

EDITORIAL**Human-Animal Interface and Severe Emerging Diseases**AKM Shamsuzzaman¹

Mankind lives in this world keeping an ecological balance with environments and biological beings. Imbalance in any part provokes threat to the climate as well as mankind, plants and animals. Human have exposures particularly to animals either in domiciliary, farm settings, wild life situation and commerce purpose. This is the aspect of an interface for transmitting disease agents between two parties.

Many disease agents reside in animal kingdom causing no harm, but while transmitted to mankind where those encounter another variable field for adaptation and accommodation. Conversely, agents from human to animal can be subjected to said phenomenon. This interface might provide favorable supports for a particular disease agent to change their genotypic as well as phenotypic characteristics creating enormous facilities for entering, anchoring, reproduction and expression of virulence determinants. Since, human body has a very well orchestral, organized and situation specific defense mechanism to identify, attack and eliminate outsider microbial invasion, that losses its preliminary process of identification and thereby the chain of reactionary events. This type of microbial agents then cause significant tissue damage/dysfunction to produce life threatening diseases while particular involvement are respiratory and neurological systems. One such disease is NIPAH encephalitis prevailing in Bangladesh since the year 2001 maintaining its biological cycle between bats and humans. Other two novel viruses namely H7N9 avian influenza and Middle East Respiratory Syndrome Coronavirus (MERS-CoV) started hunting mankind just from the last year and having the high potentials of pandemic spread.

Human case by H7N9 virus infection was first reported t in 2013 in China (Gao et al., 2013). In the month following the report of the first case, more than 100 people had been infected, an unusually high rate for a new infection. As of 6 November 2013, 139 confirmed cases have been reported, resulting in 45 deaths (Cowling et al., 2013). As of 7 December 2013, 2 additional confirmed cases, and 4 potential cases, have been reported in Hong Kong (Chen et al., 2013). It has been reported that H7N9 virus does not kill poultry (Li et al., 2013). In Bangladesh, the National Influenza centre at IEDCR has the capacity to detect H7N9 infection and has routine surveillance that has been going on to detect different Influenza virus strain including H7N9.

The Middle East respiratory syndrome corona virus (MERS-CoV), a novel corona virus (CoV) first reported on 24 September 2012 on ProMED-mail by Egyptian virologist Dr. Ali Mohamed Zaki in Jeddah, Saudi Arabia. On 8 November 2012 in an article published in the New England Journal of Medicine, Dr. Zaki and co-authors (2013) from the Erasmus

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Medical Center, published more details, including a scientific name, Human Corona virus-Erasmus Medical Center (HCoV-EMC) which was then used in scientific literature. In the article, they noted four respiratory human corona viruses (HCoV) known to be endemic: 229E, OC43, NL63, and HKU1. In 21 February 2013, WHO stated 13 laboratory-confirmed cases of which 6 cases were from Saudi Arabia, 2 cases from Jordan, 2 cases from Qatar, and 3 cases from the UK) of them 4 death cases. In May 2013, the Coronavirus Study Group of the International Committee on Taxonomy of Viruses adopted the official designation, the MERS-CoV which was adopted by WHO to "provide uniformity and facilitate communication about the disease" to replace the unscientific designations *Novel Coronavirus 2012* or simply 'novel Coronavirus (Chan et al., 2013). A Total of 157 cases was reported from Jordan, Qatar, Saudi Arabia, the United Arab Emirates (UAE), Tunisia, Germany, the United Kingdom (UK), France, Italy, Oman and Kuwait of which 66 cases died with a fatality rate of 43% till date (Chan et al., 2013).

The Government of Bangladesh takes initiatives to detect MERS CoV infection among the Hajj pilgrims through a surveillance system run by IEDCR. However, detection of fist case is as yet not done. [*J Sci Found, 2012;10(2):50-51*]

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