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Original Research Article

A cross sectional study on knowledge, attitude and behaviour regarding swine flu in urban slum of Hyderabad, India

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ABSTRACT

Background: The study was conducted in the Urban slum area, Shekpet, Hyderabad, India which is the field practice area of Apollo Medical college.
Methods: The aims was to study the awareness regarding symptoms, mode of spread and preventive measures of swine flu in the study population and to study the sources of information and health care seeking pattern of the population. Pre-designed questionnaire was used to collect information onsocio -demographic characteristics (age, sex, education and occupation), knowledge and awareness about the disease (nature, mode of spread/transmission, clinical features, preventive measures and precautions).
Results: Majority were unaware of spread of Swine Flu from Pigs. 32% of them said it spreads through coughing and 27% through sneezing. About 15% of them said it spreads by sharing same room.
Conclusions: The cross sectional study, was taken up during the recent outbreak of Swine flu in Hyderabad. Knowledge, Attitude and Prevention practices of the infection, was carried out in the urban slum of Shaikpet area the study will create awareness of the disease and its preventive measures among the people. Thus, it would reduce the incidence of occurrences of the disease in future.

Keywords: Swine flu awareness, Swine flu management, Swine flu prevention, Swine flu transmission, Swine flu, Urban slum

INTRODUCTION

Swine flu is an acute respiratory disease, caused by a strain of the influenza type A virus known as H1N1, officially referred as novel A/H1N1. The virus is a mixture of four known strains of influenza A virus: One endemic in humans, one endemic in birds and two endemics in pigs (swine).[1]

On 11 June 2009, the World Health Organization (WHO) raised its pandemic alert to the highest level, phase 6, meaning that, the A/H1N1 flu had spread in more than two continents. On June 2010, it had caused over 18,172 deaths in more than 214 countries and overseas territories or communities.[2-4] In a number of instances, people have developed the swine flu infection when they are closely associated with pigs (for example, farmers, pork processors), and likewise, pig populations have occasionally been infected with the human flu infection. In most instances, the cross-species infections (swine virus to man; human flu virus to pigs) have remained in local areas and have not caused national or worldwide infections in either pigs or humans. Unfortunately, this cross-species situation with influenza viruses has had the potential to change. Investigators decided the. 2009 so-called "swine flu" strain, first seen in Mexico, should be termed novel H1N1 flu since it was mainly found infecting people and exhibits two main surface antigens,

H1 (hem agglutinin type 1) and N1 (neuraminidase type1). The total number of cases reported from Telangana has been progressively increasing and till now has attained a figure of 892 in January 2019, reports Institute of Preventive Medicine. The lack of awareness among people is one the major cause of the infection which ultimately is leading to the death of the patient.

The spread of an infectious disease can be strongly influenced by behavioral changes (e.g., social distancing) during the early phase of an epidemic, but data on risk perception and behavioral response to a novel virus is usually collected with a substantial delay or after an epidemic has run its course. This primary interest was the possible mediating effect of affective variables on action taken to protect against swine flu infection. To evaluate the hypothesis that respondents' affective state (subjective anxiety, fatalism about infection) predicts protective measures, we include in the model demographic (age, gender), epidemiological (household size, number of contacts, survey day), and media (source of information on the outbreak) conditioning variables.

METHODS

The aims and objectives of this study was to study the demographic profile of the study population, to study the awareness regarding symptoms, mode of spread and preventive measures of swine flu in the study population, to study the sources of information and health care seeking pattern of these people.

This study was a cross sectional survey on swine flu conducted in the Urban Health Training Centre (UHTC) of Apollo Hospitals located at Shaikpet, Hyderabad, India which a field practice area of Apollo Institute of Medical Sciences and Research.

Study instrument

Pre-designed questionnaire was used to collect information onsocio-demographic characteristics (age, sex, education and occupation), knowledge and awareness about the disease (nature, mode of spread/transmission, clinical features, preventive measures and precautions).

Data collected from the respondents was entered into excel sheet. Frequency distribution, percentages, was employed to analyse the data.

The research includes the following questions:

- Socio-demographic profile of individuals (age group, gender, education status, occupation, type of family),
- Source of information (tele media, friends and relatives, health care workers, others),
- Symptoms (Fever, Cough, Cold, Body ache, Headache, Breathlessness, Vomiting, Loose stools),
- Prevention (Face mask, Personal hygiene, avoiding crowded places, Not going to school, Ayurvedic treatment, killing pigs, Staying at home, Homeopathic treatment, Not aware),
- Scared of Swine Flu (deadly disease, anyone can be affected, no treatment available, no vaccine)
- Where do you go if you get symptoms of swine flu (government hospital, private hospital, family physician)?
- Other diseases the patient is suffering from.

