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MERS-CoV INFECTION
Fact Sheet

MIDDLE EAST RESPIRATORY SYNDROME - CORONAVIRUS INFECTION (MERS-CoV)

Infectious Agent

Middle East Respiratory Syndrome Coronavirus (MERS-CoV) is a zoonotic virus first identified in Saudi Arabia in 2012. It belongs to the coronavirus family, which includes viruses that infect both humans and animals.

Symptoms

Middle East Respiratory Syndrome (MERS) presents with a spectrum of clinical manifestations, ranging from no symptoms to life-threatening respiratory illness.

- **Common symptoms:** High fever, persistent cough, and difficulty breathing.
- **Additional symptoms:** Some individuals may experience gastrointestinal symptoms such as diarrhoea, nausea, or vomiting.
- **Severe cases:** Critical illness can lead to respiratory failure, often requiring intensive care or mechanical ventilation. Pneumonia is common but not always present.
- **Asymptomatic cases:** Some individuals may remain asymptomatic but can still be carriers. These cases are often detected through contact tracing.

Risk groups for severe illness

The risk of developing severe disease is higher among:

- Older adults
- Individuals with weakened immune systems
- People with underlying health conditions such as diabetes, cardiovascular disease, chronic respiratory disease, or kidney disease

Approximately 35% of reported MERS cases have resulted in death, though this figure may be inflated due to undetected mild or asymptomatic cases.

Global Spread

Since its emergence, MERS-CoV has been reported in 27 countries, including Saudi Arabia, the United Arab Emirates, South Korea, and nations across Europe, Africa, Asia, and North America.

- **Saudi Arabia** accounts for about 80% of global cases, commonly linked to camels or healthcare exposure.
- **South Korea** experienced the largest outbreak outside the Middle East in 2015, following the return of an infected traveller and leading to hospital-based transmission.

Transmission

MERS-CoV is a zoonotic virus, primarily transmitted from animals to humans, with dromedary camels identified as a key reservoir.,

- **Animal-to-human transmission** occurs through direct or indirect contact, though the precise mechanism is unclear.
- **Human-to-human transmission** is limited and typically occurs in close-contact settings, such as households or healthcare facilities.
- The role of asymptomatic individuals in spreading the virus remains unclear.
- Sustained community transmission has not been observed.

Exposure Risk Factors

Certain populations may face higher exposure to MERS-CoV, including:

- People living in or travelling to the Middle East, especially those visiting farms or markets with dromedary camels.
- Individuals in close contact with confirmed MERS cases, such as family members or caregivers.
- Healthcare workers are exposed to MERS patients, particularly without adequate infection control.
- Workers with frequent camel contact, including animal handlers, market vendors, and abattoir staff.

Laboratory Diagnosis

The new virus strain can be detected through Reverse-Transcriptase Polymerase Chain Reaction (RT PCR), typically using specimens from the lower respiratory tract, such as fluid from the lungs.

Treatment

There is no specific antiviral therapy for MERS-CoV. Treatment is supportive and based on the severity of the illness:

- Mild cases may require only symptomatic care.
- Severe cases may need oxygen supplementation, mechanical ventilation, or intensive care.

Prevention

No vaccine is available for MERS-CoV, but the risk can be minimised through

- **Personal hygiene**: Frequent hand washing or using hand sanitiser when soap is unavailable.
- **Animal safety**: Avoid contact with sick animals; wash hands before and after handling animals; refrain from consuming raw or unpasteurized camel products. Properly cooked or pasteurised products are considered safe.
- **Protection of high-risk individuals**: Those with chronic diseases should avoid visiting camel farms or markets in affected areas.
- **Healthcare protocols**: Strict infection control and use of protective equipment are essential in medical settings to prevent outbreaks.

Public Health Response

In the event of a suspected MERS case, public health officers would:

- Investigate the source of infection.
- Trace and monitor contacts to prevent further spread.
- Implement isolation and infection control measures.

MERS-CoV is a notifiable disease in many regions, requiring immediate reporting to public health units. The World Health Organisation (WHO) coordinates global efforts, including global surveillance, risk assessment, and guidance on prevention and control strategies. WHO also collaborates with partners such as the FAO and WOAH to address zoonotic transmission and improve global preparedness. Member States are encouraged to strengthen their surveillance for Severe Acute Respiratory Infections (SARI) and to investigate any unusual patterns of illness.

Travel Recommendations

Travellers to the Middle East should:

- Practice rigorous hygiene, especially around animals.
- Seek immediate medical attention if feeling unwell during or after travel, informing healthcare providers of their travel history.
- Avoid raw camel products and contact with camels, particularly if at higher risk for severe disease.

WHO does not advise travel restrictions or entry screenings for MERS-CoV but encourages heightened vigilance in affected regions and robust surveillance for respiratory illnesses.