



Scientia Research Library

ISSN 2348-0416

USA CODEN: JASRHB

Journal of Applied Science And Research, 2025, 13 (1):12-15

<http://www.scientiaresearchlibrary.com/archive.php>

HUMAN METAPNEUMOVIRUS: KNOW THE VIRUS, PROTECT YOUR HEALTH

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ABSTRACT

Human metapneumovirus (HMPV) is a virus that causes upper and lower respiratory diseases which occurs in all age group especially in children, elderly people and people with low immune systems. Human metapneumovirus belongs to Pneumoviridae family along with respiratory syncytial virus (RSV). Due to the advancement of technology the use of molecular diagnostic testing helps in increased identification and awareness of Human metapneumovirus as a major cause of upper and lower respiratory infections. So far no specific treatment or vaccine is available for Human metapneumovirus.

Keywords: meta, pneumo, virus, infections, disease

INTRODUCTION

HUMAN METAPNEUMOVIRUS (HMPV)

Human metapneumovirus (HMPV) is a virus that is similar to common cold. Usually it causes upper respiratory infections, rarely it can cause lower respiratory infections like Asthma, chronic obstructive pulmonary disease and pneumonia.

Human metapneumovirus infections are common in winter and spring and also spread through air from infectious respiratory particles of a sick person to others.

Human metapneumovirus usually occurs in children less than 5 years of age, symptoms are usually mild after first infection.

EPIDEMIOLOGY:

- Human metapneumovirus was first discovered by Bernadette G van den Hoogen in the year 2001 at Netherlands.
- Human metapneumovirus was detected in the respiratory secretions of 28 young children of Netherlands by Bernadette G van den Hoogen and her colleagues
- HMPV was different from common respiratory virus because the testing method was by immunological assays using virus- specific antibodies and PCR based methods using virus

genome- specific primers, but failed to identify the novel virus.

- In early January 2025, several cases of Human Metapneumovirus (HMPV) were detected in India, with no indication of surge in cases.

MODE OF TRANSMISSION

HMPV is most likely to spread from an infected person to others through

- secretions from coughing and sneezing
- close personal contact, such as touching or shaking hands
- touching objects or surfaces that have the viruses on them then touching the mouth, nose, or eyes

INCUBATION PERIOD : 3 to 6 days

RISK FACTORS

Any one can get HMPV, but higher risk includes,

- Newborn and infants
- Underfive children
- Older people above 65 years
- Low immune system
- People with chronic obstructive pulmonary disease (COPD) and asthma.

SIGNS AND SYMPTOMS

People infected with HMPV will have cold or flu like symptom which includes;

- cough
- fever
- sore throat
- runny or stuffy nose
- body ache
- headache.

In severe cases the symptom includes;

- Wheezing
- Breathing difficulty
- Chest pain
- Dizziness
- Severe fatigue
- Dehydration
- Persistent fever

Is HMPV common ?

Human metapneumovirus is very common. Research shows most children are likely to have at-least once before 5 years of age. It can affect multiple times in once life. In children HMPV occurs about 1 in 10 of all respiratory infections.

CONFIRMATORY DIAGNOSIS

- polymerase chain reaction (PCR) test is the most reliable test
- direct detection of viral genome by nucleic acid amplification test (NAAT),
- direct detection of viral antigens in respiratory secretions using immunofluorescence or enzyme immunoassay.

SEVERITY OF THE DISEASE

- HMPV is generally mild, few people can have serious symptoms such as wheezing, asthma flare-ups, breathing difficulty, shortness of breath, fatigue, bronchitis, severe bronchiolitis, pneumonia.

TREATMENT

- Currently, there is no specific antiviral therapy to treat HMPV. Medical care is supportive
- To help ease your symptoms, you can;
 - Take over pain relievers like [acetaminophen](#) and [ibuprofen](#) in case of symptoms like fever, pain, and coughing
 - Use decongestants to help with stuffiness or a runny nose
 - Use an inhaler to help with breathing problems like wheezing or coughing
 - Use a corticosteroid nasal spray to ease pressure inside your nose

PREVENTION AND CONTROL

Preventing HMPV infection is similar to preventing other respiratory illnesses with actions such as:

- wearing a mask in crowded or poorly ventilated spaces
- improving ventilation where possible (such as by opening a window for air flow)
- cleaning hands regularly and thoroughly, with either soap and water or an alcohol-based hand rub
- avoiding touching eyes, nose or mouth without cleaning hands first.
- Eating well balanced diet to booster the immune system

When someone is sick, they can avoid making others sick by

- staying at home if they feel ill
- covering nose and mouth with a tissue or bent elbow when coughing or sneezing
- wearing a mask when around other people
- improving ventilation, especially in shared spaces
- regularly cleaning hands and disinfecting frequently touched surfaces.

There is currently no vaccine licensed for use against HMPV.

COMPLICATIONS

Complications occur rarely in HMPV. They includes;

- Bronchiolitis
- Bronchitis
- Pneumonia
- Asthma or COPD
- Ear infection

CONCLUSION

Human metapneumovirus (HMPV) is spreading slowly in India. The people getting HMPV among infant, under five children, elderly above 65 years and weakend immunity have high risk of getting more serious illness. “But in any illness, the first defence is prevention”. To detect the impact of HMPV in our country, a long-term support and participation of our public health authorities at the local, regional, State and at the central level is a matter of concern.

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