - Wild Poliovirus type 3 (WPV3)
- **Symptomatically**, all three strains are identical, in that they cause irreversible paralysis or even death.
- However, there are **genetic and virological differences**, which make these three strains separate viruses which must each be eradicated individually.
  - **WPV2 and WPV3 have been eradicated globally** but **WPV1 remains in circulation in Afghanistan and Pakistan**.
    - WPV2 was **eradicated in 1999**.
  - World Polio Day **2019** marked a milestone in polio eradication as the independent **Global Commission for the Certification of Poliomyelitis Eradication (GCC)** declared **WPV3 to be globally eradicated**.

### ▪ Spread:

- The virus is **transmitted by person-to-person** mainly **through the faecal-oral route** or, less frequently, by a common vehicle (for example, through contaminated water or food).
- It largely **affects children under 5 years of age**.
- The virus **multiplies in the intestine**, from where it can **invade the nervous system** and can **cause paralysis**.

### ▪ Symptoms:

- Most people with polio **do not feel sick**. Some people have only **minor symptoms**, such as fever, tiredness, nausea, headache, nasal congestion, sore throat, cough, stiffness in the neck and back, and pain in the arms and legs.
- In **rare cases**, polio infection causes **permanent loss of muscle function (paralysis)**.
- Polio can be **fatal if the muscles used for breathing are paralysed** or if there is an infection of the brain.

### ▪ Prevention and Cure:

- There is **no cure**, but it can be **prevented through immunisation**.

### ▪ Vaccines:

- **Oral Polio Vaccine (OPV)**: It is given orally as a birth dose for institutional deliveries, then primary three doses at 6, 10 and 14 weeks and one booster dose at 16-24 months of age.
- **Injectable Polio Vaccine (IPV)**: It is introduced as an **additional dose along with the 3<sup>rd</sup> dose of DPT** (Diphtheria, Pertussis and Tetanus) under the [Universal Immunisation Programme](#) (UIP).

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