

RSTV

MONKEYPOX VIRUS



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Context

- The **World Health Organisation** (WHO) has declared the monkeypox epidemic a **global emergency**.
- More than 16,000 cases have been recorded so far from 75 countries including India.
- India has recorded **four cases** so far, among those the youth who arrived from the UAE has recently died in Kerala.
- The Union Health Ministry has advised all state and Union Territories to undertake close surveillance in detecting and containing this virus.

About Monkeypox

- Monkeypox is a **viral zoonosis** (a virus transmitted to humans from animals) with symptoms similar to smallpox, it is **clinically less severe**.
- Monkeypox virus is an enveloped **double-stranded DNA virus** that belongs to the **Orthopoxvirus genus** of the Poxviridae family.
 - There are two distinct genetic clades of the monkeypox virus: the **central African** (Congo Basin) clade and the **west African** clade.
- Various **animal species** have been identified as **susceptible** to the monkeypox virus. This includes rope squirrels, tree squirrels, Gambian pouched rats, dormice, non-human primates and other species.

- Human monkeypox was **first identified in humans in 1970** in the Democratic Republic of the Congo in a 9-month-old boy in a region where smallpox had been eliminated in 1968.
- Since then, most cases have been reported from rural, rainforest regions of the Congo Basin, particularly in the Democratic Republic of the Congo and human cases have increasingly been reported from across central and west Africa.
- Animal-to-human (zoonotic) transmission can occur from **direct contact** with the blood, bodily fluids, or cutaneous or mucosal lesions of infected animals.
- **Human-to-human transmission** can result from close contact with respiratory secretions, skin lesions of an infected person or recently contaminated objects.
- **Transmission via droplet** respiratory particles usually requires prolonged face-to-face contact, which puts health workers, household members and other close contacts of active cases at greater risk.

Monkeypox Virus Prevention

- If monkeypox is suspected, health workers should collect an appropriate sample and have it transported safely to a laboratory with appropriate capability.
- In test results, patient information must be provided with the specimens including a) date of onset of fever, b) date of onset of rash, c) date of specimen collection, d) current status of the individual (stage of rash), and e) age.
- Patients should be **offered fluids and food** to maintain adequate nutritional status.
- Smallpox and monkeypox vaccines are developed in formulations based on the vaccinia virus due to cross-protection afforded for the immune response to orthopoxviruses.
- **Raising awareness** of risk factors and educating people about the measures they can take to reduce exposure to the virus is the main prevention strategy for monkeypox.
- **Scientific studies are now underway** to assess the feasibility and appropriateness of vaccination for the prevention and control of monkeypox.

The Director General of the WHO while declaring monkeypox a public health emergency of international concern, indicated that it could be a sexually transmitted disease (STD).

By looking at the manner of its spreading does it look like it's just an STD?

- This is not a new disease; it has been earlier recorded in African countries like the Democratic Republic of Congo.
- As per the present knowledge of the virus, the disease is spreading through **close contact** and not just through sexual contact i.e., STD.
- There are many amounts of transmission, like close contact with the individual can spread through even **respiratory droplets**.

By looking at the disease's symptoms. It appears that skin lesions are one of the main characteristics of the monkeypox virus.

How do these skin lesions develop and are they similar to smallpox?

- This disease is a **variance of pox**; hence, it has some similar features to smallpox.
- The recorded characteristics are **fever**, one to three days after fever a patient experiences skin lesion.
- A typical rash evolves from a red, flat spot which then becomes raised and then goes on to develop clear **fluid within the rash**.

- This fluid-filled lesion (vesicle) develops a **central depression**.
- **Pus can form** within the lesions which then crust and heal. There may be many lesions in different stages of evolution.
- Chicken poxes lesions are more superficial (existing on the surface) and monkeypox lesions are **deep-seated**. Hence, they are tenses and patients began to **develop umbilication**.

Almost 75 people are reported dead in Africa due to the monkeypox virus. Though the death rate is low, it is concerning.

