



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

<http://doi.org/10.5281/zenodo.2579257>

Available online at: <http://www.iajps.com>

Research Article

INFLUENZA VIRUS OUTBREAK IN DERA GHAZI KHAN

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Abstract:

Introduction: Influenza which is widely known as a flue is caused by influenza virus and is infectious disease. It is seasonal and most common in winter. The symptoms of influenza are runny nose, sneezing, fever, muscle pain, headache and coughing some time. Influenza is common disease in Pakistan and also in Dera Ghazi Khan. Dera Ghazi Khan Climate is very hot in summer with scattered and little rain and in winter the weather is cold and dry for few months which lead to the outbreak of influenza in the city and its rural areas. The research study about influenza was conducted from September 2018 to Jan 2019 in district Dera Ghazi Khan when the spread is common and most of the population is suffering from it. Influenza vaccination is available in the market and has helped to reduce the number of cases in educated community. The purpose of the study is to analyze the seasonality of the disease and how to control it in its peak season.

Methods: The study was conducted in the district Dera Ghazi Khan. It is an underdeveloped and underserved area of South Punjab. In the past the district remains neglected but the present Government is paying attention to the development of the district in terms of infrastructure improvement, providing better health facilities and health cards to the poor, better education and availability of clean drinking water to the people of the neglected area. Time period of the study was September 2018 to Jan 2019. The sample size selected was 500. It consisted of the patients who came with the respiratory problem and complain of flue in government Hospitals. Influenza virus through diagnostic tests were detected in 200 patients among them 150 belonged to type A virus and 30 belonged to type B virus.

Conclusion: From the study it was obvious that if the vaccination before the start of the season is promoted extensively the burden of disease reduces in the peak season and also awareness about hygienic condition and preventive measures to avoid flue can help the people to enjoy winter without runny nose.

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Please cite this article in press Sana Ullah et al., *Influenza Virus Outbreak In Dera Ghazi Khan.*, Indo Am. J. P. Sci, 2019; 06(02).

INTRODUCTION:

Influenza is an infectious disease and is common in winter. The signs of flue are runny nose, fever, cough and headache. The symptoms start after two or three days when the patient gets exposed to virus and it can last for a week or more than a week. The cough associated with influenza remains for more than two weeks. Influenza is consider as an epidemic and its known strains which affect humans are TYPE A,B and Type C. The virus spread in human through air when someone cough or sneeze without using any mask and the distance is also small. It can also transfer through touch of contaminated areas with virus and rub eyes or mouth. It is contagious in nature and can transfer from person to person during the peak symptoms time. The virus can be tested from sputum, throat or nose. Type A I widely spread in cold weather and remain there in circulation till the end of the season due its quick transfer from host to the victim. In order to avoid the seasonal flue timely vaccination is required. But the vaccination is effective only for one year and next year new booster dose is required. The patient who came with multiple health issues and have low immunity in addition to flu, their situation become worse and it can also lead to the death. Mortalities also observed due to influenza during its outbreak. Timely treatment and

preventive measures can help to avoid mortality. Educational campaigns can help to control the outbreak. Frequent hand washing habits and wearing mask in public can help to avoid flue. The people who caught flue should also wear masks and should remain away from the people so that they cannot spread the flu virus. The purpose of the study is to check the most vulnerable group who caught flue and also to analyze which strain is widely present during the season among masses.

RESEARCH METHODOLOGY:

People who came with respiratory infection and flu complain in Government hospitals were registered for the study. Complete clinical examination in addition with blood culture and nasopharyngeal tests were conducted in order to know about the strain of virus. If the patient has prior history of catching flu were also jotted down.

RESULTS AND DISCUSSIONS:

Total 500 patients were taken as a sample size among them 210 were influenza virus positive. From the results type A influenza was observed in 180 patients. Type B influenza was observed in 30 patients the vulnerable age group was also discussed in the results.

