

Current major event

Dengue in Sudan

The Federal Ministry of Health in Sudan has recently reported an increase in suspected dengue fever cases during the period of epi week 40 and 47. A total of 90 suspected cases including 2 deaths (CFR: 2.2%) were reported across the states of Khartoum, Kassala, East Darfur, West Darfur, South Kordofan and Red Sea. The highest number of cases (80 suspected cases with no associated death) was reported in Kassala state.

Editorial note

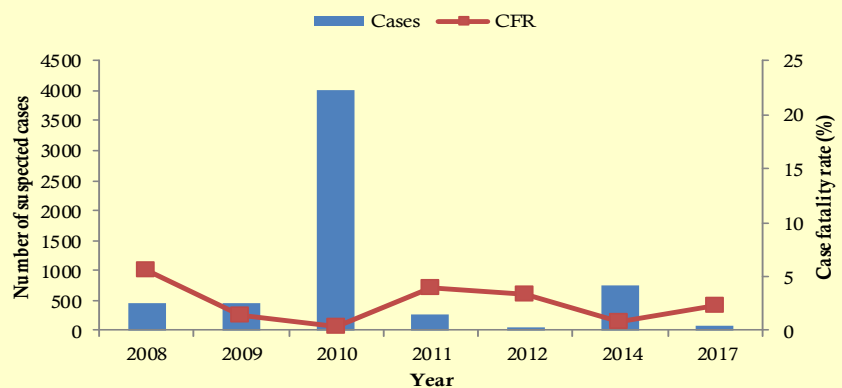
Dengue fever is an arboviral disease caused by the dengue virus (DENV) and transmitted to humans through the bites of infected female mosquitoes, *Aedes aegypti* and *Aedes albopictus*. These mosquitoes also transmit chikungunya, yellow fever and zika virus. Dengue fever affects infants, young children and adults, but seldom causes death. Recovery from infection provides lifelong immunity against the serotype.

The last outbreak of dengue fever in Sudan was reported in 2014 with 738 cases reported and 6 associated deaths in the Red Sea state. This state has been hit by dengue fever since 2003. The worst outbreak, so far, was in 2010, with 4,008 cases and 12 deaths (*Please see the graph*).

In 2017, the first dengue fever case was reported on 4 October in Kassala city. Up to 20 November 2017, this number was increased to 90 with 2 associated deaths across six states (*Please See table*). Three cities in Kassala state, namely Kassala city, West Kassala and Rifi Kassala, contributed the most to this number, with 86% of them being reported from Kassala city. Most of the patients developed symptoms including fever, headache, and bone ache. Only 18% of them experienced bleeding manifestations and were from Kassala state. 36 blood samples were collected from the suspected cases and 26 were confirmed as positive cases of dengue fever.

The affected population varied in gender, age and occupation. Both females and males were affected, 56.5% and 46.4% respectively. The most affected age group was 15-29 years (36.7%), in addition to age groups 5-14 years (20%) and 30-44 years (21%). Students comprised 8.9% of the reported cases and house wives

Dengue fever cases and deaths reported in Sudan, 2008-2017



SUSPECTED DENGUE FEVER CASES

State	Locality	No of Cases	No of deaths
Khartoum	Jabal Awlia	1	0
Kassala	Kassala	69	0
	West Kassala	1	0
	Rifi Kassala	10	0
East Darfur	Assalya	1	0
	Elddeain	1	1
West Darfur	Habila	1	1
	Kerink	4	0
South Kordofan	Abu Karshola	1	0
Red Sea	Port Sudan	1	0
Total		90	2

7.8%. Healthcare workers were also affected as doctors represented 2.2%, and lab technicians 1.1% of the suspected cases.

As a response to the increasing number of suspected dengue fever cases in Sudan, WHO distributed mosquito repellents among 10,000 school children in Kassala, and volunteers visited 2,500 houses to raise awareness about indoor vector control activities.

In order to contain the current suspected outbreak in the country, the Federal Ministry of Health has to enhance surveillance for early detection of suspected cases, strengthen entomological surveillance and vector control measures. Case management also needs to be standardized through distribution of guidelines and protocols. Risk communication should play a major role in the community to increase awareness about protective measures needed to reduce the possibilities of mosquito bites.

Update on outbreaks

in the Eastern Mediterranean Region

MERS in Saudi Arabia; **cholera** in Somalia; **cholera** in Yemen; **dengue** in Pakistan.

Current public health events of international concern

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

Avian influenza: 2006-2017

Egypt (A/H5N1) [359 (122), 34%]
Egypt (A/H9N2) [4 (0)]

Avian influenza A (H7N9): 2013-2017

China [1,564 (612), 39.1%]

Chikungunya: 2016-2017

Pakistan [8,282 (0)]

Cholera: 2016-2017

Somalia [78,349 (1,159), 1.5%]
Yemen [959,810 (2,219), 0.23%]

Plague: 2017

Madagascar [2,384 (207), 9%]

Dengue fever: 2017

Pakistan [125,316 (69), 0.1%]

MERS: 2012-2017

Saudi Arabia [1,747 (681), 39%]

Wild poliovirus: 2014-2017

Pakistan [5 (0)]
Afghanistan [11 (0)]

Zika virus infection: 2015-2017

84 countries and territories have reported transmission so far.