RESULTS

Among all the people who were questioned about Swine flu,61% of them belonged to the age group of 20-35, 24.5% of them were between 35-50 years of age and 14.5% of them were elderly people with age group between 50-65 years (Table 1).

Table 1: Age distribution.

Age	Frequency	Percentage
20-35	122	61.00%
35-50	49	24.50%
50-65	29	14.50%
Total	200	100%

Table 2 shows the percentage of gender among all the people who were questioned. Women were more than Men and were about 54.5% while Men were only 45.5%.

Table 2: Gender distribution.

Gender	Frequency	Percentage
Male	91	45.50%
Female	109	54.50%
Total	200	100%

Table 3 shows the frequency and percentage of the Educational levels of the people. Illiterate people dominated the table with 30.5% of them being Illiterates, followed by people who had Secondary Education with 29.5%, followed by Primary Education people with 24.5% and Graduates being the least with only 15.5%.

Table 3: Education.

Education	Frequency	Percentage
Graduate	31	15.50%
Primary	49	24.50%
Secondary	59	29.50%
Illiterate	61	30.50%
Total	200	100%

Table 4 shows the various occupations of the people. The majority of the women were Housewives with 44.5%, followed by Employees with 32.5%, which was followed by Labours with 17.5%, followed by people who did

Local Business with 4.5% and Agricultural Workers were the least and about.[1]

Table 4: The various occupations of the people.

Occupation	Frequency	Percentage
Agriculture	2	1.00%
Business	9	4.50%
Employee	65	32.50%
Housewife	89	44.50%
Labor	35	17.50%
Total	200	100%

Table 5: Awareness of swine flu.

Awareness	Frequency	Percentage
No	91	45.50%
Yes	109	54.50%

Table 5 shows the frequency and percentage of people who were Aware of Swine Flu. 54.5% of the people were Aware of Swine Flu and 45.5% were Unaware.

Table 6: Source of information.

Source of information		Frequency	Percentage
Telemedia	Yes	105	52.50%
	No	4	2.00%
	Don't know	91	45.50%
Friends and Relatives	Yes	36	18.00%
	No	73	36.50%
	Don't know	91	45.50%
Others	Yes	7	3.50%
	No	101	50.50%
	Don't know	92	46.00%
Health Workers	Yes	18	9.00%
	No	90	45.00%
	Don't know	92	46.00%

Table 7: Knowledge of the disease.

Knowledge of the disease		Frequency	Percentage
Supernatural	Yes	1	0.50%
	No	16	8.00%
	Don't know	183	91.50%
Germ Concept	Yes	49	24.50%
	No	8	4.00%
	Don't know	143	71.50%
Multifactorial	Yes	17	8.50%
	No	13	6.50%
	Don't know	170	85.00%
Environmental	Yes	72	36.00%
	No	2	1.00%

Table 6 shows the source of Information of Swine Flu as said by the people who were Aware of Swine Flu. Majority of the people got to know through Telemedia (52.5%), followed by Friends and Relatives (18%), then by Health Workers (9%) and least by Other sources such as Mobile (3.5%).

Table 8: Modes of spread.

Modes of spread		Frequency	%
Close contact with pigs	Yes	12	6.00%
	No	8	4.00%
	Don't Know	180	90.00%
Sneezing	Yes	54	27.00%
	No	2	1.00%
	Don't Know	144	72.00%
Coughing	Yes	64	32.00%
	No	2	1.00%
	Don't know	134	67.00%

Table 9: Symptoms.

Symptoms		Frequency	%
Fever	Yes	73	36.50%
	No	1	0.50%
	Don't know	126	63.00%
Cough	Yes	68	34.00%
	No	1	0.50%
	Don't know	131	65.50%
Cold	Yes	50	25.00%
	No	1	0.50%
	Don't know	149	74.50%
Running nose	Yes	47	23.50%
	No	3	1.50%
	Don't know	150	75.00%
Body ache	Yes	22	11.00%
	No	4	2.00%
	Don't know	174	87.00%
Vomiting	Yes	9	4.50%
	No	7	3.50%
	Don't know	184	92.00%
Eating undercooked pork	Yes	20	10.00%
	No	6	3.00%
	Don't know	74	87.00%
Sharing same room	Yes	30	15.00%
	No	1	0.50%
	Don't know	169	84.50%

Table 7 shows the knowledge of the cause of the disease. Majority of them said that it was due to Environmental Causes (36%), followed by the Germ Concept (24.5%), which was followed by Multifactorial cause (8.5%) and only about 0.5% of them thought it was Supernatural.

Table 8 shows the Knowledge of Spread of Swine Flu. Majority of them were Unaware of Spread of Swine Flu from Pigs. 32% of them said it spreads through Coughing and 27% through Sneezing. About 15% of them said it spreads by sharing same room.

