

## Middle East Respiratory Syndrome Coronavirus (MERS-CoV): Hajj issue for Iran

Editorial

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Every year, millions of Muslims from all over the world, are going to participate in the pilgrimage Hajj, located in Mecca in Saudi Arabia. There are two types of Hajj: Great Hajj and Umrah Hajj. Great pilgrimage or Hajj is obligatory for each Muslim once in entire his/her life and will occur only once a year; i.e. in the 11<sup>th</sup> month of Arabic calendar. Due to the nature of Arabic calendar (11 days less than 365 days of Persian/Christian calendar), this month is variable each year and will be in different seasons over the years. Another type of Hajj is Umrah which is possible to be participating in the rest of the year (11 months) and it is not obligatory. The accumulation of many people from all parts of the world, in terms of health management, is of great importance. In fact, every person could be a carrier of various chronic or acute diseases. This huge population may lead to occurrence of several epidemics, especially respiratory infections.

Iran, as one of the biggest Muslim countries in the Middle East will annually send many people to Mecca. In 2015, more than 65 Thousands of Iranian pilgrims Hajj went to the Mecca. All of these pilgrims may be at risk for different diseases and should be considered as the potential carriers of diseases when return to Iran.<sup>1</sup>

The outbreak in Saudi Arabia is very important, because every year more than at least two millions people go for Great Hajj as well as the rest of year who hundreds of thousands of Muslim countries will send their own people for the Umrah Hajj.<sup>2</sup> Recently, MERS-CoV, a new and potentially fatally virus from the same family as the common cold and Severe Acute Respiratory Syndrome Virus (SARS), is considered very important which is made by the virus named MERS-CoV.<sup>3</sup> MERS is a respiratory condition which is caused by a virus but only has recently been seen in humans.<sup>4</sup> Symptoms may include fever (more than 38 degrees), cough and shortness of breath, due to the effect of virus on the lower and upper respiratory tracts, leading to coughing, shortness of breath, fever and pneumonia.<sup>5</sup> The virus is targeted in cells of the lungs and possibly the kidneys, which may explain the observed kidney failure cases; however, some infected people may report no symptom, which is epidemiologically very important.<sup>6</sup>

Cases of MERS, at first, were appeared in September 2012 in Saudi Arabia, and since that time, the virus has resulted in sickness of more than 500 people in 14 countries (Saudi Arabia, Qatar, France, Germany, Italy, Jordan,

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Tunisia, United Arab Emirates, Oman, Greece, Malaysia, Iran, United Kingdom and United States).<sup>7</sup> Unfortunately, about 30 percent of infected people have been died.<sup>6</sup> Geographically, most of the cases have been seen in the Middle East, particularly in Saudi Arabia.<sup>4,5,8</sup>

Scientists believe that the virus may have been circulating in Arabian camels for more than 20 years as well as bats as the initial culprit, possibly infecting camels and then humans.<sup>9</sup> Some early victims had worked with camels, ate (well-uncooked) camel meat or drank unboiled camel milk, which has confirmed that the virus may pass from camels to humans.<sup>9</sup> However, the exact way of its spreading is not completely known, perhaps through air or bodily fluids.<sup>9</sup> It is a pity that many of patients were health care workers and family members who had close contact with an infected person.<sup>10</sup> Some other scientists state that MERS may epidemiologically be linked to healthcare facilities, suggesting nosocomial transmission.<sup>9,10</sup> For management of disease, patients are recommended to be isolated, either in a hospital or at home if the viral infection is not too severe.<sup>5</sup> The management of disease is mainly for the symptoms; for example, patients with breathing difficulties would be supported with a machine to provide extra oxygen, or be given medication for fever. There is no vaccine yet; and in the best-case scenario, it would take at least three years to develop one.<sup>5</sup>

It is recommended that in order to prevent transmission of disease, the following tips would be considered by everyone: Washing hands regularly; using a tissue when sneezing or coughing; avoid touching the face during sneezing or coughing with unwashed hands; disinfecting surfaces which were in contact with infected people; being away from the patient or those who have

recently returned from Mecca, especially avoiding to kiss or shaking hand with pilgrims and their relatives.<sup>2,4,7</sup>

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