

Current major event

Acute diarrhoea in Deir-ez-Zor, Syria

An increase in number of cases of acute diarrhoea cases was reported from Deir-ez-Zor governorate in Syria since March 2018. As of 24th June 2018, a total of 578 cases including 12 related deaths (case fatality rate—CFR: 2.07%) were reported to WHO.

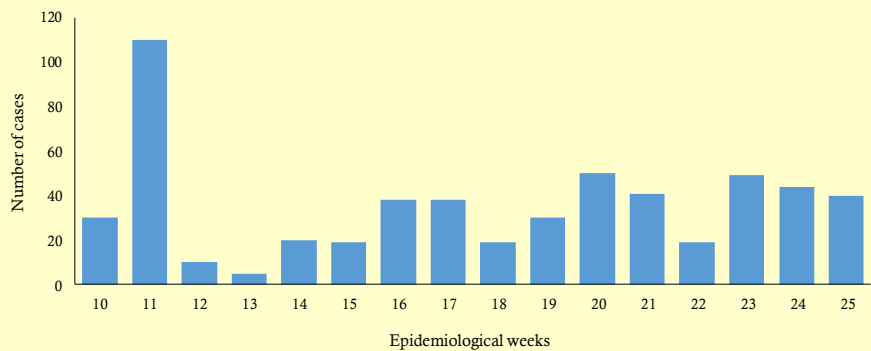
Editorial note

Deir-ez-Zor governorate has experienced an upsurge in cases of acute diarrhoea since March 2018 (*please see the graph*). Initial field investigation conducted following this upsurge revealed that out of the total cases reported, 94% (543/578; 94%) presented with bloody diarrhoea. The most affected age group were children in the 0-15 years. This age group accounted for over 90% of the reported cases.

Conflict and insecurity have severely hampered timely access for effective field investigation and to address required interventions measures. Despite the challenges, some samples have been collected and tested in national public health laboratory in Damascus, and some stool samples were also sent to American University of Beirut for further testing and analysis. According to the preliminary results received from these laboratories, 60% of the stool samples were positive for *Escherichia coli* (*E.coli*). Other pathogens detected from the stool sample include *K. pneumoniae pneumonia*, *Salmonella* spp. (99.7% *Salmonella arizonae*) and *Proteus mirabilis*. The laboratory is conducting further susceptibility testing to antimicrobials and PCR detection of Shiga toxin gene 1 and 2 (*Stx1* and *Stx2* genes) in Additional pulsed-field gel electrophoresis (PFGE) analysis will also be performed soon to check whether one or more than one strain is (are) implicated in this outbreak.

E. coli is a commonly found in the gut of humans and warm-blooded animals. Most strains of *E. coli* are harmless. However symptoms of strains, such as Shiga toxin-producing *E. coli* (STEC) include hemorrhagic manifestations, severe abdominal cramps, and diarrhea. It is transmitted to humans primarily through consumption of contaminated foods, it has also been isolated from bodies of water (such as ponds and streams), wells and water troughs, and has been found to survive for months in manure and water-

Acute diarrhoea cases reported during Epidemiological week 10-25 2018



trough sediments. Waterborne transmission has been reported, both from contaminated drinking-water and from recreational waters.

Even though diarrhoeal diseases are endemic in most of the countries in the Eastern Mediterranean Region, excess morbidity and mortality due to diarrhoeal diseases is a common occurrence in complex emergencies. Syria has been experiencing protracted complex humanitarian emergencies since 2012. Therefore, this occurrence of diarrhoeal disease outbreak caused by *E.coli* reflects the dilapidated water and sanitation situation prevailing in parts of Syria as a result of direct impact of war and conflicts.

A recent investigation of WHO also supports the laboratory findings of this outbreak of acute diarrhoeal disease. The investigation team observed that most of the community people is using water from the nearby Euphrates river for their livelihood in the absence of any other safe water system available in the areas. The investigation of WHO also concluded that exposure might have also happened through recreational swimming in the river. Additional risk factors, identified by the investigation team included poor community awareness as well as absence of any competent authorities to decontaminate and chlorinate the water sources.

While, there will be a need to find a sustainable solution for the safe provision of water to all villages along the river, as a short term measure, the at-risk communities should be provided with safe water and enforce personal and household hygiene for the use of safe water for drinking and all other purposes. Given the disrupted health systems and other public services prevailing in Syria due to war and conflict, early detection and response to this event has been exemplary by the Syrian health authorities.

Update on outbreaks in the Eastern Mediterranean Region

MERS in Saudi Arabia; **cholera** in Somalia; **cholera** in Yemen; **Diphtheria** in Yemen.

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)] |

Ebola virus disease (EVD): 2018

| | |
|------------------------------------|------------------|
| Democratic Republic of Congo (DRC) | [53 (29), 54.7%] |
|------------------------------------|------------------|

Rift Valley fever : 2018

| | |
|-------------|------------------|
| Kenya | [94 (10), 10.6%] |
| Uganda | [2 (2), 100%] |
| South Sudan | [31 (4), 12.9%] |

Cholera: 2017-2018

| | |
|----------|---------------------------|
| Somalia | [5 880 (40), 0.7%] |
| Yemen | [1 115 378 (2 310), 0.2%] |
| Tanzania | [2 741 (57), 2.1%] |

Diphtheria: 2018

| | |
|------------|--------------------|
| Yemen | [1 904 (98), 5.1%] |
| Bangladesh | [7 986 (44), 0.5%] |

MERS: 2012-2018

| | |
|--------------|----------------------|
| Saudi Arabia | [1 853 (717), 38.7%] |
|--------------|----------------------|

Yellow Fever: 2017-2018

| | |
|--------|----------------------|
| Brazil | [1 266 (415), 32.7%] |
|--------|----------------------|