

# KNOWLEDGE OF RESIDENTS OF LAHORE REGARDING VARIOUS ASPECTS OF PANDEMIC H1N1 INFLUENZA: AFTERMATH OF HEALTH EDUCATION CAMPAIGN

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## ABSTRACT

**Introduction:** Pandemic H1N1 is respiratory disease that spreads through droplets and can be prevented by vaccination of high risk groups, hand hygiene and through targeted precautionary lifestyle measures. It is pertinent to gauge knowledge about various aspects of the disease amongst residents of Lahore so as to devise and improve health education strategy.

**Methodology:** Cross sectional descriptive survey was conducted and 134 residents of Lahore were selected through convenient sampling and interviewed.

**Results:** Study showed mean age of the respondents were 35 +/- 9.7years, out of which 55(41.7%) were males and 79(58.3%) were females with education level at more than intermediate in 117(87.3%) respondents while rest were below it. 128 (95.5%) has heard of swine flu, while 67(50%) heard about it from TV, 44(32.8%) from social media. 114(85.1%) identified that it can spread through sneezing and coughing, touching contaminated objects 64.6(47.8%), by inhaling contaminated air 95(70.9%), 57(42.5%) correctly identified cough as symptom of pandemic influenza, sneeze 20(14.9%), fever 43(32.1%), 91(67.9%) told that influenza is treatable while only 59(44%) knew that vaccine is available to prevent it. 101(75.4%) respondents said that it can be prevented using masks, 91(67.9%) said by maintaining hand hygiene and 85(63.4%) by isolating the patient. 97(72.4%) respondents said that they would see the doctor if they have symptoms of influenza.

**Conclusion:** Consistency in health education strategies is required and its recommended that disease chapter may be included in curriculum

**Keywords:** Pandemic H1N1 influenza, knowledge, Lahore

## INTRODUCTION

Pandemic H1N1 is respiratory disease caused by influenza virus type A. Its epidemic has been reported throughout 20<sup>th</sup> century claiming 50-100 million lives.<sup>1,2</sup> Owing to the point mutations in its genome (antigenic drift n shifts) novel strains of viruses are produced with no immunity to such strains in human population, has potential to cause deadly epidemics.<sup>3</sup> An epidemic of novel H1N1 started in April 2009 in United States and subsequently WHO raised pandemic alert level from 5 to 6 as the virus spread to 30 countries.<sup>4</sup>

Pakistan is a country where multiple outbreaks of swine flu have been reported especially in provinces of Sindh and Punjab. Out of 1242 suspected cases of pandemic H1N1 flu, 262 were laboratory confirmed with biggest proportion in Punjab of 35% and 29 deaths.<sup>5,6</sup> Presence of certain factors makes it susceptible to this disease transmission. India which has

been ranked as 3 as far as incidence of HINI is concerned shares largest border by Pakistan and so is china with high incidence and population density is Pakistan neighbour. With the launch of CPEC more of Chinese will be visiting Pakistan and vice versa hence making transmission easier. Secondly, a large number of pilgrims go to perform Hajj where they can contract the disease and bring it back to Pakistan.<sup>7,8</sup>

A study conducted in Kerala, India showed that common symptom of Swine flu such as fever was known to 71.40% while cough and cold were known to 62.40% of the respondents. Other symptoms such as myalgia and headache were known to 39.40% and 27.70% of the participants respectively of them had heard of Swine flu and were aware of it as a disease entity. Knowledge regarding the route of transmission was concerned 56.33% were aware of the fact that swine flu could spread by inhaling infected aerosols.

Availability of treatment and vaccine against swine flu were known to 56.80 % and 55.86% respectively. Mass media (TV, Radio, newspaper) was found to be the most common source of knowledge regarding swine flu for 74.18 % of the respondents.<sup>9</sup>

Suresh et al from Gujrat India observed that a substantial number of participants have adequate knowledge regarding causative organism (87%), mode of spread (45%) and prevention (83%). Majority of participants (96%) would consult doctor for management of H1N1 flu and also participants (82%) believe that hand washing is most important preventable measure for H1N1 flu.<sup>10</sup>

While the virus spreads through droplets and can be prevented by vaccination of high risk groups, hand hygiene and through targeted precautionary lifestyle measures, it is pertinent to gauge knowledge about various aspects of the disease amongst residents of Lahore so as to devise and improve health education strategy especially after a very robust health education campaign by Punjab government using mass media.

**MATERIAL AND METHODS**

Cross sectional descriptive survey was conducted and 134 residents of Lahore were interviewed regarding various aspects of pandemic influenza namely signs and symptoms, transmission, treatment and prevention.

