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Epidemiology and clinical presentation of MERS-CoV in Saudi Arabia: A systematic review

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Background: Middle East Respiratory Syndrome (MERS-CoV) is caused by a novel betacoronavirus (MERS) which was first reported in Saudi Arabia in September 2012. It is caused by a corona virus called MERS-CoV. The disease resulted in severe respiratory illness and mortality rates ranging between 40-60%.

Aim of the Work: This systematic review analyses the clinical presentations of MERS-Cov infection in the Kingdom of Saudi Arabia.

Data Sources and Study Selection: We searched for all relevant English language publications with the terms “Middle East respiratory syndrome”, “MERS-CoV”, and “HCoV-EMC” individually and in combination with the terms epidemiology, transmission, clinical presentation, sequence. We searched MEDLINE, conference abstracts, Saudi Ministry of Health data, World Health Organization data and Centers of Disease Control data and statistics from 2012; references until 2015.

Data Extraction: Two reviewers extracted information on study design, population characteristics, clinical characteristics, disease outcomes and assessed risk of bias.

Data Synthesis: We included 139 studies published in Medline, 218 Saudi MOH, WHO and CDC notifications. As of 19 April, 2015, 979 cases of MERS-CoV (67% of men and 33% women) were reported in KSA. The mortality rate was 43.5% (427 patients). Five hundred eight patients were managed and resolved the infection. The majority of cases (72%) are above 40 years, 25% are 20-40 years old, and 3% are less than 20 years. Early cases were clustered in the Eastern region, however by mid-2013 cases emerged in central and Western Saudi Arabia. Interfamilial spread, occupational transmission for health care workers, exposure to camels were the identified modes of transmission. In 82% of cases, flu like symptoms and fever were initially observed. Positive cases showed progressive rise in fever, cough, and shortness of breath. Pneumonia, respiratory failure that requires mechanical ventilation and support in an intensive-care unit occurred in advanced cases. Gastrointestinal symptoms particularly diarrhoea, has been reported. Some patients developed renal failure and septic shock.

Conclusion: More studies are required to elucidate the modes of transmission of MERS Cov. Interpersonal transmission is an important risk factor particularly in familial and hospital settings. Severe upper respiratory infection is the prominent clinical presentation.

Biography

Muteb Nasser R Aldawsari graduated from college of medicine in Prince Sattam bin Abdulaziz University, Saudi Arabia. Now, intern in Security Forces Hospital.

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