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Original Research Article

A cross sectional study to assess knowledge, attitude and practices related to swine flu in school students of Kallur, Kurnool

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ABSTRACT

Background: Swine flu is an acute highly contagious respiratory disease caused by influenza A (H1N1) virus. After 2009 pandemic, seasonal epidemics occurred in 2015 and 2017 usually in rainy season in India. Educational institutes are the centres of high transmission and creating awareness only can arrest the spread. Hence this study was carried out to assess the knowledge, attitude and practices regarding Swine flu and improve their knowledge.
Methods: A health educational interventional study done on 202 eighth and ninth standard school students of Zilla Parishad High School, Kallur, Kurnool district during October and November, 2018 on obtaining informed consent, using a self administered questionnaire. Data entered in Microsoft excel version 2007, analysed and presented in proportions and chi square test of significance using SPSS version 23.
Results: 66.8 percent and 68.8 percent of the students heard and knew about viral swine flu respectively. Good knowledge of mode of spread, symptoms and availability of treatment, vaccination and preventive measures regarding swine flu was seen. The gaps in their knowledge levels were successfully filled by health educational intervention. More than 70 percent of students were using hand kerchief and masks in crowded places, willing to approach government facilities for treatment.
Conclusions: Extensive mass educational campaigns should be conducted as containment of the spread of the disease can solely be done by making people knowledgeable. Government authorities should train health workers, assistants and teachers and utilise mass and social media to create awareness, thus declining the incidence of the seasonal epidemics.

Keywords: Swine flu, Knowledge, Attitude, Practice, School students

INTRODUCTION

Seasonal influenza is an acute respiratory infection caused by influenza viruses which circulate in all parts of the world. There are 4 types of seasonal influenza viruses, types A, B, C and D. Influenza A and B viruses circulate and cause seasonal epidemics of disease.[1] Influenza A virus was responsible for Pandemics of Spanish flu by A (H1N1) strains in 1918–19, Asian flu by A (H2N2) in 1957–59, Hong Kong flu by A(H3N2) in 1968, and swine flu by A(H1N1) in 2009 – 10.[2] In April 2009, a new strain of influenza virus- A/H1N1, commonly referred to as "Swine flu", first reported from Mexico began to spread in several countries around the world. Evidence that this new strain could pass from human to human led the World Health Organization (WHO) to quickly raise the risk level to phase 6, indicating that a full global pandemic was under way. According to WHO estimates, 1/3rd of the world's population will be affected with H1N1flu within two years and India is no exception. India is ranked 3rd among the most affected countries for cases and deaths of

swine flu globally.[3] Worldwide, these annual epidemics are estimated to result in about 3 to 5 million cases of severe illness, and about 290 000 to 650 000 respiratory deaths.[1]

As per integrated disease surveillance program database Swine flu / Seasonal influenza cases in India as on December 2, 2018 are 12,942 and 954 deaths. In Andhra Pradesh alone 334 cases and 14 deaths of seasonal influenza were reported. Maximum cases and deaths were from Maharashtra, Tamil Nadu, Rajasthan and Gujarat. During an outbreak in the year 2015 we had sudden accrue of swine flu with 42592 cases and 2990 deaths and later in 2017, 38811 cases and 2270 deaths were reported.[4]

Seasonal influenza is characterized by a sudden onset of fever, cough (usually dry), headache, muscle and joint pain, severe malaise (feeling unwell), sore throat and a runny nose. The cough can be severe and can last 2 or more weeks. Most people recover from fever and other symptoms within a week without requiring medical attention. But influenza can cause severe illness or death especially in children, the elderly, pregnant women and those with other serious medical conditions.[1]

The most effective way to prevent the spread of Swine flu is by vaccination and by creating awareness in the public regarding the transmission, preventive measures to be followed to protect themselves from influenza. School students are the most susceptible high risk individuals for seasonal influenza and spike of cases are seen in rainy season from July to September. With this background, we conducted a study with an objective to assess the knowledge, attitude and practices followed among school students for prevention and management of swine flu and to fill the gaps in their knowledge levels.

Objective

- To assess the knowledge, attitude and practices regarding swine flu among the VII and IX class school students of ZPHS, Kallur, Kurnool.
- To improve the knowledge regarding swine flu among the students of ZPHS, Kallur, Kurnool.

