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Original Article

Pandemic influenza: Experience in a flu OPD of a tertiary care hospital

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ARTICLE INFO

Article history:
Received 2 June 2011
Accepted 29 June 2012
Available online 28 September 2012

Keywords:
Pandemic influenza
Flu OPD
H1N1 pandemic

ABSTRACT

Background: In April 2009, Mexican health authorities announced an outbreak of a novel H1N1 influenza virus, which subsequently caused a pandemic. The world is now moving into the post-pandemic period. The experience gained in handling this pandemic at various levels under different settings has provided us many lessons for the future.
Objective: To study the profile of various activities undertaken at flu screening centre as a response to pandemic influenza in a tertiary care hospital.
Methods: Record-based study conducted in a tertiary care hospital of Pune. Required data was collected from records of flu OPD, ward and local health authority and interviewing related staff. Study included data from October 2009 to October 2010.
Results: A total of 8020 people presenting with influenza like illness (ILI) were screened in the flu OPD under study. Out of these, only 388 (4.84%) met clinical criteria where throat samples were collected, out of which only 81 were found to be positive (20.88%). Total three fatalities (3.7%) occurred out of 81 who had tested positive. Most cases of flu were managed at home (76.54%) while only 19 (23.4%) lab confirmed cases of H1N1 required hospitalisation.
Conclusion: Majority of cases of H1N1 (2009) were managed at home. Early diagnosis, quick initiation of treatment, infection control measures, and good care at the hospital can effectively reduce morbidity and mortality in H1N1 pandemic.

Introduction

The 2009 pandemic was caused by a new sub-type of influenza A H1N1 which had re-assorted antigenic segments from American swine, Eurasian Swine, avian and human influenza virus. This sub-type of influenza A [H1N1], was first reported from Mexico on 18th March, 2009 and then spread to neighbouring countries. The majority of these cases have occurred in otherwise healthy young adults.[1] In India, after declaration of pandemic (phase 6) by World Health Organization (WHO) on 11 June,[2] an active surveillance was started for detection of influenza cases in persons with travel history to influenza affected countries. In Pune, the first pandemic H1N1 positive case was detected on 22 June 2009 in a traveller coming from USA. The first death in Pune due to pandemic H1N1 was reported on 3 August 2009. The actions taken as part of response

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http://dx.doi.org/10.1016/j.mjafi.2012.06.018

consisted of screening, early diagnosis and treatment, social distancing measures and other non-pharmaceutical measures at individual and community level. The screening centres or flu OPDs were the primary units where all suspected flu patients turned up and at times flooding them. Experience at one such flu OPD has been studied.[2] WHO declared on 10 August 2010 that the world was moving into the post-pandemic period. WHO has recommended surveillance, laboratory and virology services, vaccination and clinical management of cases to be continued in post-pandemic period.[3]

Materials and methods

The study was conducted in November 2010 at a flu screening OPD located within the premises of tertiary care hospital in Pune. Required data was collected from records of flu OPD, ward and local health authority. The screening centre in which the present study was undertaken was started on 6th August 2009 after report of first death due to pandemic influenza in Pune. There was one Medical officer, one Surveillance officer and two Nursing assistants in charge of this screening centre. This was record-based cross-sectional study in which the data was collected from the registers of flu OPD, isolation ward and local health authority. The data included demographic characteristics of the individuals screened, number of cases screened, number of throat samples collected, number of samples positive, number of hospitalisation, number of deaths in hospitalised patients and number of people vaccinated. The individuals with influenza like illness (ILI) attending flu OPD were categorised into category A, B and C as per the guidelines recommended by Ministry of Health and Family Welfare. Individuals belonging to Category C were hospitalised in the isolation ward specifically opened for the pandemic influenza cases. Throat samples were collected by trained technician from suspected cases of H1N1 in OPD and also from hospitalised patients. These samples were then sent to National Institute of Virology (NIV) for testing in a viral transport medium under strict cold chain measures as per the guidelines. Patients who were found positive were traced based on the details available at flu OPD, contacted on mobile or telephone and given oseltamivir and chemoprophylaxis for contacts

Table 1 – Results of the persons screened in the flu OPD from October 2009 to October 2010.

Month	Individuals screened	No. of samples collected	Sample positivity rate (%)
Oct 09	1137	33	5
Nov 09	1039	34	7
Dec 10	986	16	4
Jan 10	998	22	6
Feb 10	738	31	5
Mar 10	419	14	4
Apr 10	254	2	0
May 10	167	7	1
Jun 10	178	4	0
Jul 10	571	35	8
Aug 10	761	113	36
Sep 10	536	66	5
Oct 10	236	11	0
Total	8020	388	81

was also advised. Vaccination was started in this centre on 20th July 2010. Required data of Pune was also collected from District Health Office and information on various pandemic response activities undertaken to contain H1N1 infection spread was obtained (Fig. 1).

Results

Out-patient Department (OPD) cases

From October 2009 to October 2010 a total of 8020 people were screened in the flu OPD. Of these, 388 (4.84%) throat samples were collected, out of which 81 were found to be positive (20.88%) as given in Table 1. Similar sample positivity rate of 23% was observed at national level.[1] Maximum numbers of samples were collected in the month of August 113 (29%) and September 66 (17%). As seen from Table 1 there was a rising trend of sample collection and sample positivity for first 6 months followed by a drop in both parameters and a sudden resurgence was seen during monsoon months as expected in a pandemic. Total three deaths (3.7%) occurred out of 81 who had tested positive. A trend similar to our experience at Pune with second wave of pandemic in the months of August and

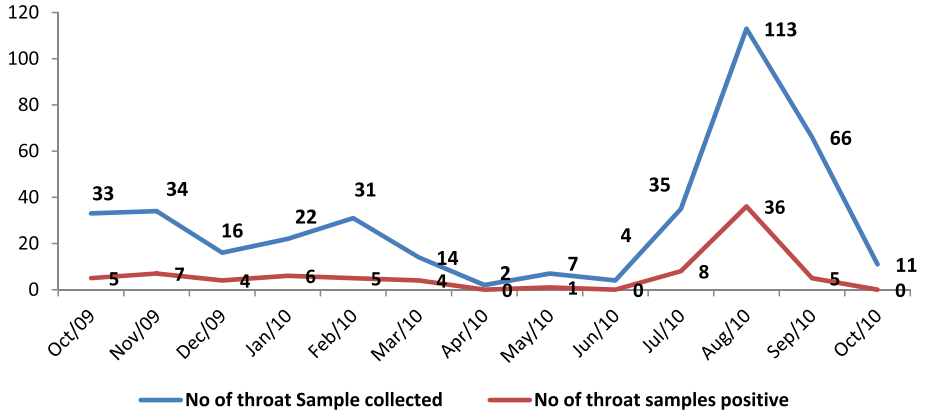

Fig. 1 – Trend of persons screened in the flu OPD from October 2009 to October 2010.