# Middle East Respiratory Syndrome (MERS) - Facts

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*Published on 30th September 2014*

Middle East Respiratory Syndrome (MERS) is a viral respiratory illness that is new to humans. It is caused by a coronavirus specifically called Middle East Respiratory Syndrome Corona virus (MERS-CoV).[1,2] The public health impact of this disease in India is considerable if one considers the frequency of travel of the considerable Indian expatriate population in the Middle East countries between their place of work and their native cities.[3]

Human coronavirus was first identified in the mid-1960s. Coronaviruses are named for the crown-like spikes on their surface. Most coronaviruses naturally infect animals. Many of these affect only one animal or a small number of closely related species, but not people. There are four main sub-groupings of coronaviruses, known as alpha, beta, gamma and delta. The six coronaviruses that can infect humans are alpha coronaviruses 229E and NL63, and beta coronaviruses OC43, HKU1. SARS-CoV and MERS-CoV. MERS-CoV has also been found to infect people and animals including camels and bats.

MERS-CoV is a zoonotic virus that is transmitted from animals to humans. Transmission is either from nonhuman to humans or human to human. Camels appear to be a major reservoir and have been isolated in several countries like Egypt, Oman, Qatar and Saudi Arabia.[2] Spread from an infected person to others is through air by coughing or sneezing and close personal contact such as touching or shaking hands. Occasional spread through contact with contaminated objects or surfaces is also possible.

The clinical spectrum of MERS infection ranges from no symptom to mild respiratory symptoms to severe acute respiratory disease to death. MERS affects the respiratory system with mild to moderate symptoms and signs of acute respiratory illness like fever, sore throat, cough and shortness of breath. Some patients also had gastrointestinal symptoms like diarrhoea, nausea and vomiting. The incubation period is usually 5-6 days and could vary 2 to 14 days. Some infected patients have mild cold like symptoms or no symptoms at all. Patients with pre-existing illnesses are more likely to become infected with MERS-CoV or get a severe case. Most common co-morbidities are diabetes, cancer and chronic heart, kidney and lung disease. Individuals with immune suppression are at higher risk for getting MERS-CoV or having a severe case. Many patients developing MERS have complications like pneumonia or renal failure. Considering full blown disease 30-40% mortality is observed.

It was first reported in Saudi Arabia in 2012 and has since spread to several other countries including the United States. All reported cases have been linked to countries in and near the Arabian Peninsula. Most cases either lived there or recently travelled from there. A severe epidemic was reported outside the Arabian Peninsula in South Korea following contact with a traveller from the Arabian Peninsula. Laboratory tests can be done to confirm the presence of coronaviruses. But testing is limited to a few specialised laboratories. Specific laboratory tests include virus isolation in cell culture, polymerase chain reaction (PCR) assays and serological testing for antibodies to human coronaviruses. Nasal and throat swabs are the best specimens for detecting common human coronaviruses. Serologic tests need blood specimens.

No specific treatment is available for illnesses due to human coronaviruses. Most patients recover with symptomatic treatment, plenty of fluids, rest, use of humidifiers and severe cases need more special care.

Currently no vaccines are available to protect against human coronaviruses. Risk of contracting infection can be reduced by hand wash often with soap and water, not touching eyes, mouth and nose and avoiding close contact with people who are sick.

As a precaution infected people can help reduce spread by staying at home when sick, avoiding close contact

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with others, covering the mouth and nose with a tissue when coughing or sneezing, then throwing the tissue in the trash and washing your hands, and keeping objects and surfaces clean and uncontaminated. No travel, trade or entry screening restrictions related to MERS-CoV are proposed by WHO.

An earlier editorial of Kerala Medical Journal had considered the impact of various factors like climate, natural calamities and travel on disease incidence and spread. The spread patterns of MERS are also explained by such factors.[4]

## END NOTE

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**Conflict of Interest:** None declared

**Cite this article as:** S Vasudevan. Middle East Respiratory Syndrome (MERS) - Facts. Kerala Medical Journal. 2014 Sep 30;7(3):50-51

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