METHODS

A health educational interventional study was done on school students of VIII and IX class of Zilla Parishad High School (ZPHS), Kallur in Kurnool during October and November 2018. ZPH School had both English and Telugu medium. According to the guidelines for conducting a knowledge, attitude, and practice (KAP) study, the minimum sample size is required to be 200.[5] Hence a total of 202 participants were included in the study. Students who were willing to participate in the study and given informed consent were randomly selected and included in the study. A self – administered questionnaire was prepared to assess the knowledge of the modes of transmission, symptoms, prevention and treatment of swine flu (influenza), their attitude towards preventive measures and practice regarding swine flu in students. Questionnaire was translated in local language. Ethical clearance was obtained from the Institutional Ethics Committee (IEC) before the study was started. Pretest was conducted and health education intervention on Swine flu transmission, prevention and management elaborated using audio visual aids and pamphlets with the permission of school head master. After two weeks, post test was conducted on the same group of students. Data was entered in Microsoft excel 2007, analysed in IBM Statistical Package of Social Sciences version 23 software. Data was presented in proportions and chi square test done to test statistical significance.

RESULTS

A cross-sectional study was conducted in ZPHS, Kallur on 202 students of Eighth and Ninth standards to assess their knowledge, attitude and practice regarding swine flu. Mean age of the study population was 14.09±0.7 years. Out of 202 students 58.4 percent (n=118) were male and 41.6 percent were female students. 52 percent (n=105) students from Eighth standard and 48 percent (n=97) from Ninth standard participated in the study. 70.3 percent students from English medium and 29.7 percent from Telugu medium gave informed consent to be a part of our study.

Table 1 show that the basic knowledge of swine flu as a communicable, respiratory viral disease was improved significantly by our health education.

In Table 2 we tried to depict the knowledge levels of participant before and after health education intervention regarding route of transmission of Swine flu from person to person. Statistically significant difference was seen and knowledge gaps filled except for coughing and mosquito bite as route of transmission.

Figure 1 shows that study participant knowledge regarding symptoms of Swine flu has been improved by health intervention except for cough as a symptom. The evaluation of our intervention showed statistically significant change at $p<0.05$ except cough ($p=0.061$) by Chi – square test.

Majority of the participant gained knowledge of the disease from their parents (42.6%) followed by teachers (28.7%) and Mass media (21.3%) like awareness sessions in television, radio, newspapers and pamphlets from Government authorities.

After our health educational intervention we were successful in making our participants knowledgeable regarding the measures they can follow to protect themselves from Swine flu. Statistically significant improvement was seen except the importance of frequent hand wash though improvement was seen.

Table 1: Knowledge regarding swine flu and its management.

Variable	Pre test (n=203)		Post test (n=202)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Heard of swineflu*	135	66.8	202	100
About causative agent- virus*	139	68.8	202	100
As communicable disease*	151	74.2	202	100
As respiratory disease*	129	63.8	202	100
Treatment available*	168	83.2	132	65.3
Prevented by vaccination*	174	86.1	202	100
Personal hygiene maintenance prevent spread*	155	76.7	202	100
Contact with pigs increases incidence*	166	82.2	202	100

*Statistically significant at p<0.01 by Chi–square test.

