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Current major event

CCHF in the EMR: Current knowledge gaps

Crimean-Congo hemorrhagic fever (CCHF) is the most wide-spreading tick-borne viral disease in humans. The disease is also endemic in many countries of the Eastern Mediterranean Region (EMR) of WHO. The incidence of the disease has increased in recent time. Despite the rapidly growing incidence, its control efforts are hindered by lack of data on the maintenance and transmission of the virus and the pathogenesis of the human disease remain poorly understood in the Region.

Editorial note

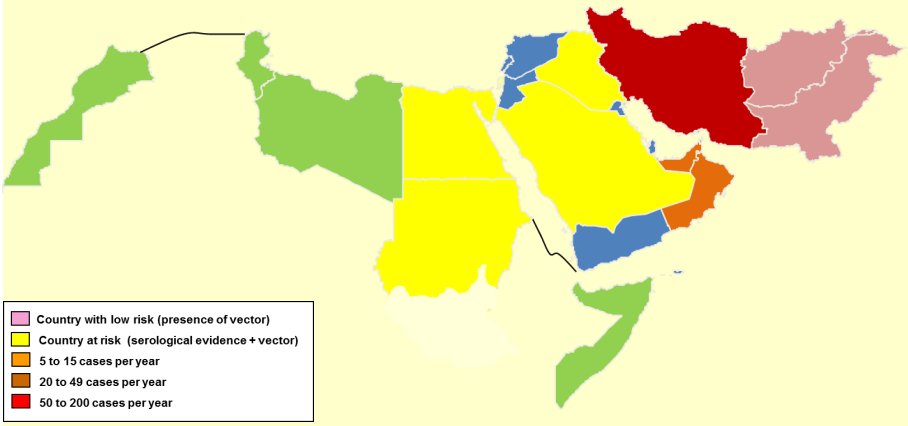
In the Eastern Mediterranean Region (EMR) of WHO comprising of 22 countries, sporadic human cases and outbreaks of CCHF have been reported from Afghanistan, Iran, Iraq, Kuwait, Oman, Pakistan, Saudi Arabia, Sudan and the United Arab Emirates. In some countries, the trend of CCHF has been steadily increasing in recent years *(Please see above)*

Moreover, serological studies among livestock have identified presence of the disease in Egypt, Somalia and Tunisia. The disease is reportedly endemic in Afghanistan, Iran and Pakistan, particularly in the bordering areas of three countries where the movement of nomads with their animals is concentrated. Trade in animals and animal skins within Pakistan, and between Pakistan, Iran and Afghanistan is thought to play a major role in the spread of CCHF among people who handle animals or their skins, slaughter infected animal, and come into close contact with ticks or CCHF patients.

Despite that CCHF is the most widespread tick-borne viral infection and one of the most rapidly emerging viral hemorrhagic fevers in humans, occurring across many countries in the Eastern Mediterranean Region, the burden of the disease and the factors contributing to its geographic spread including the animal reservoir of the virus remain poorly understood *(Please see the box)* . There is also no CCHF surveillance programme in most of the countries of the Eastern Mediterranean Region where CCHF is endemic. Competent vectors, especially *Hyalomma* spp. ticks are widely distributed throughout the region. Disease transmission is commonly via exposure to blood or viscera of infected livestock, or tick bite. Nosocomial infection is also reported in some of the countries in the region such as Iran, Pakistan, Sudan, Afghanistan and United Arab Emirates.

A better understanding of CCHF epidemiology is needed for a comprehensive prevention and control programme in the EMR addressing human as well as animal and tick populations. It is important that the existing knowledge gaps for effective control (such as therapeutic options, tick control, etc) are addressed to develop effective strategies that can be mounted in consistent manner to prevent the public health burden of CCHF in the region.

Possible geographic distribution of CCHF in the Eastern Mediterranean Region



Knowledge gaps on CCHF in the EMR

- Drivers for increasing number of human infections from and its spread in the Eastern Mediterranean Region.
- Types of different genotypes of CCHF virus currently circulating in the region.
- Asymptomatic spread of the disease amongst close contacts of patients at households.
- Period of infection control measures to be applied for patients diagnosed with CCHF and discharge criteria.
- Mode of transmission for human-to-human transmission at households and in healthcare settings.
- Burden and magnitude of the disease in human populations in both endemic and non-endemic countries.
- Pathogenesis and drivers for emergence of CCHF in non-endemic countries.
- Appropriate surveillance methods for detection of the infectious niche in ticks/vectors and animals
- The role of migratory birds, mice, cats and dogs in CCHF transmission especially those that have been in contact with

Update on outbreaks

in the Eastern Mediterranean Region

MERS-CoV in Saudi Arabia; Cholera in Somalia

Current public health events of international concern

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

Avian Influenza : 2006-2016	
Egypt (A/H5N1)	[356 (121), 33.9%]
Egypt (A/H9N2)	[3 (0)]
MERS-CoV: 2012-2016	
Saudi Arabia	[1414 (601), 42.5%]
Bahrain	[1 (1), 100%]
Cholera : 2016	
Somalia	[8838 (433), , 4.9%
Yellow fever: 2015-2016	
Angola	[3867 (369), 9.5%
DRC	[2269 (16). 0.7%
Lassa fever : 2015-2016	
Nigeria	[273(149), 54.5%)
Benin	[54(28),51.8%
Avian Influenza A (H7N9) : 2013-2016	
China	[775 (307),36%]
Avian Influenza A (H5N6) : 2016	
China	[4 (0)]
Wild poliovirus: 2014-2016	
Pakistan	[371(0)]
Afghanistan	[54(0)]
Zika Virus Infection: 2007-2016	
70 countries and territories have reported transmission so far	