Monkeypox Symptoms

- The **incubation period** (interval from infection to onset of symptoms) of monkeypox is usually from 6 to 13 days but can range from 5 to 21 days. It can be divided into two periods:
 - **The invasion period:** it lasts between 0–5 days) characterized by fever, intense headache, lymphadenopathy (swelling of the lymph nodes), back pain, myalgia (muscle aches) and intense asthenia (lack of energy).
 - **The skin eruption:** usually begins within 1–3 days of the appearance of fever. The rash tends to be more concentrated on the face and extremities rather than on the trunk. It affects the face (in 95% of cases), palms of the hands and soles of the feet (in 75% of cases). Also affected are oral mucous membranes (in 70% of cases), genitalia (30%), conjunctivae (20%), as well as the cornea.

Does monkeypox also affect other organs of the human body?

- People with monkeypox develop a rash that can be painful and **could affect any part of the body** including genitals, the area around the anus, inside the mouth, face, palms of the hands, soles of the feet, etc.
- The rash can be accompanied or preceded by **general symptoms** such as fevers, chills, muscle aches, backache, swollen lymph nodes, exhaustion, headache, etc.
- The rash associated with monkeypox may involve vesicles, pustules, pimples or ulcers. The number of lesions varies. The rash may change and go through different stages, like chickenpox, before finally becoming a scab that falls off.
- Symptoms may resemble sexually transmitted infections such as herpes or syphilis as well as other diseases with a rash such as measles, or chickenpox.
- Symptoms may **develop up to 21 days** from contact with someone with monkeypox. Most people with monkeypox have a mild illness and recover within a few weeks. In some circumstances, people may develop severe diseases and require hospitalisation.
- **Children, pregnant women** and people with a weakened immune system are considered at higher risk of developing severe disease.

How prepared India is in dealing with such a virus?

- The major thing India is **focusing is on surveillance**, from the areas from which the subjects are coming from the other areas.
- India is also looking for any symptoms from animal contact and those who have come in contact need to be **vaccinated**. Although, mass vaccination has yet not been recommended and India has also not stockpiled the vaccine.
- Out of the four cases, three had travel history and one might have come in contact with one who had early symptoms. Hence, India is focusing on detecting and curing people who are sick and having fever at an early stage.

- The government has also recommended using **N95 masks** in public places and appropriate **hygiene habits** like using sanitisers and regular hand washing.

Which group of people are prone to the monkeypox virus?

- World Health Organisation (WHO) asserted that it is 'concerned' about the fact that the monkeypox virus has started **spreading among vulnerable groups**, like pregnant women, immunocompromised people and children.
- The **healthcare workers** should take extra precautions in treating patients as they are more vulnerable to the disease.
- With the low availability of vaccines, they should be given on a case-to-case basis and based on the situation of a particular country.
- With the recent COVID-19 pandemic, people are cautious of new viruses. But the severity of the monkeypox virus is comparatively very low due to its low mutation.

The incubation period of the monkeypox virus

- Monkeypox virus exhibits the initial symptoms between 5-21 days.
- The infection can increase during the period; hence, it is recommended that a person should be in quarantine for 21 days so to stop the productivity of the virus.

What precautions can be taken?

- Due to the low availability of vaccines, the **precautions are better than the cure**.
- As it can spread due to respiratory droplets, the major precautions are wearing N95 masks, maintaining social distance, avoid MSM sexual intercourse and social gatherings.

What lessons did India learn in dealing with such a global health crisis?

- COVID-19 pandemic globally has emphasized the need for strengthening **public health care** systems.
- **Universal health coverage (UHC)** is needed more than ever to recuperate from the effects of the current pandemic in India.
- The **healthcare model in India** was designed to provide a standardized package of basic health services as **primary care** to the population (prioritizing women's and children's health) with an effort to provide equitable access through targeted services to underserved areas.

Precaution is better than cure, a host of precautions as suggested must be implemented with extra care due to the low availability of vaccines. With the increase in the number of cases globally, India needs to remain extra vigilant, take necessary precautions, and if there are any symptoms, the patient must consult a doctor and take the necessary steps like quarantine.

<https://sansadtv.nic.in/episode/perspective-monkeypox-scare-25-july-2022>



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