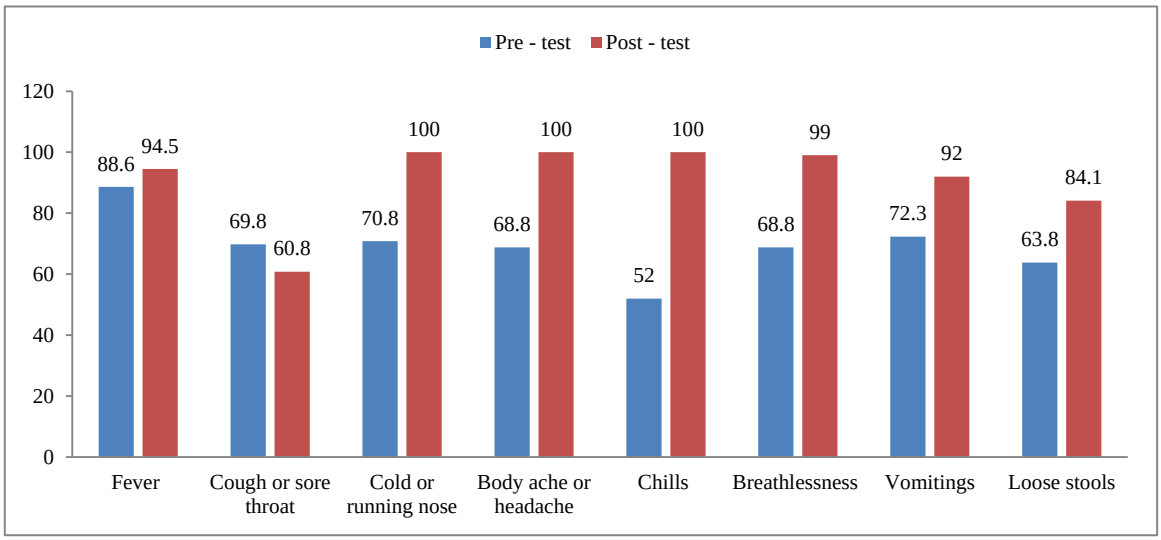

Figure 1: Knowledge regarding symptoms of swine flu.

Table 2: Knowledge about spread of swine flu.

Route of transmission	Pre test	Post test
	N (%)	N (%)
Coughing*	177 (87.6)	145 (71.78)
Sneezing*	169 (83.6)	202 (100)
Shaking hands*	136 (67.3)	169 (89.1)
Crowded places*	131 (64.8)	180 (80.6)
Food and water*	143 (70.8)	200 (99)
Mosquito bite*	145 (71.8)	199 (98.5)
Eating pork*	164 (81.2)	119 (59)

Percentages in brackets.*Statistically significant improvement at p <0.01 by Chi–square test.

Table 4 depicts the attitude of the participants on Swine flu disease. Attitude assessed by three point likert scale. Statistically significant change in the attitude of the study subjects was seen.

Table 5 shows the practices the participants following before and after health education intervention. All the participants were using face masks or atleast covering their mouth while coughing/sneezing. People were ready to approach allopathic and Ayurvedic hospitals in need and prefer to stay at home on developing symptoms.

Table 3: Knowledge regarding prevention and control measures.

Preventive measures	Pre test	Post test	P value
	N (%)	N (%)	
Wearing face mask	163 (80.7)	202 (100)	<0.001*
Frequent hand wash	187 (92.5)	191 (94.5)	0.42
Not eating meat	136 (67.3)	200 (99)	<0.001*
Using handkerchief while sneezing	164 (81.2)	202 (100)	<0.001*
Avoiding overcrowded places	176 (87)	202 (100)	<0.001*
Kill pigs	152 (75.2)	202 (100)	<0.001*
Avoid hugging, hand shake	172 (85.1)	186 (92)	0.024*

Percentages in brackets.*Statistically significant by Chi–Square test.

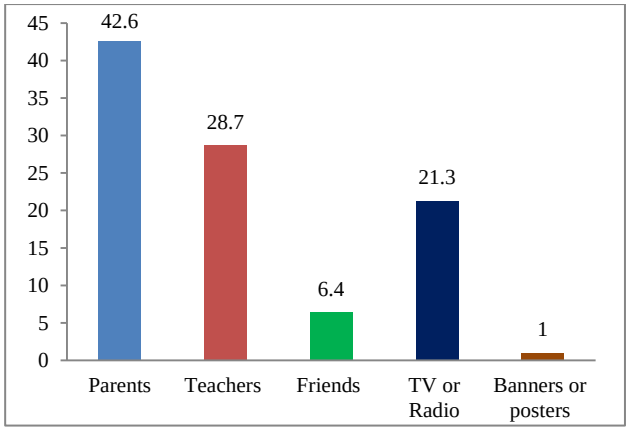

Figure 2: Source of information.

Table 4: Attitude regarding swine flu.

Statement	Pre test	Post test
	N (%)	N (%)
Swine flu affects all age groups (A)*	149 (73.7)	186 (92.1)
Swine flu a highly fatal disease (A)*	137 (67.8)	198 (98)
Swine flu a treatable disease (A)*	120 (59.4)	191 (94.5)
Vaccination protect us against swine flu (A)*	145 (71.8)	200 (99)
Swine flu a preventable disease (A)*	132 (65.3)	202 (100)
Affected person Isolation helps in controlling the disease spread (A)*	140 (69.3)	202 (100)

A–Agree, percentages in brackets, *statistically significant at p<0.001.

Table 5: Practices followed by school students regarding containment of spread of swineflu.

