

Letter to the Editor

Ebola outbreak and investigational drug controversy

Sir,

In 2014, first announcement on Ebola virus epidemic was made on 25 March by the World Health Organisation (WHO). Infection occurred in four southern regions of guinea, 86 people were infected and 69 people died of Ebola. This epidemic was caused by Zaire strain and infection was spreading rapidly, by March 31 2014 another 16 cases reported to the WHO.

Despite various measures Ebola infectivity stood high and cumulative total of 4507 cases and 2296 deaths were reported by WHO Ebola response team as on September 14, 2014.

In August 2014 two American doctors who were working in Liberia contracted and documented for Ebola infection and in September 30 2014, first case of Ebola was reported in United States by the centre for disease control and prevention and 3 more cases were reported in the United States till October 2014.

WHO response team analysed and presented report on current epidemic scenario according to which the median age of infection was found to be 15-44 and there is no significant difference in infection rate among males and females. Health care workers are at more risk than the normal population, so far 318 health workers contracted Ebola infection worldwide. Patient above 44 years and appearance of bleeding symptoms are the two characteristic risk factors for fatality.

The mean incubation period is calculated as 11 days, the mean hospitalisation time is around 5 days and time of hospitalisation to death is 4 days.

To assess the projected spread, WHO response team used reproduction number R_0 , which is the number of secondary cases arise after the identification of first primary case in uninfected area and R_t , the net reproduction number was used to assess the spread of infection when infection has been established in a particular geographical region. Both parameters are used to assess the spread on infection and effectiveness of control measures, when R_t falls below 1 indicates that epidemic under control. For the current outbreak R_0 and R_t remains more than 1 till September 2014.²⁻⁴

WHO summarized the current epidemic is larger in number but virulence factor of the virus appears to be

same, the enormous spread reflects failure of control measures. The other indices like incubation period, fatality rate and reproduction number are almost similar with the previous epidemics.

Z MAPP-CONTROVERSY

Usage of Z MAPP, created a controversy across the globe about its development, funding and its use only for American doctors without FDA approval and about accessibility to other infected patients in African countries. Global leaders including the American president and CDC president addressed the media regarding the same. Z MAPP is expected to do well as it cured those two American doctors, Dr. Kent Brantly and Dr Nancy.

Z MAPP is an investigational drug, monoclonal antibody made of fusion of three different proteins of Ebola virus in under development of US based drug company, passed animal studies. This project is funded by US government and different funding agencies, CDC president said these drugs were given under 'compassionate use' of drug in emergency situations and soon emergency investigational new drug application will be made in FDA. He also stated that nothing more can be said about the nature of this investigation drug until its approval. He also added to another question asked, that it cannot be made available for infected patients in Africa and much clinical trials data needed to prove its efficacy and safety for its general use.⁵

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