LETTER TO EDITOR

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Swine flu and understanding about the H1N1 virus in a tertiary care hospital in Kathmandu, Nepal

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Dear editor,

Influenza A virus is the most unpredictable virus responsible for many epidemics and pandemics globally [1]. It has unique capability of undergoing mutation causing change in antigenic characters [2]. Swine flu virus (also known as Influenza A (H1N1) virus, pig influenza virus, hog flu virus and pig flu virus) is a novel influenza virus that causes infection in humans [3]. It is an emerging disease presenting as the serious global public health problem. There are many thousands cases each year [4]. Since the emergence of H1N1 virus almost all the continents have been affected by Influenza pandemic and a large number of deaths have occurred in short period.

After April 2009 there was worldwide rapid spreading of the swine flu virus (H1N1pdm) due to which in June 2009 the World Health Organization declared the swine flu outbreak a global pandemic [1, 2]. Since then there have been many outbreaks globally including the recent one in 2015 in India and Nepal. We conducted a retrospective study upon the suspected patients who attended a tertiary care hospital in Kathmandu, Nepal and accessed the understanding of health care workers, patients and their family members about the H1N1 virus. Although some studies conducted in Nepal have accessed the awareness regarding swine flu among community people [5]; no studies have been conducted targeting the groups of people we have studied. For the diagnosis of influenza A (H1N1pdm) the throat swab was collected and was sent to the laboratory in viral transport medium maintaining cold chain. The method used for the diagnosis was reverse transcription polymerase chain reaction (RT-PCR). Among the total 30 suspected cases from December 2013 to August 2015, 6 cases were found to be positive for influenza A H1N1pdm 09. The age of the patient's positive for influenza A H1N1pdm 09 ranged from 17 years to 61 years. All the positive cases were from Kathmandu and didn't have any travel history outside the country. In our study the most common symptoms among the patients were fever, cough, sore throat and runny nose but none of the patients presented with gastro intestinal symptoms. Among the positive cases four patients recovered without development of any complication but two patients died of fatal pneumonia. Both the deceased patients were of age above 50 and had some underlying chronic diseases like cancer and tuberculosis. The microbiological analysis of the clinical samples from the two

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patients suggested the presence of secondary bacterial infection with multidrug resistant bacteria.

The clinical symptoms in majority of cases include fever, cough, sore throat, a runny nose and diarrhea (20-50%) [6]. The severity of the disease may range from mild and self limiting illness to life threatening complications. The risk of complication is higher in among those who have preexisting chronic diseases like asthma, heart disease and kidney disease, and among pregnant women. In such cases the antiviral treatment should be started as soon as possible before the laboratory confirmation. Effective preventive measures are covering mouth and nose while sneezing, hand hygiene, avoiding the crowd and isolation of suspected patients [2]. To access the level of awareness regarding H1N1 virus, 28 suspected patients, 60 patient's family members and 50 health care workers (20 doctors, 25 nurses and 5 laboratory personnels) were interviewed. Standard questionnaire was used to check the basic knowledge about H1N1 virus (outbreak potential, mode of transmission and methods of prevention). All of them had heard of the viral infection.

76% of the health practitioners have idea that the virus has capability of causing outbreaks. All of health professionals have knowledge about the mode of transmission of H1N1 virus as droplet infection. Half of health personnels have knowledge about the contamination of the mucus membranes with respiratory secretions or with direct droplets as mode of infection. Only 24% of the health care givers know about the proper use of personal protective equipment. This limited knowledge among the health practitioners who are directly involved in care of suspected patients is of high concern. This implies the need for conducting workshops and educational programs among the health care professionals to educate them so as to control the health care associated transmission of the influenza A H1N1pdm 09. 42.85% of the suspected patients and 41.66% of the patient's family members have knowledge about the common mode of transmission of the Infection (droplet infection) and common methods to avoid the transmission like covering mouth and nose while sneezing and coughing, avoiding the crowd and contact with the infected persons (table 1).

Table 1 - Level of awareness regarding H1N1 virus among different groups of peoples.

knowledge about different aspects of H1N1		n(%)
Health care workers	Outbreak potential	38(76)
	Mode of transmission as droplet infection	50(100)
	Mode of transmission as contamination of mucus membrane	25(50)
	Proper use of personal protective equipment	12(24)
Patients	Common mode of transmission (droplet) and common methods to avoid the transmission	12(42.85)
Patient's family members	Common mode of transmission (droplet) and common methods to avoid the transmission	25(41.66)

This implies the ineffectiveness of the awareness program conducted in the country and a broad awareness campaign is needed to educate the people to prevent the spreading of this virus in epidemic and pandemic level.

Key words

Droplet infection, epidemic, Influenza A, Nepal, Swine flu

Abbreviations

Reverse transcription polymerase chain reaction (RT-PCR).

Competing interests

The authors declare that they have no any competing interests.

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