

## Resurgence of Polio Virus

### Why in news?

The Global Polio Eradication Drive prepared a list of 30 countries including the U.S, where either imported wild or vaccine-derived poliovirus (VDVP), or circulating VDPV has been identified.

### What is Polio disease?

- *Poliomyelitis*, commonly called polio, is a highly infectious viral disease that can leave patients disabled, and in some cases, even prove fatal.
- The virus enters the nervous system and can cause total paralysis in just a few hours.
- **Symptoms** - Initial symptoms of the infection include fever, fatigue, headache, vomiting, stiffness of the neck and pain in the limbs.
- **Treatment** - There is no known cure for polio. It can only be prevented by way of vaccination.

*According to the World Health Organisation (WHO), one in 200 infections leads to irreversible paralysis, usually in the legs.*

- **Types of Polio virus** - Wild poliovirus (WPV) has three known strains - types 1, 2, and 3 - each with a slight difference in structure.
- Immunity to one type does not guarantee immunity to others.
  - Type 1 WPV - remains in circulation and endemic to Pakistan and Afghanistan.
  - Type 2 WPV - declared eradicated in September 2015.
  - Type 3 WPV - declared eradicated in October 2019.
- **Spread of the disease** - The polio virus is most commonly spread through the faecal-oral route.
- It can also spread through contaminated water or food.
- The virus multiplies in the host's intestines.
- **Susceptible age group** - Most polio cases are recorded in children under five years of age, but all unvaccinated people can contract the disease.

### What are the types of Polio vaccination?

- There are two types of vaccines - oral poliovirus vaccine (OPV) and inactivated poliovirus vaccine (IPV).
- **IPV** consists of inactivated (killed) poliovirus strains of all three types.
- The vaccine is administered through an intramuscular or intradermal injection.
- It produces antibodies in the blood against all three types of the poliovirus.
- **OPV** uses a weakened (also called attenuated) form of poliovirus, which can either be

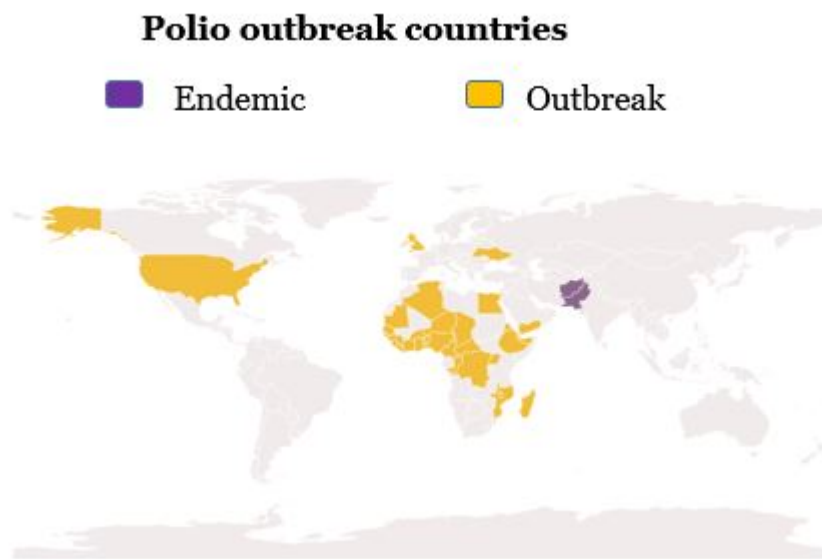
one strain or a combination.

- OPVs are administered orally, they are more suitable for mass vaccination.

### What is VDPV and cVDPV?

- **Vaccine-derived poliovirus (VDPV)** - The OPV strains while replicating in the gastrointestinal tract, genetically changes into a form that can paralyze.
- This may spread in communities that are not fully vaccinated against polio
- **Circulating vaccine-derived poliovirus (cVDPV)** - It occurs when local immunity to poliovirus is low enough to allow prolonged transmission of the original weakened virus in the OPV.

### How about the picture in India?



- The Government of India launched the National Immunisation Day (NID), the Pulse Polio immunisation programme in 1995.
- It aims to administer polio drops to all children under 5 years.
- Additionally, Sub-National Immunisation Days are also conducted every year in high-risk areas.
- WHO removed India from its list of endemic countries with active poliovirus transmission and India is polio free.

*India was declared polio free in 2014 by WHO.*

### What are India's concerns with global poliovirus resurgence?

- India shares border with polio-endemic countries Pakistan and Afghanistan and continues to face the threat of importation of the wild polio virus (WPV) and/or vaccine-derived polio viruses (VDPV).
- In 2021, India had announced that people returning to the country from Afghanistan would be vaccinated against polio as a preventive measure.
- World Health Organisation (WHO) said that India's robust surveillance system, along

with routine immunisation and NIDs, meets the recommended global standards.

- There is no evidence of VDPVs circulating in the community.

## References

1. <https://www.thehindu.com/sci-tech/health/explained-new-york-declares-polio-emergency-should-india-be-worried/article65941678.ece>
2. <https://www.who.int/india/news/detail/17-06-2022-investigation-of-the-vaccine-derived-polio-virus--found-in-sewage-sample-in-kolkata#:~:text=India%2C%20along%20with%2010%20other,VDPVs%20circulating%20in%20the%20community.>

