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Original Research

Assessment of outcome of suspected H1N1 influenza cases

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ABSTRACT:

Background: Influenza, commonly known as the flu, is a contagious respiratory illness caused by influenza viruses. The present study was conducted to assess the outcome of suspected H1N1 influenza cases. **Materials & Methods:**52 suspected cases of suspected H1N1 influenza cases of both genders were included. Time trend of suspected H1N1 influenza cases and outcome of cases was recorded. **Results:** Out of 52 patients, males were 31 and females were 21. The time trend of suspected H1N1 influenza cases. There were 5 cases August, 11 in September, 26 in October, 6 in November and 4 cases in December. The difference was significant (P< 0.05). Age group 10-20 years had 3, 20-30 years had 26, 30-40 years had 20 and 40-50 years had 1 case. The difference was significant (P< 0.05).47 patients were cured and discharged while 5 died. The difference was significant (P< 0.05). **Conclusion:** It is crucial to use health education as a preventive measure to control influenza (H1N1). The general public needs to be made more aware of influenza (H1N1).

Key words: Influenza, September, Outcome

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INTRODUCTION

Influenza, commonly known as the flu, is a contagious respiratory illness caused by influenza viruses. These viruses can infect the nose, throat, and sometimes the lungs.[1] The flu can range from mild to severe and can lead to hospitalization or even death, particularly in vulnerable populations such as the elderly, young children, and individuals with compromised immune systems.[2]

Common symptoms of the flu include fever, cough, sore throat, runny or stuffy nose, muscle or body aches, headaches, fatigue, and sometimes vomiting or diarrhea.The flu virus spreads through respiratory droplets produced when an infected person coughs, sneezes, or talks.[3] It can also spread by touching a surface or object contaminated with the virus and then touching the face.Influenza viruses are classified into types A, B, C, and D. Influenza A and B viruses are the ones that cause seasonal flu epidemics in humans. Influenza C usually causes mild respiratory illness, and influenza D primarily affects cattle.Influenza is often seasonal, with higher activity during the fall and winter months. The flu season can vary in timing and severity each year.[4]

During Influenza (H1N1) Pandemic 2009, the first case in India was reported on 15th May 2009 from Hyderabad and first death in India was reported on 6th July 2009 from Pune. The first case of suspected H1N1 influenza was reported on 8th August 2009 from Solapur. The total number of screened cases were 4229 from which 110 cases were admitted in infectious diseases ward of Government Hospital Solapur.[5]The present study was conducted to assess outcome of suspected H1N1 influenza cases.

MATERIALS & METHODS

The present study consisted of 52 suspected cases of suspected H1N1 influenza casesof both genders. All gave their written consent to participate in the study.

A pretested and predesigned questionnaire was used for data collection such as name, age, gender etc. A careful systemic examination was carried out. Time trend of suspected H1N1 influenza cases and outcome of cases was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 52		
Gender	**Male**	**Female**
Number	31	21

Table I shows that out of 52 patients, males were 31 and females were 21.

Table II Time trend of suspected H1N1 influenza cases

Time trend of suspected H1N1 influenza cases	Number	P value
August	5	0.01
September	11	
October	26	
November	6	
December	4	

Table II, graph I show time trend of suspected H1N1 influenza cases. There were 5 cases August , 11 in September, 26 in October, 6 in November and 4 cases in December 4. The difference was significant (P< 0.05).