Table 10: Prevention.

Prevention		Frequency	%
Face mask	Yes	61	30.50%
	No	27	13.50%
	Don't know	112	56.00%
Hand wash	Yes	78	39.00%
	No	6	3.00%
	Don't know	116	58.00%
Personal hygiene	Yes	78	39.00%
	No	5	2.50%
	Don't know	117	58.50%
Ayurvedic/ homeopathic	Yes	4	2.00%
	No	24	12.00%
	Don't know	172	86.00%
Staying at home	Yes	14	7.00%
	No	45	22.50%
	Don't know	141	70.50%
Killing pigs	Yes	0	0.00%
	No	22	11.00%
	Don't know	178	89.00%

Table 11: Scared of swine flu.

Scared of Swine Flu		Frequency	Percentage
Deadly disease	Yes	28	14.00%
	No	19	9.50%
	Don't know	153	76.50%
Anyone can be affected	Yes	76	38.00%
	No	0	0.00%
	Don't know	124	62.00%
No treatment available	Yes	12	6.00%
	No	14	7.00%
	Don't know	174	87.00%

In Table 9, the knowledge of symptoms of the people. Fever was said by 36.5% of the people, cough by 34%, cold by 25%, running Nose by 23.5%, body ache by 11% and vomiting only by 4.5% of the people. Table 10 shows the prevention of Swine Flu. Hand wash and personal hygiene dominated with 39% each, while face mask followed them with 30.5%, while staying at Home was 7%, Ayurvedic/Homeopathic was 2% and None of them Killed Pigs.

Table 11 shows the frequency and percentage of people who are scared of Swine Flu. 38% of the people think that anyone can be affected by Swine Flu, while 14% of the people think it is a deadly disease and only about 6% think that there is no treatment available for Swine Flu.

Table 12 shows the frequency and percentage of people who would report immediately or not in case of Signs and Symptoms. 67% of them said that they would not report, while 33% of them said that they would report immediately. Table 13 shows the frequency and percentage of people who would Isolate patients with symptoms of Swine Flu.79.5% of them said that they would not Isolate the patients, while only 20.5% of them said that they would Isolate.

Table 14 shows the place of seeking treatment. Majority of them would go to Government and Private Hospitals (35% and 37% respectively), 3% of them visited Family Physicians and around 3.5% went to other places like Hakeem (Quacks).

Table 12: Reporting immediately in case of signs and symptoms.

Reporting immediately in case of signs and symptoms	Frequency	Percentage
No	134	67.00%
Yes	66	33.00%

Table 13: Isolation of patients with flu symptoms.

Isolation of patients with flu	
Symptoms	**Percentage**
Yes	20.50%
No	79.50%

Table 14: Where do you go when you get symptoms of swine flu.

Where do you go when you get symptoms of Swine Flu		Frequency	Percentage
Government hospital	Yes	70	35.00%
	No	130	65.00%
Private hospital	Yes	74	37.00%
	No	126	63.00%
Family physician	Yes	6	3.00%
	No	194	97.00%
Others	Yes	7	3.50%
	No	193	96.50%

DISCUSSION

Since 1997, global healthcare leaders are cautiously awaiting the emergence of a new influenza pandemic. It seems that thus far, the current H1N1 pandemic is not the realization of the fears of a worst case 1918-like scenario, as may have been the case should this have been an H5N1 highly pathogenic avian influenza HPAI-borne outbreak.

In this study, 61% of them belonged to the age group of 20-35, 24.5% of them were between 35-50 years of age and 14.5% of them were elderly people with age group between 50-65 years. The majority of the women were Housewives with 44.5%, followed by Employees with 32.5%, which was followed by Labours with 17.5%, followed by people who did Local Business with 4.5% and Agricultural Workers were the least and about 1%.

Percentage of people, who were Aware of Swine Flu was 54.5% and 45.5% were Unaware. How people assess risk of infection and how such risk assessment drives behavioral change is of great interest as individual social distancing can greatly affect the spread of an epidemic.[5] People's anxiety about swine flu and the preventative actions they took to avoid infection declined as the perceived gravity of the novel outbreak waned.[6] This study shows the source of Information of Swine Flu is Telemedia (52.5%), followed by Friends and Relatives (18%), then by Health Workers (9%) and least by Other sources such as Mobile (3.5%). In particular, public health messages spread via social media will need to back up by information spread via more traditional channels, which respondents list as being common sources of trusted information on the outbreak. Majority, of this study subject said that it was due to Environmental Causes (36%), followed by the Germ Concept (24.5%), which was followed by Multifactorial cause (8.5%) and only about 0.5% of them thought it was Supernatural.