**RESULTS**

Mean age of the respondents were 35 +/- 9.7years, out of which 55(41.7%) were males and 79(58.3%) were

females with education level at more than intermediate in 117(87%) respondents while rest were below it. 60(44.7%) were students,41(30.5%) were employed 5(3.5%) were doing business 15(11.1%) were house wives while 13(9.2%) respondents chose not to tell about their occupation. Table 1

128 (95.5%) has heard of swine flu, while 67(50%) heard about it from TV, 44(32.8%) from social media, 20(14.9%) from family and friends, and only 2(1.5%) from doctor. 114(85.1%) identified that it can spread through sneezing and coughing , touching contaminated objects 64.6(47.8%), by inhaling contaminated air 95(70.9%), eating contaminated food 59 (44%). 57(42.5%) correctly identified cough as symptom of pandemic influenza, sneeze 20(14.9%), fever 43(32.1%), muscle pain 69(51.5 %), diarrhea 18(13.4%).table 2

105(78.4%) knew that pandemic influenza is different from seasonal flu and 87(64.9%) regarded it as life threatening disease. 81(60.4%) knew that young people are prone to complications and 72(53.7%) categorised it as risk to pregnant females. 91(67.9%) told that influenza is treatable while only 59(44%) knew that vaccine is available to prevent it. 101(75.4%) respondents said that it can be prevent by wearing masks, 91(67.9%) by maintaining hand hygiene and 85(63.4%) by isolating the patient. 97(72.4%) respondents said that they would see the doctor if they have symptoms of influenza. Table 2

**Table 1:** Socio demographic Characteristics

Sociodemographic characteristic		Frequency	Percentage
Gender	male	55	41
	Female	55	58.2
Education	Above intermediate	117	87.3
	Below intermediate	9	6.7
	Did not answer	8	5.9
Occupation	students	60	44.7
	employee	41	30.5
	businessman	5	3.7
	Housewife	15	11.1
	No response	13	9.7
Marital status	unmarried	78	58.2
	married	49	36.5
	Did not answer	7	5.2

n=134

**Table 2:** knowledge about various aspects of pandemic H1N1 influenza

variable	Responses	Frequency	Percentage
Heard of pandemic H1N1 influenza	yes	128	95.5

	no	6	4.5
Source of information	Parents/family	20	14.9
	Social media	44	32.8
	Tv	67	50
	Doctor	2	1.5
Does it spread by cough/sneeze?	yes	114	85.1
	no	20	14.9
Does it spread by touching contaminated objects	yes	64.8	47.8
	No	31	23.1
	Not sure	38	28.4
Does it spread by inhaling contaminated air?	yes	95	70.9
	No	10	7.5
	Not sure	29	21.6
Does it spread by eating contaminated food?	yes	59	44
	No	35	26.1
	Not sure	40	29.9
Symptoms: fever?	yes	43	32.1
	No	52	38.8
	Not sure	39	29.1
Symptoms: sneeze?	yes	20	14.9
	No	67	50
	Not sure	47	35
Symptoms: cough?	yes	57	42.5
	No	17	12.7
	Not sure	60	44.8
Symptom: muscle pain?	yes	69	51.5
	No	18	13.4
	Not sure	47	35.1
Symptoms: diarrhoea?	yes	18	13.4
	No	35	26.1
	Not sure	84	60
It is different from seasonal flu?	yes	105	78.4
	No	13	9.7
	Not sure	16	11.9
Is it life threatening?	yes	87	64.9
	No	12	9
	Not sure	35	26.1
Are young prone to complications?	yes	81	60.4
	No	5	3.7
	Not sure	36	26.1
Is it a risk to pregnancy?	yes	72	53.7
	No	12	9
	Not sure	50	37.3
Can be prevented by wearing masks?	yes	101	75.4
	No	3	2.2
	Not sure	50	37.3
Can be prevented by hand hygiene?	yes	91	67.9
	No	9	6.7
	Not sure	34	25.4
Can isolating patient prevent its spread?	yes	85	63.4
	No	14	10.4

	Not sure	35	26.1
Is vaccine available against it?	yes	59	44
	No	16	11.9
	Not sure	58	43.3
Is it treatable?	yes	91	67.9
	No	16	11.9
	Not sure	58	43.3
Will you see a doctor if you get influenza symptoms?	yes	97	72.4
	No	13	9.7
	Not sure	24	17.9

n=134

## DISCUSSION

This study was conducted after the influenza season of 2017 in which Punjab government ran a robust health education campaign through mass media. The results show that quite a significant number of people of the capital city that is Lahore whose population is mostly urban and well informed, did not correctly know about the disease, its transmission and its treatment and prevention.

Contrary to the findings of Kawanpure<sup>9</sup> and Ratti<sup>10</sup>, larger number 70% of respondents knew about correct mode of transmission as compared to 56% and 44% respectively. However the knowledge

of clinical symptoms and signs was comparatively poor as compared to the results of Kawanpure<sup>9</sup>. It was also seen that the knowledge about prevention was also inadequate as only 101(75.4%) respondents said that it can be prevented using masks, 91(67.9%) by maintaining hand hygiene and 85(63.4%) by isolating the patient which should have been above 90% as this basic knowledge can lead to control of disease in the society. In the context of health education campaign of such large scale these results are still unsatisfactory.

However their knowledge of prevention was still better than studies reported from India.<sup>9,10</sup>

Tv and social media were the most frequently reported channels for getting knowledge about this disease.

## CONCLUSION AND RECOMMENDATIONS

Despite health education campaign, level of knowledge regarding various aspects of the disease was inadequate and required consistent delivery of messages alongside its inclusion in the curriculum so as to foster life style changes in our population.

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