Graph I Time trend of suspected H1N1 influenza cases

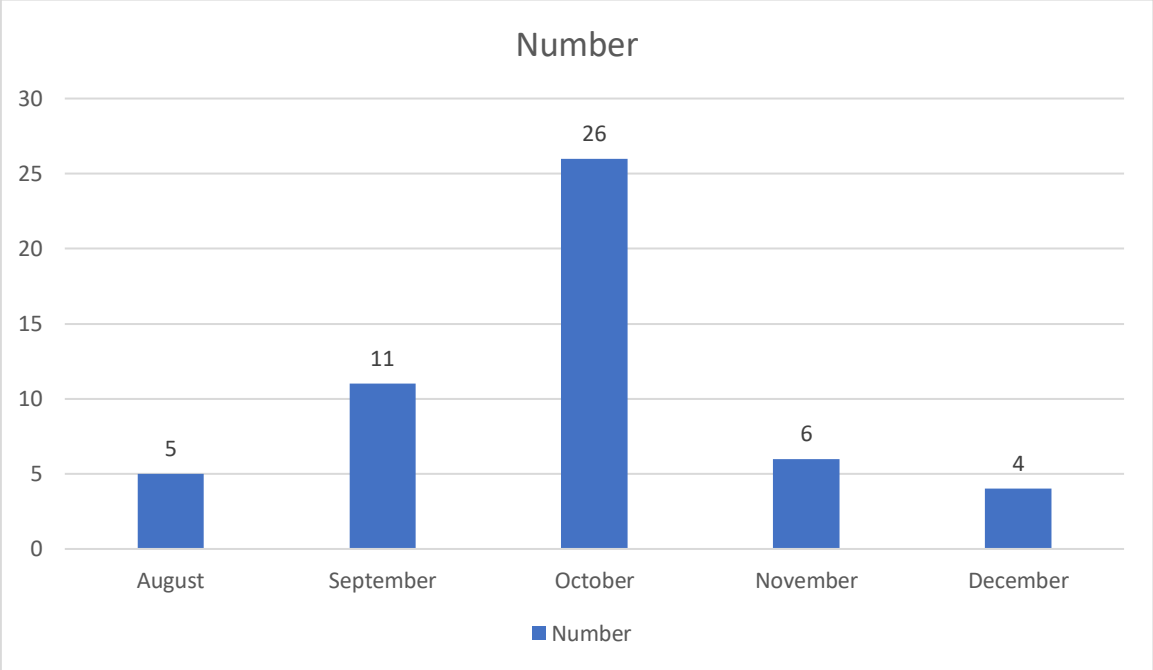

Table III Age wise distribution of cases

Age group (years)	Number	P value
10-20	3	0.01
20-30	26	
30-40	20	
40-50	1	

Table III show that age group 10-20 years had 3, 20-30 years had 26, 30-40 years had 20 and 40-50 years had 1 case. The difference was significant (P< 0.05).

Table IV Assessment of outcome

Outcome	Number	P value
Cured and discharged	47	0.01
Death	5	

Table IV show that 47 patients were cured and discharged while 5 died. The difference was significant (P< 0.05).

DISCUSSION

Vaccination is a key strategy for preventing influenza. Seasonal flu vaccines are developed each year to target the specific strains of influenza A and B viruses that are expected to circulate.[6] It is recommended that individuals, especially those in high-risk groups, receive the flu vaccine annually.Antiviral drugs can be used to treat influenza.[7,8] These medications can help reduce the severity and duration of symptoms if taken early in the course of the illness.Complications of the flu can include pneumonia, bronchitis, sinus infections, ear infections, and exacerbation of underlying health conditions.[9,10]The present study was conducted to assess outcome of suspected H1N1 influenza cases.

We found that out of 52 patients, males were 31 and females were 21. Kumar et al[11]studied the profile and pattern of H1N1 patients admitted to ICU and to study the distribution and associated factors with treatment outcomes.There were 11 males and 21 female. Age ranged from 19 to 72 years. Age group of 15–45 years had most cases (78%) and mortality (60%). Most common symptoms were fever and breathlessness (100%). The mean duration of breathlessness was statistically significant (P = 0.037) between two groups. Most common signs were tachycardia and tachypnea. The 75% cases developed acute respiratory distress syndrome (ARDS), of this 16% survived. Among these fatal cases nine were positive for procalcitonin (PCT) (P = 0.006). The rest of 25% developed acute lung injury (ALI) and recovered completely (P = 0.0001).

We found that time trend of suspected H1N1 influenza cases. There were 5 cases August, 11 in September, 26 in October, 6 in November and 4 cases in December. Chudasama et al[12] found that of the 733 patients, 35.4% (274/773) were cases of 2009 pandemic H1N1 influenza and 64.6% (499/773) were cases of seasonal influenza. Of the 274 patients with 2009 pandemic H1N1 influenza, the median age was 29.5 years, and 51.5% were males. Only 1.1% positive patients had recent travel history to an infected region. A median time of five days was observed from onset of illness to influenza A (H1N1) diagnosis, and a median time of six days was reported for hospital stay. All admitted influenza A (H1N1) patients received Oseltamivir drug, but only 16.1% received it within two days of onset of illness. One-fourth of the admitted positive patients died. The most common symptoms were cough, fever, sore throat, and shortness of breath. The coexisting conditions were diabetes mellitus, hypertension, chronic pulmonary diseases, and pregnancy. Chest radiography revealed 93% of the positive patients had pneumonia.

