

Current major event

Suspected VHF in Sudan: Cases decline but not contained

The suspected cases of viral haemorrhagic fever (VHF) reported from Darfur region in Sudan continue to be reported sporadically. Although, cases have declined, there is yet no sign that the outbreak has been contained.

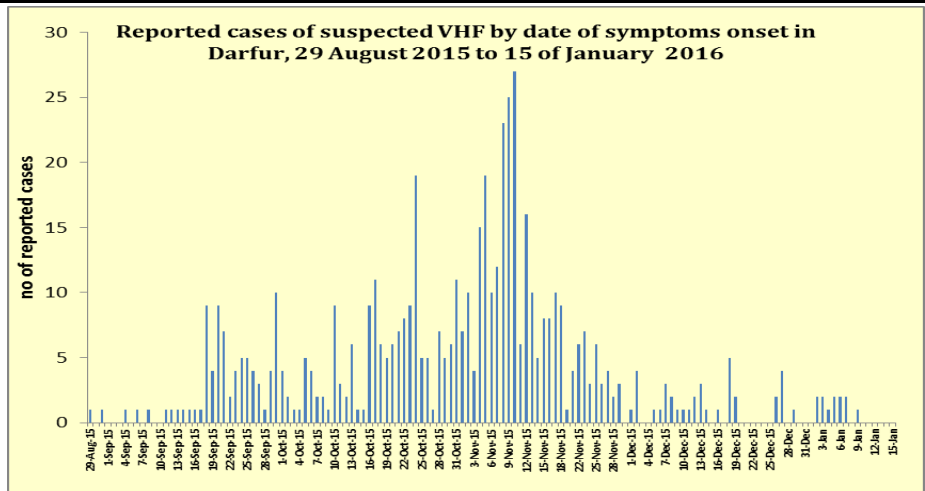
Editorial note

A total of 535 suspected cases of VHF including 99 deaths were reported from this outbreak in Darfur in the period of 29th August to 15th January, 2016. A total of forty-seven cases and no death were reported during the last week of 2015 up until the first two epidemiological weeks of 2016 (*Please see the graph*).

Laboratory analysis of 117 blood samples collected from suspected cases and tests being conducted at the Central Public Health Laboratory in Khartoum revealed 33 blood samples to be positive for Dengue fever (DF) by serology (ELISA). There were also 8 samples positive for West Nile virus and 1 sample positive for Chikungunya. All the samples were tested negative for Yellow fever (YF) Crimean Congo Hemorrhagic Fever (CCHF), and Rift Valley Fever (RFV).

The speed with which this outbreak raged and the apparent absence of laboratory diagnosis on the aetiology remained a cause of concern. The area in Darfur where the outbreak began was a epicenter for one of the biggest outbreaks of YF in Sudan in 2013. However, a reactive vaccination campaign was conducted in the areas against YF immediately following the outbreak with high vaccination coverage achieved. The area is also endemic to malaria but no major outbreak of dengue was ever reported from this area in the past.

A field investigation conducted jointly by the Federal Ministry of Health (FMOH), State Ministry of Health of Darfur regions and WHO revealed that most of the cases admitted in the hospital- almost over 70% were positive for malaria when tested by malaria rapid diagnostic test. In addition, in the absence of proper diagnosis, the clinicians



Suspected VHF cases reported from Darfur region			
Region	Cases	Death	CFR (%)
Central Darfur	73	12	16.4
West Darfur	310	69	22.5
North Darfur	118	15	12.7
South Darfur	19	1	5.3
East Darfur	15	2	33.3

treated the severe cases with antimalarial drugs and the clinical outcome of these patients were better than those not treated with antimalarial drugs.

In the absence of proper laboratory diagnosis, appropriate public health measure to contain the spread will continue to be a challenge. It is likely that the cause and aetiology of this outbreak is a mixed pathogen. The clinical diagnosis of patients might have been masked owing to co-circulation of a number of mixed pathogen, including malaria, dengue and possibly other pathogens responsible for haemorrhagic manifestations. One of the plausible explanations for high number of deaths and bleeding manifestations resulting from DF could be that a new serotype of DF might be circulating in the region to which the susceptible populations may not have immunity. In this situation, one can expect a different epidemiological characteristics of the disease including a different clinical picture.

Establishing the laboratory diagnosis of this outbreak will be the key if cases are to be contained. A fresh batch of samples should be collected from the cases and tested for all arbo and flavivirus immediately in a reference laboratory.

Update on outbreaks

in the Eastern Mediterranean Region

MERS-CoV in Saudi Arabia; Undiagnosed viral haemorrhagic fever in Sudan

Current public health events of international concern

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

Avian Influenza : 2006-2016

Egypt (A/H5N1)	[346 (117), 33.8%]
Egypt (A/H9N2)	[3 (0)]

MERS-CoV: 2012-2016

Saudi Arabia	[1277 (549), 42.9%]
Jordan	[39 (12), 31%]
Oman	[7 (3), 42.8%]
UAE	[78 (11), 14.1%]
Kuwait	[3 (1), 33.3%]
Republic of Korea	[186 (36), 19.3%]
Qatar	[14 (5), 35%]
Iran	[6 (2), 33.3%]

Lassa fever: 2015-2016

Nigeria	[159(82), 51.5%]
Benin	[71 (23),32.3%

Ebola Virus Disease: 2014-2016

Guinea	[3804 (2536),66.6%]
Liberia	[10675 (4809),45%]
Sierra Leone	[14124 (3956),28%]

Viral Haemorrhagic Fever (of unknown aetiology)

Sudan	[535 (99),18.5%]
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Wild poliovirus: 2014-2016

Pakistan	[360 (0)]
Afghanistan	[47(0)]