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**EDITORIAL**

**Ebola Alertness**

WHO Director General' Margaret Chan said "the whole world is put at risk by the deadly virus spiraling out of control. The epidemic began in Guinea in December 2013 and on August 2014, the WHO declared the rapidly evolving outbreak to be a "public health emergency of international concern".<sup>1</sup> As of 21 November' WHO reported that 5459 people have so far died of Ebola out of a total 15,351 cases of infection in eight countries since late December 2013 and most of them are from three worst affected countries (Liberia, Guinea and Sierra Leone). The majority of patients are 15 to 44 years of age (50% male) and case fatality rate is 70 -80%.<sup>2</sup>

Ebola caused panic across the globe. While, WHO had failed to contain Ebola, U.S. lawmakers called for the resignation of director of the Centers for Disease Control and Prevention (CDC). As of November 2014, there have been a total of ten cases of Ebola virus disease (EVD) in humans in the United States. Eight of the people contracted the disease outside the US and traveled into the country and two of them died. Two nurses have contracted disease in the United States who treated an Ebola patient and both have recovered. Spanish missionary priest became Ebola's first European victim following which another leading physician has been claimed by the disease.

WHO's India office underscored India's active screening of passengers at international airport and hospital preparedness in major cities for referral of suspected Ebola cases for investigation." Professor Peter Piot, the discoverer of Ebola is more worried about Indian people, many of whom work in trade and industry in Africa. Ebola could be a disaster when it hits India because of its poor health structures and inadequate resources to tackle the tide of the epidemic.

EVD is a remote possibility in Bangladesh because of travel restrictions on Ebola patients and absence of air links with the affected West African countries. The national disease monitoring arm, IEDCR is keenly watching the disease and already included Ebola as emerging viral disease in the training program for doctors. The only open route for the virus to Bangladesh is through its peace keepers posted in the region. However Medical services of Bangladesh Armed Forces ruled out the possibility as the corps is oriented with WHO recommendations.<sup>3</sup>

**Aetiology & Transmission :** Ebola is a deadly hemorrhagic disease in humans and nonhuman primates- monkeys, gorillas and Chimpanzees. Genus Ebola virus (EV) is one of the three members of Filoviridae family. There are five identified Ebola virus strains and four of them cause disease in humans. It was first discovered in 1976 near the Ebola river in Congo. Researchers believe that virus is animal borne and bats are the most likely reservoir. The virus may spread from primates to human beings through handling of bush meat.

Ebola is transmitted through direct contact (broken skin or unprotected mucous membrane- eyes, nose, mouth) with blood or body fluid of affected person, objects contaminated

with virus or infected fruit bats/primates Ebola is not transmitted through air, water or mosquitoes. Once recovered from Ebola, they can no longer spread the virus to the people in the community.<sup>4</sup> A screening on bats for Ebola virus in the last year provided evidence that 3.5% of fruit bats in Bangladesh were positive for EV antibodies which supports the idea that the virus circulates among a wider geographic range from Africa to Asia.

**Diagnosis & Treatment :** Sign and symptoms of Ebola include fever, severe headache, fatigue, muscle pain and weakness followed by diarrhoea, vomiting, abdominal (stomach) pain and unexplained hemorrhage. Symptoms may appear anywhere from 2 to 21 days but the average is 8 to 10 days.<sup>4</sup> Young adult are the major sufferers with around 80% fatality. Laboratory findings include low white cell count, platelet count and elevated liver enzymes. A person with symptoms of Ebola, and having reason for Ebola consideration should undergo laboratory test to confirm the diagnosis- during the course: Ac-ELISA/ IgM-ELISA/ PCR/ virus isolation and after recovery IgM and IgG antibodies.

No vaccine or antiviral drugs are available till now. Basic care and symptomatic treatment can improve the chance of survival- such as providing intravenous fluid and balancing electrolytes, maintaining oxygen status and blood pressure and treating other concomitant infections. People who recover from Ebola, develop antibodies that last for 10 years- Some people who have recovered from Ebola developed long term complications, such as joint and vision problem.<sup>4</sup>

**Prevention :** Since Ebola virus is spread through contact with body fluids of symptomatic patients, transmission can be stopped by a combination of early diagnosis, contact tracing, patient isolation and care, infection control and safe burial.<sup>1</sup> CDC has advised anyone traveling to an Ebola affected area, should be careful about - Maintenance of self hygiene particularly hand washing, not to handle contaminated items including the dead body, avoidance of contact with bat or nonhuman primates and after return, health monitoring for 21 days. Health care workers vulnerable to Ebola exposure should follow few steps wearing appropriate personal protective equipments (PPE), practice of proper infection control measures, isolation of Ebola patients and notification to health authority.<sup>4</sup>

WHO will launch the trial on two different Ebola vaccine on December 2014. The vaccine will be tested on health care workers and other groups and some will be given placebo as this is the best way to test whether the vaccine is effective. The first clinical trial

of drugs to treat Ebola, will be launched at the same time and with the results to be available on January 2015. This is the first time a clinical trial will be carried out during disease outbreak.

WHO encourages countries to strengthen surveillance compatible with EVD and to carefully review any unusual patterns and also to continue national health preparedness actions. Global public health expert noticed the unbalance between public health and politics across the globe. Doctors and politicians are to be consistent in their message to the public. The simplest message about Ebola is also difficult to convey i.e. "A person is not infectious until he is not symptomatic".<sup>2</sup>

Although the risk of an Ebola outbreak in Bangladesh is very low, the health authority and the allied institutes are taking precautions to prevent the influx of the disease. IEDCR Director urged everyone not to spread panic and emphasized that launching an awareness program right now might be a knee jerk reaction. Bangladesh can respond well to emergencies when it requires as experienced from pandemic influenza and nipah in the recent past.<sup>3</sup>

Health care providers should be alert for patients presenting with febrile illness within three weeks of returning from West African countries. Suspected EVD cases should be isolated from other people and infection control precautions should be followed to prevent the spread of the disease.<sup>5</sup> Appropriate use of PPE should be practiced when taking care of ill patients. Raising awareness to risk factors for infections and the use of protective measures is the only way to reduce human infections and subsequent death.

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