

Current major event

Resurgence of Arboviruses in EMR

Epidemiology of Arthropod-borne viruses (Arboviruses) is changing in EMR. Emergence and resurgence observed trends of arboviruses could be attributed to several factors including viral mutation and recombination, urbanization, global population movements, trades and climate changes. In 2019, four arbovirus outbreaks were reported from 4 countries in the region.

Editorial note

Arboviruses are transmitted through bites of infected mosquitoes, ticks, or sand flies. (See table) Other mode of transmission is contact with body fluid of infected animal. Person to person transmission is un-common but can occur through blood transfusion, organ transplantation, health-care acquired and laboratory transmission. Vertical transmission and through breast milk are reported.

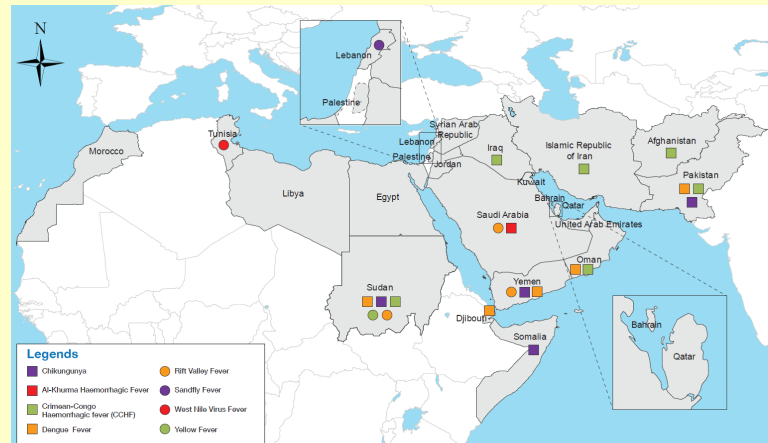
Arbovirus outbreaks exert a huge burden on population, health system and economy as well. There are more than 130 arboviruses are known to cause human disease. More than nine Arboviruses posed significant threat in EMR causing multiple outbreak in the past decade including; Dengue fever (DF), Rift Valley fever (RVF), Crimean-Congo haemorrhagic fever (CCHF), Chikungunya, Yellow fever (YF), West Nile fever (WNV), and Alkhurma fever.

DHF is currently the most widely spread mosquito-borne disease EMR. Dengue outbreaks were first reported in 1998 and have increased in frequency and spread ever since, with outbreaks occurring in Djibouti, Egypt, , Oman, Pakistan, Saudi Arabia, Somalia, Sudan, and Yemen. Serological evidence of circulation of DV has been reported from Jordan recently. All the four serotypes of DV have been circulated during the outbreak.

RVF was introduced to EMR in 1977, via infected livestock trade along the Nile irrigation system to Egypt. In 2000, RVF spread to Saudi Arabia and Yemen, marking the first reported occurrence of the disease outside the African continent. Then, subsequent outbreaks were reported from Egypt and Sudan.

In EMR, sporadic human cases and outbreaks of CCHF have been reported from Afghanistan, Islamic Republic of Iran,

Arboviral disease outbreaks in EMR



Arbovirus Reported Outbreaks in EMR during current decade

- Dengue fever
- Rift Valley fever
- Crimean-Congo haemorrhagic fever (CCHF)
- Chikungunya
- Yellow fever
- West Nile fever
- Alkhurma fever

Iraq, Kuwait, Oman, Pakistan, Saudi Arabia, Sudan and the United Arab Emirates. So far, five genotypes of CCHF virus (genotype-1, 2, 3, 4 and 7) have been detected in region. In some countries, the trend of CCHF has been steadily increasing in recent years.

Chikungunya was first found during serological surveys in Pakistan in 1983. Huge outbreaks were reported from Yemen, Pakistan and Sudan as well. Sporadic cases were reported from Saudi Arabia. WNV is one of the most widely distributed arboviruses in the world. In EMR, WNV is endemic in Tunisia. Since 1997 four major upsurge of WNV cases were reported in the country.

Alkhurma Haemorrhagic Fever (AHF) was initially isolated in 1995 from a patient in Saudi Arabia. Since then, several cases were reported from KSA.

Sudan is the only country in EMR in the Yellow Fever zone. Large epidemics have been reported in Sudan in 1940, 1959, 2003, 2005, 2012 and 2013. Apart from Sudan, serological evidence of circulation of Yellow Fever virus has been documented in Djibouti and Somalia.

The key to tackle Arboviruses resurgence is strengthening the integrated one health initiative addressing public health, animal health and environmental aspects.

Update on outbreaks

in the Eastern Mediterranean Region

MERS in Saudi Arabia; **cholera** in Sudan; **cholera** in Somalia; **cholera** in Yemen; **multidrug-resistant typhoid fever** in Pakistan.

Current public health events of concern

[cumulative N° of cases (deaths), CFR %]

Avian influenza: 2006-2017

Egypt (A/H5N1) [359 (122), 33.98%]

Egypt (A/H9N2) [4 (0)]

Ebola virus disease (EVD): 2018-2020

Democratic Republic of Congo [3 388 (2 233), 65.91%]
(DRC)

Cholera: 2017-2020

Somalia [9 968 (50) , 0.5%]

Yemen [2 188 503 (3 750), 0.17%]

Sudan [346 (11), 3.18%]

Diphtheria: 2017-2020

Yemen [5 039 (295), 5.85%]

Bangladesh [8 952 (46), 0.51%]

Sudan 110 (13), 11.82%

MERS: 2012-2019

Saudi Arabia [2 108 (784), 37.19%]

Multidrug-resistant typhoid fever: 2016-2019

Pakistan [1 5364 (0)]