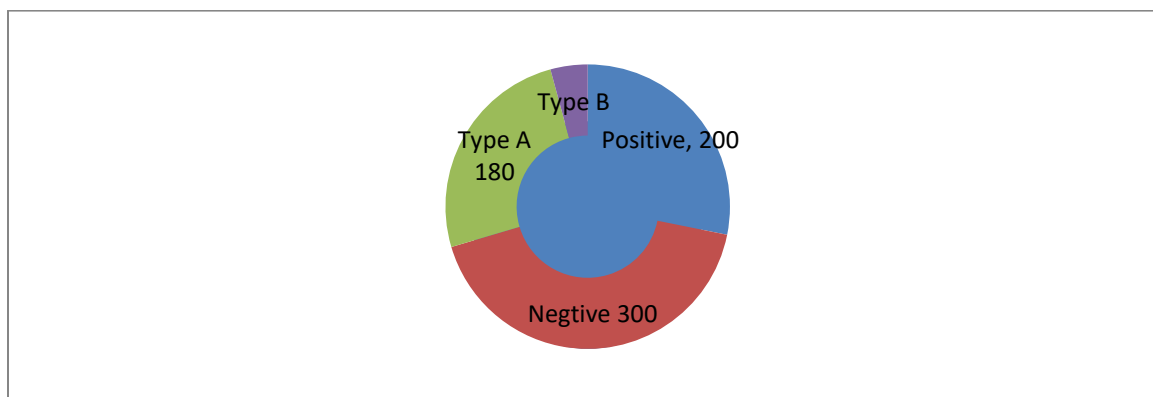


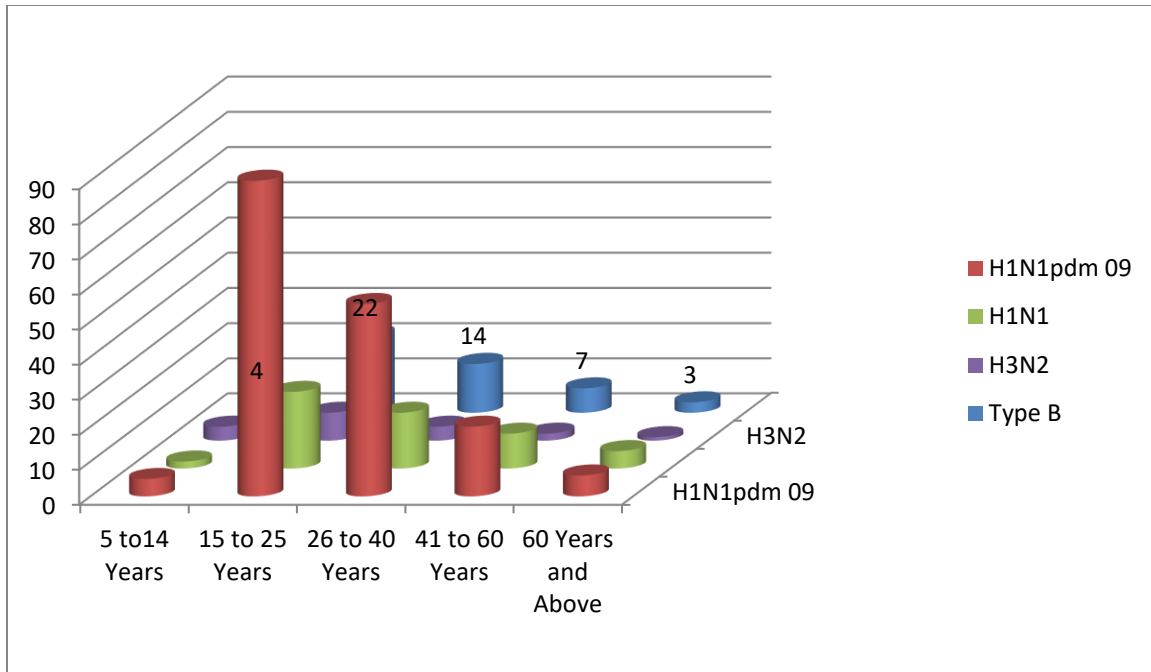
Figure 1: Influenza has attacked almost all age groups and the most vulnerable group is infants, children and senior citizens.

Table 1

Age	H1N1pdm09	H1N1	H3N2	Type B
2 to 10 years	25	3	2	2
11 to 19 years	32	30	8	8
20 to 30 years	9	8	3	7
30 to 40 years	5	2	3	3
41 and above	6	3	1	4
Senior Citizen	6	3	1	6

The influenza is infectious in nature therefore the school going and college going children and adults get affected. Although the immunity in infants and young children are low therefore, they caught the virus multiple times during the outbreak.

