



Surveillance of under investigated Middle East respiratory syndrome coronavirus cases in the framework of public health emergency of international concern at Sulianti Saroso Infectious Diseases Hospital period from 2014-2018

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Abstract

Middle East Respiratory Syndrome Corona Virus (MERS-CoV) is a new strain of the corona virus, approximately 80% of human cases reported by Saudi Arabia Kingdom. Cases identified outside the Middle East are people who were infected in the Middle East and travelled to areas outside the Middle East. In Public Health Emergency of International Concern (PHEIC), MERS case requires assessment of risk to human health, risk of international spread of disease and risk of interference with international travel. Early detection of MERS case is through surveillance at the entrance of the country and regional surveillance. Indonesia is the country with the majority Muslim population has a high history travel to Saudi Arabia for Hajj and Umrah. Sulianti Saroso Infectious Diseases Hospital (SSIDH) is national referral hospital for infectious and communicable diseases in Indonesia has task to organize management and surveillance of infectious diseases including new emerging, re-emerging and tropical disease. For MERS case, SSIDH implementing case management and surveillance case for under investigated MERS cases hospitalized. The objective of the study is to describe disease under investigated MERS cases whose hospitalized period 2014-2018. The method includes the passive surveillance. The results of the study are the trend of under investigated MERS cases hospitalized has decreased. The number of hospitalized cases based on sex was 52% for male, 82% was 45 years old above. Based on travel history was 66.7% for Umrah, region origin were 31% cases from areas outside Jakarta. Most patients referenced from hospital and final diagnosis was pneumonia (66%). The laboratory results for all cases period 2014-2018 were negative MERS-CoV. This study concluded that there are no positive of MERS-CoV, most of under investigated MERS cases with pneumonia. Sustainable surveillance is needed as early warning for emerging and reemerging diseases especially MERS.

Given the mode of transmission of Middle East respiratory syndrome (MERS), healthcare workers (HCWs) in contact with MERS patients are expected to be at risk of MERS infections. We evaluated the

prevalence of MERS coronavirus (CoV) immunoglobulin (Ig) G in HCWs exposed to MERS patients and calculated the incidence of MERS-affected cases in HCWs. We enrolled HCWs from hospitals where confirmed MERS patients had visited. Serum was collected 4 to 6 weeks after the last contact with a confirmed MERS patient. We performed an enzyme-linked immunosorbent assay (ELISA) to screen for the presence of MERS-CoV IgG and an indirect immunofluorescence test (IIFT) to confirm MERS-CoV IgG. We used a questionnaire to collect information regarding the exposure. We calculated the incidence of MERS-affected cases by dividing the sum of PCR-confirmed and serology-confirmed cases by the number of exposed HCWs in participating hospitals. In total, 1169 HCWs in 31 hospitals had contact with 114 MERS patients, and among the HCWs, 15 were PCR-confirmed MERS cases in study hospitals. Serologic analysis was performed for 737 participants. ELISA was positive in five participants and borderline for seven. IIFT was positive for two (0.3%) of these 12 participants. Among the participants who did not use appropriate personal protective equipment (PPE), seropositivity was 0.7% (2/294) compared to 0% (0/443) in cases with appropriate PPE use. The incidence of MERS infection in HCWs was 1.5% (17/1169). The seroprevalence of MERS-CoV IgG among HCWs was higher among participants who did not use appropriate PPE.

Biography:

Anita P D Nugroho has her expertise in surveillance and research in epidemiology field. She has completed her Master of Health at University of Respati, Indonesia. She has worked at Sulianti Saroso Infectious Diseases Hospital since 2001 and from 2014 as an Epidemiology Staff at Directorate of Infectious and Communicable Diseases Research.