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Editorial

# MERS-CoV Management in a Healthcare Facility

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Middle East Respiratory Syndrome Coronavirus (MERS-CoV) infection was first reported from Saudi Arabia in the year 2012 & until date, a total of 1826 laboratory-confirmed cases of MERS-CoV infection with 649 (35.5%) deaths have been reported to the World Health Organisation (WHO), as on November 11, 2016 [1].

Transmission of the virus has occurred in health care facilities, primarily due to delayed diagnosis of MERS-CoV in patients visiting the hospitals and they in turn become a source of infection for cross transmission among healthcare providers, other patients and visitors to the healthcare setting [2]. It is not always possible to identify patients with MERS-CoV early or without testing because symptoms and other clinical features may be non-specific [3].

Despite conducting a failure mode & effect analysis to prevent MERS-CoV outbreak, our hospital (200 bedded secondary care level) was affected with MERS-CoV outbreak in October 2015. During this outbreak, 5 patients were confirmed to have MERS-CoV infection by virological confirmation within a span of 10 days. All these patients were aged more than 70 years, were under intensive care for respiratory failure and multiple co-morbidities (chronic obstructive pulmonary disease, diabetes, end stage renal disease on regular haemodialysis) and all the 5 patients succumbed to their illness. During this outbreak, 2 secondary cases were also identified and they were nursing staff providing care for the above patients. Of the above 2 nursing staff, 1 was asymptomatic and the other developed respiratory failure and needed ventilator support & after intensive supportive therapy she recovered completely. Both nursing staff were found to be negative for MERS-CoV on their nasopharyngeal sampling and was declared free from infection and were allowed to provide care for patients. This outbreak resulted in temporary closure of the hospital for all new patient admissions along with complete ban on entry for visitors. Following this outbreak, intense surveillance was conducted to identify any asymptomatic carriers among patients and healthcare providers and none were positive for MERS-CoV infection as tested by nasopharyngeal sampling in the virology laboratory.

The above infectious disease (MERS-CoV) outbreak did make us understand the importance of early identification of MERS-CoV among patients visiting our facility and to implement adequate and appropriate infection prevention and control practices at all times of patient care. A collaborative approach was initiated with the support of hospital higher management, the chief executive officer, hospital administrator, nursing services, quality improvement staff, infection prevention and control staff, housekeeping staff, engineering and maintenance services along with hospital security staff to control the spread of MERS-CoV within the hospital and among the community.

We as a team of healthcare providers implemented active triaging of all patients, visitors and healthcare providers seeking for evidence of respiratory illness at all entry points of the hospital. Intense education and competency assessment was conducted for all healthcare providers. Increased the number of airborne infection isolation rooms and also increased the availability of all personal protective equipments to the healthcare providers. Improved the hand hygiene practices among all healthcare providers and imparted the same for all visitors and our patients. Improved the practice of housekeeping services by providing a fumigation machine which delivers fumes with a combination of hydrogen peroxide and silver ions following adequate terminal cleaning of all patient rooms following their discharge. These practices are regularly audited by the MERS-CoV prevention team for effective implementation and the results are reviewed on a monthly basis for any deficiency and further corrective actions. The above measures have resulted in no evidence of healthcare associated MERS-CoV infection among patients, visitors and or healthcare providers of our facility since then.

Awareness on the mode of MERS-CoV disease case definition, pathogenesis, and mode of transmission and implementation of adequate and appropriate infection prevention and control measures are critical to prevent the possible spread of MERS-CoV in healthcare facilities.

## Bibliography

1. "Middle East respiratory syndrome coronavirus (MERS-CoV) update". *Geneva: World Health Organization* (2016).

2. Assiri AM., *et al*. "Epidemiology of a novel recombinant Middle East Respiratory Syndrome Coronavirus in humans in Saudi Arabia". *Journal of Infectious Diseases* 214.5 (2016): 712-721.

3. Memish ZA., *et al*. "Family cluster of Middle East respiratory syndrome coronavirus infections". *New England Journal of Medicine* 368.26 (2013): 2487-2494.

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