Awareness of pandemic influenza vaccines was low in a study conducted by Sundaram, N et al, Main themes identified as reasons for vaccine uptake were having heard of a death from swine flu, health care provider recommendation or affiliation with the health system, influence of peers and information from media.[7]

Amongst our study population, Majority of them were Unaware of Spread of Swine Flu from Pigs. 32% of them said it spreads through Coughing and 27% through Sneezing. About 15% of them said it spreads by sharing same room. The most common perceived causes-'exposure to a dirty environment' and 'cough or sneeze of an infected person'-were more prominent in the urban group was observed by Sunderam N. Symptoms of Fever was said by 36.5% of the people, Cough by 34%,Cold by 25%, Running Nose by 23.5%, Body Ache by 11% and Vomiting only by 4.5% of the people. Regarding Prevention of Swine Flu, Hand wash and Personal Hygiene dominated with 39% each, while Face Mask 30.5%, while staying at Home was 7%, Ayurvedic/Homeopathic was 2% and None of them Killed Pigs. the most common protective behavior reported in our survey was increased hand-washing, which has been shown to be effective at removing Influenza A(H1N1) virus from subjects' hands.[8] 67% of our respondents opined that, in case of any symptoms, they will report immediately. 20.5% of people were for isolation of patients with symptoms of swine flu.

CONCLUSION

Transmission of community-acquired respiratory infections occurs most commonly through inhalation of respiratory droplets produced by talking, coughing, spitting and sneezing. Respiratory droplets may also survive for brief periods (depending on the ambient temperature) on hands, clothes and surfaces. Respiratory etiquette, i.e. “control at the source”, involves covering coughs or sneezes with a barrier-like tissue/cloth/mask to prevent the dispersion of respiratory droplets into the air and onto surfaces. Coughs and sneezes should be covered with a tissue, cloth (including one's sleeve) or mask.

Community-acquired respiratory infections such as influenza are primarily transmitted from person to person by large respiratory droplets from coughing or sneezing. Because these droplets can travel a distance of 1-2 meters, the risk of transmission is highest when people are in close contact, generally less than 1 meter (or arm's length). In addition to respiratory etiquette and hand-hygiene, the following measures are necessary to minimize the risk of transmission of respiratory infections.

Shared spaces should be well ventilated. When homes and living areas are well ventilated (e.g. windows open), respiratory droplets are better dispersed and the risk of transmission of respiratory pathogens is reduced. Thus, homes should be kept as open as possible to allow good air flow. This is particularly important in crowded settings. The number of caregivers in the home should be minimized to avoid further exposure of family members.

Family members should limit close contact with an ill person as much as possible. Ill persons should cover their mouth and nose with a tissue, cloth (or cough or sneeze into sleeve) or a mask when coughing or sneezing, particularly when receiving care, or while in close contact with others. In the home, the caregiver of an ill patient should take proper precautions such as safe distancing (as much as possible), improved airflow to the patient area, hand-hygiene, and minimizing overall contact with the ill family member.

Recommendations for the use of masks for caregivers in the home should be adapted to the level of resources and the ability to safely implement and should be accompanied by training on safe use and disposal. Use of masks for caregivers in the home might be beneficial in limiting transmission but is thought to be less important than the other measures mentioned above.

Persons at increased risk of morbidity and mortality from illnesses should not care for or be in close contact with the ill person. These persons include pregnant women, children aged less than 2 years, persons aged over 65 years, and persons with severe chronic diseases or who are immunocompromised.

Social distancing

To reduce disease transmission, efforts to reduce crowding and close contact and to minimize gatherings of people are critical. Interventions aimed at reducing close physical contact depend on individual behaviour, community mobilization, implementation of national policy, and cultural norms. To be most effective, these interventions should be implemented early, targeted to

settings where high transmission is likely (e.g. schools) and layered to provide multiple levels of prevention activities. All people should be encouraged to remain at home (voluntary isolation) as soon as symptoms develop, and to restrict close contact with others.

Household contacts of patients with respiratory illness should be encouraged to remain at home (voluntary quarantine) and avoid contact with the patient - unless they are the designated caregiver. Gatherings of children (e.g. schools and child-care facilities) may need to be closed, sporting events postponed, etc. Contact of adults, such as in the workplace and places of worship, should be reduced as much as is feasible; large public gatherings should be discouraged, including funerals. If funerals and other ceremonial/religious events do proceed, close contact should be minimized.

In addition, population movements to and from communities should generally be discouraged, and movement of both symptomatic patients and staff should be avoided. Food and water distribution should be decentralized as much as feasible to discourage large gatherings of people. One designated healthy member of a household might be assigned to water/food collection. Delivery of goods and services to the place of residence is preferred if possible.

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