



Research Article

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Knowledge and practices related to swine flu in school students of Bhavnagar, Gujarat

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Abstract

Context: Swine Flu caused by Influenza virus of H1N1 strain is a highly infectious respiratory disease. Knowledge and awareness among the community regarding the containment of spread of Swine Flu is the most important weapon available to halt the epidemics of swine flu. **Aims:** The aim was to assess the knowledge and practices related to swine flu prevention and management in school students of Bhavnagar. **Settings and Design:** This was a cross sectional descriptive study carried out at 2 schools of Bhavnagar during February-March 2015. **Methods and Material:** Selection of schools was done by convenience sampling. The selected schools were visited and classes were randomly selected from available classes using a currency note. Pre-designed pre-tested questionnaire was applied to total 119 students of selected class rooms. **Statistical analysis:** Analysis was done in Epi Info 7 and Simple proportions and percentages were calculated. **Results:** Almost all school students had heard about swine flu disease and 66% knew about the causative agent. Television, friends and relatives were the most common source of information. Around 84% school students mentioned fever while 76% mentioned running nose as a symptom of Swine Flu. Eighty two percent school students knew coughing-sneezing as a mode of transmission. Only eleven percent school students knew that swine flu can also spread by hand shaking. Eighty four percent of the school students were aware that a medical test & treatment is available for diagnosis & management of Swine Flu. Half of the school students knew that a vaccine is available for Swine Flu. Eighty three percent school students mentioned use of face mask; while 68% mentioned avoiding crowded places as a preventive measure followed by them. Seventy percent school students told that they would avoid going to school if they have symptoms of swine flu. More than half of the school students would prefer to visit government hospital while 44% school students would consult a General Practitioner in case they develop symptoms of Swine Flu. Most of them were ready to get vaccinated against Swine Flu if offered a vaccine. **Conclusions:** The school students are having good knowledge regarding the disease and the causative agent of swine flu. Television, friends and relatives was the commonest source of information listed by school students. Fever, running nose and cough are the commonest symptoms known to school students. The school students are having good knowledge about mode of transmission, preventive measures, testing and treatment available for swine flu. They should be identified as messengers for spreading awareness messages regarding swine flu in the community. They are good sources of communication with adequate knowledge and should be used for this purpose.

Keywords: Influenza A Virus, H1N1 Subtype, Awareness, Students, Cross-sectional study.

INTRODUCTION

Swine Flu is a respiratory disease caused by an Influenza virus of H1N1 strain. The first case of swine flu was reported from India in May, 2009 and from Gujarat in July, 2009.^[1] Thereafter, the country and the state of Gujarat was under the grip of this disease in the year 2013. The disease had affected the country again, especially the state of Gujarat in the year 2015; the pattern of the outbreak being almost similar in years 2013 and 2015.

In the outbreak in year 2015, over 6200 Swine Flu positive cases and almost 400 deaths were reported from Gujarat, the highest number in any state of the country.^{[2],[3]} These mammoth figures have created fear across the various sections of the society, raising questionson whether an outbreak of Swine Flu can ever be halted.

The following facts shows the similarity of the Swine Flu outbreak in the first 3 months in year 2013 and 2015. In both 2013 and 2015, a sudden spike in swine flu cases was observed in the last week of January. Unseasonal rains in the second week of January in both 2013 and 2015 triggered a spike in swine flu cases. Awareness activities in the community started in full swing by January 22-25 in year 2015 when the outbreak was peaking. Ironically, in 2010, 2013 and in 2015, the government functionaries ended up firefighting rather than taking preventive measures for a possible outbreak.^[4]

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Looking at the pattern and spike of cases of this disease in the outbreak of 2015, it seemed evident that creating awareness among the community regarding the containment of spread of Swine Flu was the most important weapon available to halt this epidemic. Educational institutes are a special settings where there is regular mass gathering of susceptible individuals. The school students may carry sub-clinical or minor infection of swine flu and can spread to others. There is little knowledge about awareness and practices regarding prevention and management of swine flu in this special groups. With this background, we conducted a study to assess the knowledge and practices followed among school students for prevention and management of Swine Flu in Bhavnagar, Gujarat.

Objectives: The objective of this study was to assess the knowledge and practices related to swine flu prevention and management in school students of Bhavnagar.

MATERIALS AND METHODS

Study type, study period & study setting

This was a cross-sectional study carried out at 2 schools located in Bhavnagar which is an urban area of West Gujarat. The study was carried out during February-March 2015.

Data collection

The data collection tool was meticulously designed so as to capture the knowledge, awareness and practices that were being followed by the students regarding spread of Swine Flu. We selected 2 schools by convenience sampling. From each school, two classrooms were selected randomly from the available classrooms and all the students present in the classroom were invited to participate in the study. All those giving consent were enrolled for the study. For data collection, a self-administered questionnaire was prepared. Although, these questionnaires were filled by them under supervision of researchers to maintain the quality of data collection.

Calculation of sample size

A sample size of 96 was calculated using Epi Info version 7.1.1.14. The expected frequency of 50%, confidence limit of 10% and confidence level of 95% was taken for calculation of sample size. We added 20% of the calculated sample size to arrive at the final sample size to compensate for non-response rate. So finally, we decided to enroll 116 school students for this study. We decided to enroll 60 students from each of the selected school. There was class strength of 30 in each class in both the schools. So we took two classes in each school.