Characteristic	Pre test	Post test
	N (%)	N (%)
Cover your face while coughing/sneezing*	169 (83.7)	202 (100)
Use masks in crowded places*	149 (73.7)	202 (100)
Preferred choice of health facility on developing symptoms of swine flu*		
Government hospital	144 (71.3)	185 (91.5)
Private clinic	44 (21.8)	0
Ayurvedic clinic	11 (5.4)	17 (8.5)
Home remedy	3 (1.5)	0
Willing to take vaccine against swine flu*	175 (86.6)	128 (63.4)
Willing to educate your family members*	159 (78.7)	183 (90.6)
Would attend school on developing symptoms*	148 (73.26)	118 (58.4)

*Statistically significant at p<0.001.

DISCUSSION

In an interventional study intended to assess the knowledge, attitude and practices regarding Swine flu among school students of Kallur in Kurnool was planned in these months as upsurge of cases in the city were reported. This area was particularly selected as high load of cases and deaths of Swine flu were more from Kallur compared to other parts of the city. Hence the health department and government authorities started extensive awareness campaigns in the educational institutes and general public focussing mostly on the affected areas.

Mean age of study participants in our study was 14.78 yrs, with 58% male and 42% female students which was similar to a study's result done by Nilesh et al on school students of Bhavnagar, Gujarat.[6] 67 percent of our study subjects heard about Swine flu while 99% students heard about it at the time of the study in other studies.[6,7] Compared to our study more participants have heard about Swine flu in other studies done on general public.[8,9] 68.8% of subjects knew that swine flu is caused by virus which was less compared to other studies.[6,7] In majority of the studies the main source of information regarding swine flu was telemedia, while in our study, parents have given them the required information [6-9]

Our study participants knew fever (88.6%) as the main symptom of Swine flu followed by cold and cough and knew the correct mode of spread (more than 80 percent) which was similar to other studies.[6,8,9] Only 2.7-19% and 40.6% of the participants felt by eating pork we get swine flu in a study done in Belgaum, while our participants say 81.2%.[9-12] 71.8% of our study participants have myth that by mosquito bite swine flu is spread which was far more than other study results.[11,12] 83.2% of our school students knew that there is treatment for this disease which was far greater compared to other studies.[8-12] While Bhavnagar study shows similar results.[6] Contrary to our study (83.2%), very few participants of other studies knew that free treatment and testing facility available in government hospitals.[8,9] Vaccine as effective measure to prevent Swine flu was known to 86.1% of our study subjects which was better compared to other studies done in Gujarat, Karnataka, Nepal.[6,8-12] Maintaining personal hygiene is an effective measure to prevent infection according to 76.7 percent study subjects in our study which is better than other studies.[8, 9]

According to studies done in Gujarat, Patiala, Kerala wearing face mask was the most effective way to prevent and protect them from swine flu followed by avoiding crowded places and frequent hand wash.[6,11,12] While studies done in Karnataka showed lesser response for face mask as reason for prevention.[8,9] Our study participants had better knowledge of all preventive measures but hand washing was given prime importance for prevention like in study done by Shilpa.[9]

Swine flu was regarded as deadly disease by 67.8 percent of our study participants which was less compared to other studies.[9,11] While the study done by Praveen

showed less knowledge (40.2%) compared to ours regarding high fatality of swine flu. More than half of the subjects were ready to approach government facility in case of developing symptoms of the disease and similar opinion was conveyed by other studies too.[6,8,9] 86.6 percent subjects were willing to take vaccine like in study done in Bhavnagar but in Shilpa study only 16.3percent were ready.[6,9]

After health educational intervention there was statistically significant improvement in the knowledge and attitude levels of students which was similar to other study done by Imtiaz et al in Dhaka city.[7] In a study done in Nepal on school students there was definite improvement in knowledge levels of the participants by health educational intervention.[10]

We have selected only one school and only one high risk area, though our awareness campaigns were wide spread in the city. Covering the general public too could have been more beneficial as the main source of information in our study was parents. But school students are the best and effective source to spread the knowledge and to aspire the behaviour change in the public.

CONCLUSION

Knowledge of the study participants was good in our study and it was significantly enhanced with our health educational intervention. We were even successful in changing their attitudes towards disease and change their behaviour to safeguard themselves from the disease. We have conducted our study when there was toll of cases and hype of the situation in the public. All health care providers, teachers should be trained to spread correct knowledge in the public and allay the fears among general public. Post pandemic risk assessment and preparedness is the crucial step to reduce the burden on country's health economy. Government authorities should integrate and mobilise the health teams to create awareness in public by using Television advertisements, radio alerts, and talks with expert doctors, pamphlet distributions and providing sufficient laboratory facilities and vaccines without creating undue panic in public.

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