



Middle East respiratory syndrome (MERS)

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Key facts

- Middle East respiratory syndrome (MERS) is a viral respiratory disease caused by Middle East respiratory syndrome coronavirus (MERS CoV)
- It was first identified in Saudi Arabia in 2012; since then, 27 countries have reported cases and approximately 35% of such cases reported to WHO have died.
- MERS-CoV is a zoonotic virus and has been linked to human infections in dromedary camels in the Middle East, Africa and South Asia. Human-to-human transmission is possible and has occurred predominantly among close contacts and in health care settings.
- The origins of the virus are not fully understood but according to the analysis of different virus genomes it is believed that it may have originated in bats and later transmitted to camels at some point in the distant past.

Transmission: Droplet and direct contact

- Human-to human transmission occurs predominantly among close contacts in households and in health care settings among health care workers and other patients.

(** While it is not yet fully understood how the disease spreads from animals to humans, the following additional transmission routes can be assumed until more is known **)

- When infected people cough, sneeze, blow their nose or spit, they spread small droplets through the air, which are then breathed in by other people
- Direct contact (for example, through kissing, sharing cups or eating utensils) with infected saliva or nose mucous
- Close contact with dromedary camels and camel products
- Contact with camels or camel urine, drinking raw camel milk, or eating meat that has not been properly cooked

Most vulnerable to severe consequences

- Elderly
- People with chronic lung conditions (for example, asthma)
- People with weakened immune systems and/or chronic diseases (for example, diabetes or cancer)

Most vulnerable to contracting the disease

- People working closely with camels

Symptoms

- Fever (usually)
- Cough (usually)
- Difficulty breathing or shortness of breath (usually)
- Headache (sometimes)
- Sore throat (sometimes)
- Abdominal pain (sometimes)
- Diarrhoea (sometimes)
- Muscle pain (sometimes)

What can you do to prevent and control an epidemic?

Monitoring the community and identifying sick people and animals

- Identify and isolate sick people before they spread the disease to others
- Monitor the community for clusters of sick or dead animals
 - Report any clusters to your supervisor, animal health and welfare authorities and/or health authorities
 - Encourage quarantining sick animals from healthy ones
 - Discourage community members from taking sick animals to markets or other places where they may encounter other animals or humans
 - Encourage minimal contact between sick animals and humans

Treatment and management

- There is no vaccine or specific treatment currently available for MERS. Therefore, treatment of MERS patients is largely supportive and based on the patient's clinical condition.
- Refer suspected human and animal cases for screening and treatment
 - Refer people to health facilities
 - Notify animal welfare authorities or care providers (such as veterinarians) of suspected cases in animals if possible
- Provide psychosocial support to the sick person and their family members

Sanitation and waste management

- Promote proper disposal of waste that might be contaminated
 - Reusable items such as laundry should be washed as usual. Surfaces that are likely to have been in contact with the virus should be cleaned with appropriate viricidal cleaner, as directed by your supervisor or health authorities. Items that cannot be cleaned and re-used should be disposed of according to medical waste guidelines.
- Promote disinfection of reusable supplies

Hand and respiratory hygiene

- Promote good hand hygiene (handwashing with soap)
 - BEFORE: preparing food; eating; feeding a child; treating wounds; or caring for sick people
 - AFTER: using the toilet or cleaning a baby; touching garbage or waste; touching or feeding animals; blowing nose, coughing or sneezing; treating wounds; or caring for sick people
- Promote respiratory hygiene and coughing etiquette (cover your cough or sneeze using your sleeve or a tissue, wash hands after coughing or sneezing, do not spit onto the ground or in public)

Personal protection and hygiene

- Practise and promote social distancing
- Use and promote personal protective equipment (for example, face masks and gloves) when in contact with potential cases
- Discourage contact with sick animals
- Discourage consumption of raw or undercooked camel products (milk, meat, urine)