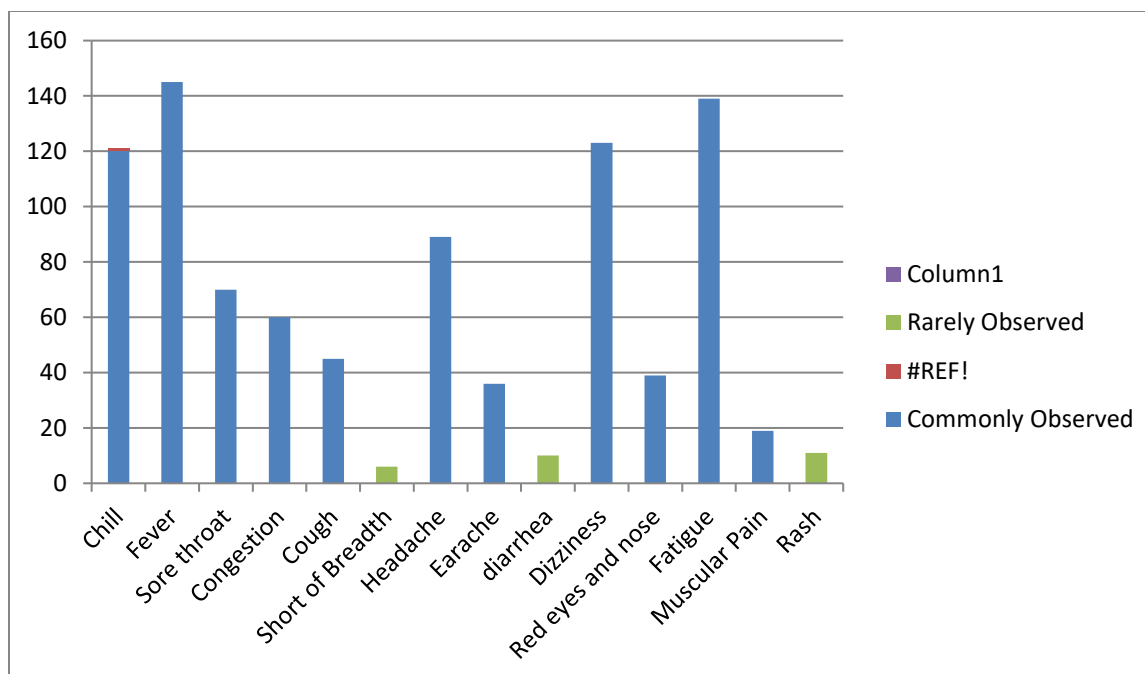
Senior citizen also vulnerable to the infection therefore they should remain proactive in order to avoid the disease by wearing mask in public places and remaining away from infected persons. The age group distribution is shown in the graph below.



The common sign and symptoms which are observed in influenza attack are chill and fever, runny nose, cough, congestion, headache, tiredness, sneezing, sore throat, muscular pain, diarrhea, watery eyes, fatigues, earache, redness of eyes and nose.

Symptoms	Commonly observed	Rarely observed
Chill	120	
Fever	145	
Sore throat	70	
Congestion	60	
Cough	45	
Short of Breadth		6
Headache	89	
Earache	36	
diarrhea		10
Dizziness	123	
Red eyes and nose	39	
Fatigue	139	
Muscular Pain	19	
Rash		11

The graphical illustration of the sign and symptoms of the influenza virus are shown as follow



The common cold and flu are sometime intermingled, but they are different

Symptoms	Influenza	Cold
Onset of symptoms	abrupt	Gradual
Fever and chills	Last for 2 5 days	hardly
Body ache	Sometime	Always
Fatigues	Sometime	common
Sneezing	common	Sometime
Nose stuffy	Common	Sometime
Sore throat	common	Sometime

The patients with H1N1pdm09 positive results suffering from high grade fever and sore throat more than the patients who were suffering from other strain of virus. Diarrhea is not common among older and adults. It was found only in children and infants.

H1N1pdm09 strain of Type A is widely spread in south Punjab especially in region of Multan and Dera Ghazi Khan as compared to the cases in the past. Type B virus mutate slowly in humans therefore its spread is not as common as Type A which mutate quickly. Ample rest and fluid intake is a common remedy for the influenza treatment but some time antiviral drugs are also suggested according to the condition of the patient. Patients suffering flu remain contagious for almost five days the time period can increase in severe attack of influenza.

In past it was not common to get the diagnostic lab tests for the seasonal flu. H1N1pdm09 is a mutant form of the influenza type A widely known as swine flu. In Punjab especially in south Punjab when the patients with flu and respiratory complain came in

masses and discomfort observed when even high mortality was reported in the Multan Region. It has drawn the attention of the health officials and also the WHO managements in Pakistan. The flu virus continuously mutate in host and sometime mutation make it more vulnerable for the people who are considered at higher risk of getting disease due to weakness and low immune system. Due to mutation the flu outbreak should be taken seriously and vaccination and other preventive measures should be adopted in order to avoid the complexity of the disease during its outbreak.

PREVENTIVE MEASURES:

Following measures help to prevent the spread of influenza.

- Regular hand washing with soap or sanitizer
- Use of tissue paper and its proper dispose off in bins
- During infection stay at home
- Coughing and sneezing in hands should be

avoided

- Timely vaccination of flu
- Wearing mask in public places
- Avoiding public gatherings during outbreak of influenza

Influenza is not only common in Pakistan but also in other Asian and developed countries. They are facing the same public health challenges when the temperature is low, and climate is humid. Thailand, India, Bangladesh, China, Singapore, Nepal and Vietnam observe the similarity in the pattern of outbreak. Temperature, humidity and climate changes are the factors which can affect the outbreak of influenza. Type B influenza is present throughout the year in the population, but its outbreak is not observed and it is not severe as compared to the H1N1 pdm09

CONCLUSION:

The WHO is developing the influenza outbreak surveillance system in order to improve the vaccination program to prevent the outbreak. Government officials are also serious about preventing the outbreak by timely creating awareness campaign among masses in the vulnerable region through print media and electronic media. People who are vulnerable especially the senior citizen and children are advised to get their vaccination before the start of cold weather. Preventive measures can help to reduce the mortality rate.

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