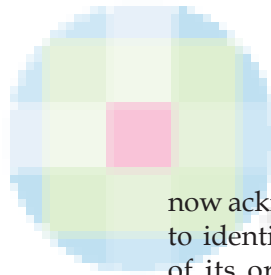


## Pakistan adopts defensive strategies against Ebola contagion

Dear Editor,

Ebola hemorrhagic fever or simply Ebola is an unusual but typically fatal disease caused by infection with one of the Ebola virus strains<sup>[1]</sup> and has the potential to cause illness in humans as well as nonhuman primates (monkeys, gorillas, and chimpanzees). Ebola is consequent to critical symptoms with immense internal hemorrhage and high, bloody fever. Ebola virus is fatal to 90% of the people it infects.

Ebola is a viral infection, with four out of the five species fatal to humans.<sup>[2]</sup> It has already taken thousands of lives in the West Africa, one of the few places where it is endemic, leaving more so infected and/or in a dire state of health. It was declared epidemic on 23<sup>rd</sup> March 2014, 3 months following the demise of the first victim a toddler, “Emile Ouamouno,” who is



now acknowledged as Patient-Zero.<sup>[3]</sup> It is imperative to identify the first infected entity as it gives clues of its origin helping the researchers to solve the puzzle of how and when the outbreak occurred. Moreover, it will also assist in understanding Ebola more comprehensively. Unfortunately in the case of Ebola, it still remains vague how the kid first contacted the virus.

However, since the primary outbreak of Ebola, plenty of information has become available regarding its mode of transmission, symptoms, and diagnosis which has facilitated in formulating possible treatments options and devising prevention strategies. Contrary to the belief, Ebola virus is not airborne but rather transmitted by means of body fluids such as blood, feces, and body fluids along with a close direct contact with an infected individual.<sup>[4]</sup> The symptoms appear within few days after virus infection comprising of high fever, sore throat, muscle pain, and lethargy. Headache and sore throat are pursued by diarrhea, vomiting, followed by impaired or decreased liver and kidney functions. Various cases reported that the affected shows both internal and external bleeding in the later stage.<sup>[5,6]</sup>

The World Health Organization (WHO) warned Pakistani health officials of the imminent threat of the pandemic after which Pakistan has taken instantaneous and vigorous actions to ensure the wellbeing of the citizens plus to keep the virus out of the country.<sup>[7]</sup> Pakistan even though with its constant struggle with the country's health infrastructure has so far steered clear of the virus. Moreover country's community teams in addition to health workers are on the alert and are geared up to act hastily to any news of potential infection but at hand there is no credible suspicion of Ebola anywhere in Pakistan. The Ebola virus epidemic level of Pakistan is 0.0063% making it a low-risk country safe for traveling but the risk exists and one needs to be ready.<sup>[8]</sup> Preparatory measures are imposed for the arriving passengers from susceptible countries and are subjected to advanced screening techniques, medical personnel are undergoing special training to deal with the situation if ever the need arises. In addition, diffusing knowledge and warning against the virus amid the citizens and security personnel are necessary to prevent its outbreak and to-date the most effective way to defend against Ebola virus disease (EVD). Fortunately, Pakistan as of yet is clear from harm's way, and not a single case is reported, even though, few suspicious cases did emerge during the last few months. One such case was of a 40-year-old, had it been confirmed, would have been the first case of EVD in Pakistan.<sup>[9]</sup>

Pakistan organized Ebola screening workshops in August 2014 and conducted drills with the crews of various airlines that have direct flights to the West African countries.<sup>[10]</sup> About 6,000 inhabitants are using the airport daily, it was decided by the government to establish Ebola counters alongside the immigration counters to assure all arriving passengers are screened and questioned about their recent travels and health history. This is vital since there are some questions that must be asked directly, and actions are taken accordingly. Furthermore, the country started Ebola detection training sessions of health staff that will be deployed in all points of entries (POEs) of Pakistan. These personnel will also be present in the newly set up Ebola counters at the airports with task of entry screening, that is, detection and screening passengers with symptoms suspected of the ailment coming from Ebola hit countries.

In addition to this, the health staff will be in contact with the health department of the respective administrative unit of POEs thereby making it possible for them to keep an Ebola suspected patient under observation or quarantine for at least 3 weeks. In this regard, secluded

wards have been set up in tertiary care hospitals all over the main cities of the country including the federal capital, provincial capitals and headquarters of administrative units. Moreover, information sharing mechanism among POEs has also been arranged. Thus, it is essential for the immigration department and health ministry to work mutually concerning this problem so any threat can be ruled out.<sup>[11]</sup>

Considering the example of a developed country like the United States, the country recently formulated a mechanism to prevent Ebola from entering its territory. The passengers travelling to the US from Guinea, Liberia and Sierra Leone are subjected to an exit screening at the respective airports where the staff screen them by asking related questions, detect any suspected symptom and recording their body temperature. Passengers who are exposed to Ebola in the past 3 weeks are denied boarding a flight bound to US and subjected to medical treatment in their respective country. The screened passengers who are cleared to board the flights are only allowed to enter the US through five designated airports where they undergo entry screening. This is done through special screening areas and comprised of three steps.

In the first step, the passengers are questioned about potential risk of Ebola exposure, detection of suspected symptoms, recording of body temperature and have taken their contact information taken by the security staff. In the second step, the passengers are given an Ebola self-kit for detection and reporting of Ebola. This package contains information about the disease and personnel whom to contact in the case of Ebola emergency. A thermometer, temperature log, and cell phone with prepaid talk time of at least 3 weeks are also a part of the kit. The third step includes further questioning and recording of body temperatures of the passengers by public health workers to determine the risk of developing of Ebola during stay in the US.<sup>[12]</sup>

However, Pakistan being a developing country with a financially crippling health care system<sup>[13]</sup> is not able to take such stern measures as the US either due to financial constraints or other reasons related to local and regional dynamics. For instance, low influx of passengers from Ebola hit countries as compared to the US, and less number of international airports do not necessitate stern exit screening mechanism to be set up in Ebola hit countries for passengers traveling to Pakistan as the US. The financial issues with the health infrastructure may not allow Pakistan to provide Ebola detection kits to the passengers.

Despite the odds, Pakistan has responded intelligently to the threat of Ebola spread in the country by training of the workforce, preparation for an Ebola emergency and securing all POEs thereby minimizing the risk dramatically, these efforts are commendable and are deemed satisfactory by the WHO.<sup>[11]</sup> Ebola outbreak is recognized as a public health emergency in Pakistan, and all other nations of the world ought to take effective measures to curb its spread since even a single infected person is capable of causing an outbreak. The steps taken by Pakistan's health care system are endorsed by WHO and can serve as a guide for the developing countries in the region which are also at risk.

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