Emerging infections represent a concern especially when their increase is rapid and their mortality is high [1]. Middle East Respiratory Syndrome coronavirus (MERS-CoV) with high intensity and lethality and unknown epidemiological aspects is one of the emerging infections which should be considered as a threat to global health security [2]. This emerging infection first appeared in the September 2012 from a patient with fatal pneumonia in Jeddah district in Saudi Arabia, where every year a large number of Muslims attend the Hajj, one of the greatest Islamic rituals [3]. Subsequently, since September 2012, sporadic cases were reported from 27 countries in the world. To the best of researchers’ knowledge, to date, the authors of all previously published studies of MERS-CoV have neglected to calculate the monthly pattern of MERS-CoV infection from year to year. In this manuscript, we utilized a publicly available MERS-CoV database of case reports (n=1103 MERS cases) retrieved from the disease outbreak news on MERS-CoV in the world health organization (WHO) website (https://www.who.int/csr/don/archive/disease/coronavirus_infections/en) from 23 September of 2012 and 11 November of 2016. Epidemiological curve, monthly trend and global geographic distribution of the MERS-CoV cases during the course of this study summarized in figures 1, 2a,b.

The trend of new cases of MERS-CoV in different months from 2012 to 2016 was shown in figure 1. This figure shows the occurrence of some laboratory-confirmed MERS-CoV cases during each year, but every year we encounter with two peaks of this infection especially at the first and last months of each year.
pattern of the global distribution of MERS-CoV shows that Saudi Arabia must be considered as the epicenter of this pandemic (Figure 2 (a)). Our findings also show that the highest prevalences of MERS-CoV infection were found in Tabuk and Riyadh, both provinces in Saudi Arabia (Figure 2 (b)).

In summary, since our knowledge about the epidemiology of MERS-CoV is increasing, there is the need to continuously design and conduct studies to characterize certain ecological and epidemiological trends of MERS-CoV infection and also determine the geographic distribution of MERS-CoV to take preventive action and develop effective interventions. We hope that this manuscript be as a basis for further epidemiological research in this scope, especially for considering the seasonal pattern of the MERS-CoV infection in the human community.

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References