We found that age group 10-20 years had 3, 20-30 years had 26, 30-40 years had 20 and 40-50 years had 1 case. We found that 47 patients were cured and discharged while 5 died. Kumar et al[13] in their study found that critical illness occurred in 215 patients with confirmed (n = 162), probable (n = 6), or suspected (n = 47) community-acquired 2009 influenza A(H1N1) infection. Among the 168 patients with confirmed or probable 2009 influenza A(H1N1), the mean (SD) age was 32.3 (21.4) years; 113 were female (67.3%) and 50 were children (29.8%). Overall mortality among critically ill patients at 28 days was 14.3% (95% confidence interval, 9.5%-20.7%). There were 43 patients who were aboriginal Canadians (25.6%). The median time from symptom onset to hospital admission was 4 days (2-7 days) and from hospitalization to ICU admission was 1 day (IQR, 0-2 days). Shock and nonpulmonary acute organ dysfunction was common (Sequential Organ Failure Assessment mean [SD] score of 6.8 [3.6] on day 1). Neuraminidase inhibitors were administered to 152 patients (90.5%). All patients were severely hypoxemic (mean [SD] ratio of Pao(2) to fraction of inspired oxygen [Fio(2)] of 147 [128] mm Hg) at ICU admission. Mechanical ventilation was received by 136 patients (81.0%). The median duration of ventilation was 12 days (IQR, 6-20 days) and ICU stay was 12 days (IQR, 5-20 days). Lung rescue therapies included neuromuscular blockade (28% of patients), inhaled nitric oxide (13.7%), high-frequency oscillatory ventilation (11.9%), extracorporeal membrane oxygenation (4.2%), and prone positioning ventilation (3.0%). Overall mortality among critically ill patients at 90 days was 17.3% (95% confidence interval, 12.0%-24.0%; n = 29).

CONCLUSION

Authors found that it is crucial to use health education as a preventive measure to control influenza (H1N1). The general public needs to be made more aware of influenza (H1N1).

REFERENCES

1. Miller E, Hoschler K, Hardelid P, Stanford E, Andrewa N, Zambon M. Incidence of 2009 pandemic influenza A (H1N1) in England: A cross sectional serological study. *Lancet.* 2010;375:1100–8.
2. Dawood FS, Jain S, Finelli L, Shaw MW, Lindstrom S, Garten RJ, et al. Emergence of novel swine-origin influenza A (H1N1) virus in humans. *N Engl J Med.* 2009;360:2605–15.
3. Chacko J, Gagan B, Ashok E, Radha M, Hemanth HV. Critically ill patients with 2009 H1N1 infection in an Indian ICU. Indian J Crit Care Med. 2010;14:77–82.
4. Hancock K, Veguilla V, Lu X, Zhong W, Butler EN, Sun H, et al. Cross-reactive antibody responses to 2009 pandemic H1N1 influenza virus. N Engl J Med. 2009;361:1945–52.
5. Ross TM, Mohmood K, Crevar CJ, Schneider OK, Heaton PM, Bright RA. A trivalent virus like particle vaccine elicits protective immune responses againstseasonal influenza strains in mice and ferrets. PLoS One. 2009;4:e6032.
6. Skountzou I, Koutsonanos DG, Kim JH, Powers R, Satyabhama L, Masseoud F, et al. Immunity to pre-1950 H1N1 influenza viruses confers cross-protection against the pandemic swine-origin 2009 A(H1N1) influenza virus. J Immunol. 2010;185:1642–9.

7. Jenning LC, Anderson TP, Beynon KA, Chua A, Laing RT, Werno AM, et al. Incidence and characteristics of viral community acquired pneumonia in adults. Thorax. 2008;63:42–8.
8. Rao SR Jagannatha, Rao MJ, Swamy N, Umapathy BL. Profile of H1N1 infection in tertiary care center. Indian J PatholMicrobiol. 2011;54:323–5.
9. Van Kerkhove MD, Vandemaele KA, Shinde V, Jaramillo GG, Koukounari A, Donnelly CA, et al. Risk Factors for Severe Outcomes following 2009 Influenza A (H1N1) Infection: A Global Pooled Analysis. PLoS Med. 2011;8:e1001053.
10. Bewick T, Myles P, Greenwood S, Nguyen-Van-Tam JS, Brett SJ, Semple MJ, et al. Clinical and laboratory features distinguishing pandemic H1N1 influenza – related pneumonia from interpandemic community acquired pneumonia in adults. Thorax. 2011;66:247–52.
11. Kumar TC, Shivakumar NS, Deepak TS, Krishnappa R, Goutam MS, Ganigar V. H1N1-infected patients in ICU and their clinical outcome. North American journal of medical sciences. 2012 Sep;4(9):394.
12. Choudasama RK, Patel UV, Verma PB. Hospitalizations associated with 2009 influenza A (H1N1) and seasonal influenza in Saurashtra region, India. *J Infect Dev Ctries.* 2010;23:834–41.
13. Kumar A, Zarychanski R, Pinto R, Cook DJ, Marshall J, Lacroix J, et al. Critically ill patients with 2009 influenza A(H1N1) infection in Canada. *JAMA.* 2009;302:1872–9