

## LETTER TO THE EDITOR

# EBOLA HEMORRHAGIC FEVER: CASE FATALITY RATE 90%?

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Since 1976, most epidemiological studies about Ebola Hemorrhagic Fever have reported case fatality rate (CFR) of up to 90% (1). According to the report of WHO (1 August 2014) CFR is of 55–60% (total number of cases 1,603 – deaths 887).

The WHO Report included data of confirmed, probable, suspect, and new patients:

- Confirmed: 1,009 cases and deaths 574 (CFR 56.9%)
- Probable: 416 cases and deaths 265 (CFR 63.4%)
- Suspect: 178 cases and deaths 48 (CFR 27%)
- New: 163 cases and deaths 61 (CFR 37.4%); too early to calculate CFR
- Total: 1,603 cases and deaths 887 (CFR 55.3%)

Considering only confirmed and probable cases (1,426 cases and 839 deaths), CFR will be of 58.9% (2). CFR based on these numbers could not be trustworthy based on these numbers, however, this is the largest outbreak with valid number of cases we have.

Of no doubt, we cannot jump to conclusions based on simple calculation of CFR, however, it raises an important question: why CFR in the current outbreak is much lower than previous outbreaks of Ebola Hemorrhagic Fever?

Several possible reasons could be the explanation:

1. Virus strain. The current strain could be less virulent than strains isolated from previous outbreaks.
2. The virus is adapting to the human host. Fruit bats are considered the natural hosts for Ebola virus.
3. Patient's immune system and general health.
4. Early detection of patients and commencement of supportive treatment.

Currently there is no specific treatment for Ebola Hemorrhagic Fever. USA evacuated 2 American Ebola patients and they are currently receiving medical care at a hospital in Atlanta. Few days after Spain evacuated 2 Spanish patients (only 1 confirmed) to receive medical care at a specialized public hospital in Madrid.

Nowadays, only supportive care is available (intravenous fluids; blood and platelet transfusions), although upcoming human vaccine trials may be promising. The National Institutes of Health (USA) will begin a human vaccine trial in September 2014 (3).

The prospects of transfusing blood or plasma from those patients who have recently recovered from Ebola virus infection seem promising. This could be an effective treatment as Ebola prophylaxis or for use in early onset of Ebola symptoms (4).

Use of an experimental compound, referred to as BCX4430, was recently reported. This compound, an RNA-dependent RNA polymerase inhibitor, has proven successful in a nonhuman primate model, whereby post exposure prophylaxis to BCX4430 prevented death in 17 of 18 macaques studied. No human trials have yet been reported (5).

All public health professionals should collaborate to give basic preventive measures to the general population and to combat social alarm. We should avoid new false pandemic alarm like that occurred in 2009 with influenza A (H1N1).

### Conflict of Interests

None declared

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