Food hygiene and safety

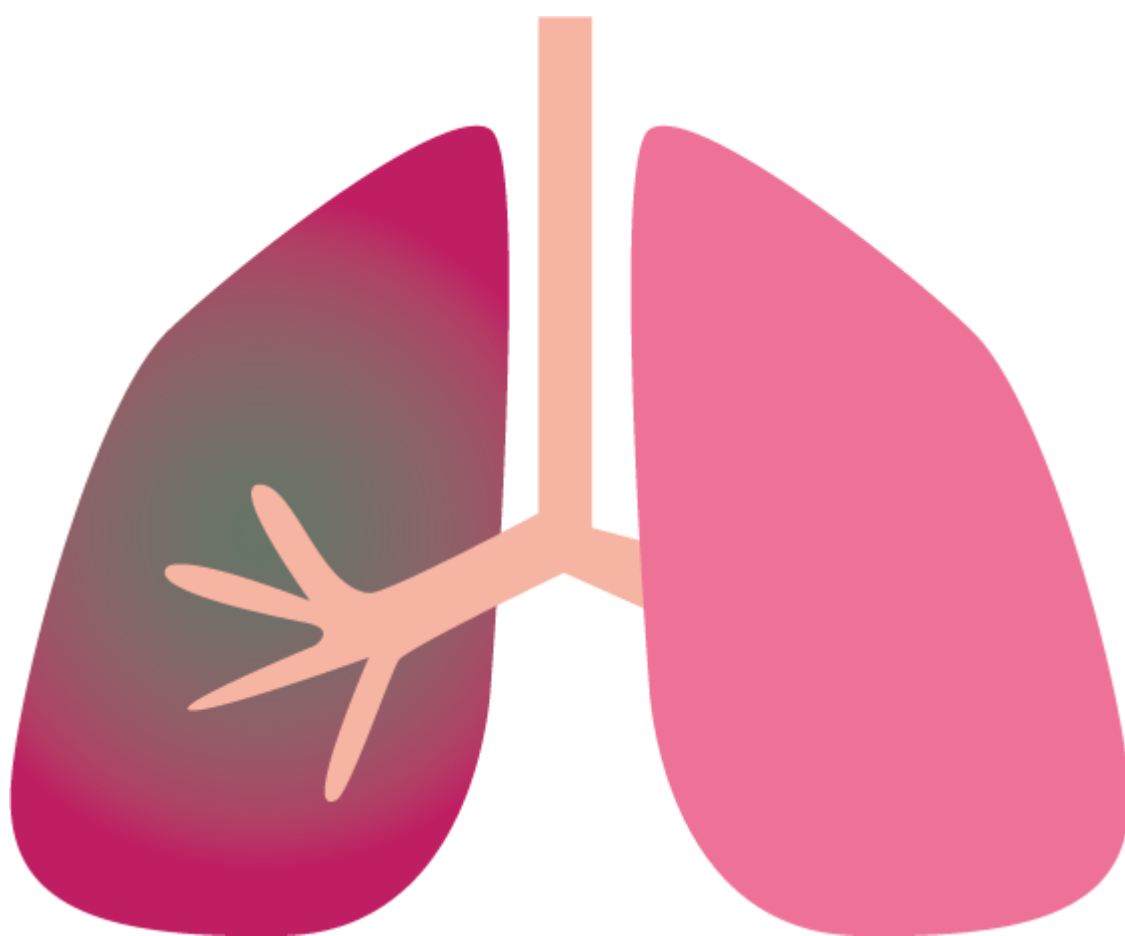
- Promote cooking meat and other camel products (blood and milk, organs) thoroughly
- Advise people how to slaughter animals safely

Social mobilization and health promotion

- Find out the specific advice being given by health and other relevant authorities
 - Promote recommended health practices (such as routine vaccination, social distancing, separation of healthy people and sick people, etc.)
- Model following this advice and inform community members of current health practice advice
- Offer support and encouragement to follow the advice
 - Try to gain understanding about if and why health practice advice is not being followed
 - With the guidance of your supervisor and health authorities, work with communities to overcome barriers to following health advice and recommended practices

Mapping and community assessment

- Make a map of the community.
- Mark the following information on the map:
 - How many people have fallen sick with MERS? Where?
 - How many people have died? Where? When?
 - Who and where are the vulnerable people?
 - Where are the health facilities? (include traditional healers)
 - Are areas or markets with animals known to be infected by MERS? Where are they?
- Record the following information on the back of the map:
 - When did people start to fall sick with MERS?
 - How many people live in the affected community? How many are children under five years?
 - Do people cook milk and meat thoroughly before eating them?
- Are there handwashing facilities in the community, at animal markets and other areas where livestock gather? Are soap and water always available?
 - What are the community's habits, practices and beliefs about handling and slaughtering animals, especially animals that are sick or dead?
 - Do people use camel products (including milk or urine) for medicinal purposes? If so, how do they use them?
 - How common is it for people to live or work together in crowded spaces?
 - Is there ventilation and fresh air in homes, schools and workplaces?
 - Who and where are the vulnerable people? Who is most affected by MERS?
 - What are the community's habits, practices and beliefs about caring for sick people? Consider any differences between women and men.
 - Is a social mobilization or health promotion programme in place?
 - Which sources do people use/trust the most for information?
 - Are there rumours or misinformation about MERS? What are the rumours?



Other resources

WHO – World Health Organization; [Middle East Respiratory Syndrome coronavirus \(CoV\); 2024](#)