Ethical considerations

Informed verbal consent was taken from the head of the institute and respective class teachers and principal prior to data collection. Thereafter, the participants of the study were informed in detail about the purpose and procedure of study and invited voluntarily to participate. The data collection tool was given to those who gave consent to participate. The Data collection tool contained no personally identifiable information and thus confidentiality of individual responses was maintained.

Statistical methods used

Data was entered and analyzed in Epi Info version 7.1.4.0 and simple proportions were calculated.

RESULTS

The majority of the school students belonged to 14 years age (49.6%) followed by 15 years age (24.4%). The mean age of school students was 14.78 years with SD of 1.04. There were 58% male and 42% female students in the study group. The selected students belonged to secondary and higher secondary classes.

Knowledge regarding spread of Swine Flu

Ninety nine percent of school students heard about the swine flu disease. Out of all, 77% school students knew that the disease is caused by a virus. Sixty six percent had correct knowledge of the strain of virus, i.e. H1N1 strain. Television was the most important source of information followed by friends and relatives for school students. More than 80% of the school students mentioned Television as the source of information, while around two-third mentioned friends as the source of information. Fifty percent school students mentioned poster and around 32% mentioned WhatsApp / Facebook as the source of information. Around 84% of the school students mentioned fever as a symptom of Swine Flu; 76% mentioned running nose; 62% mentioned cough and 49% mentioned vomiting as a symptom of Swine Flu. Only 46% knew that throat pain is also a symptom of swine flu. It appeared that school students have good knowledge regarding mode of transmission of swine flu. Around 82% school students knew coughing-sneezing as a mode of transmission; and 64% school students said close contact as the mode of transmission. Eleven percent school students knew that swine flu can also spread by hand shaking.

Table 1: Knowledge regarding Swine Flu disease and its spread

Variable	Group	Frequency	Percentage
Heard of swine flu	Yes	118	99%
	No	1	1%
Knowledge about causative agent	Virus	91	77%
	Bacteria	11	9%
	Don't know	17	14%
Knowledge about causative agent	H1N1	76	66%
	Don't know	41	34%
Source of information	Television	96	81%
	Friend	75	63%
	Relative	69	58%
	Poster	60	50%
	Pamphlet	58	49%
	Doctor/Health worker	43	36%
	WhatsApp/ Facebook etc.	38	32%
Knowledge about symptoms	Fever	100	84%
	Running nose	90	76%
	Cough	74	62%
	Vomiting	58	49%
	Throat pain	55	46%

	Diarrhea	46	39%
	Breathlessness	36	30%
How is swine flu transmitted from one person to another?	By coughing-sneezing	97	82%
	By close contact	46	64%
	By hand shaking	13	11%
	During mass gathering	13	11%
	By sexual contact	4	3%

Knowledge regarding management of swine flu

There was good knowledge regarding the availability of testing for swine flu among school students. Eighty four percent of the school

students knew that a medical test & treatment is available for diagnosis & management of Swine Flu. Half of the school students knew that a vaccine is available for Swine Flu.

Table 2: Knowledge regarding management of Swine Flu

Variable	Group	Frequency	Percentage
Knowledge about test available for diagnosis of Swine Flu	Yes	100	84%
	No	1	1%
	Don't know	18	15%
Knowledge about treatment available for Swine Flu	Yes	100	84%
	No	9	8%
	Don't know	10	8%
Knowledge about availability of vaccine for Swine Flu	Yes	60	50%
	No	21	18%
	Don't know	38	32%

Knowledge and practices regarding containment of spread of swine flu

School students followed various preventive measure to avoid getting swine flu. Eighty three percent school students mentioned use of face mask; while 68% school students mentioned avoidance crowded places as a preventive measure followed by them. Forty four percent school students also mentioned that they wash hand frequently as a preventive measure. Twelve percent students mentioned using ayurvedic remedies in form of camphor, cardamom, black pepper and

cloves for prevention of infection. Very negligible number of students mentioned preventive measure like avoidance of shaking hands with other, not touching to mouth and nose and avoid coming in contact with a patient of swine flu.

When asked whether they would go to school in case they develop symptoms of swine flu, 70% school students told that they would not go to school, while 12% school students and would follow school's instructions. Also, 3% school students told that they would go to school even if they have symptoms of swine flu.

Table 3: Practices followed by school students regarding containment of spread of swine flu

Variable	Group	Frequency	Percentage
Preventive measures followed by school students for Swine Flu	Use of face mask	99	83%
	Avoiding crowded places	81	68%
	Hand washing	52	43%
	Ayurvedic remedies	14	12%
	Staying at home	10	8%
	Avoid shaking hands with others	4	3%
	Would you go to school or college in case you develop symptoms of swine flu?	No	83
Follow school or college's instructions in case of symptoms		14	12%
Yes		3	2%

Care seeking behavior in case of symptoms of Swine Flu

When asked within how many days will you seek care if you have certain symptoms of swine flu, almost 87% answered that they would seek care within 4 days of onset of symptoms like fever, running nose

and throat pain. While almost similar percentage of students would seek care within 2 days if they develop breathlessness. This suggests that cough, fever, running nose and throat pain are perceived as minor symptoms while breathlessness as a major symptom of swine flu by school students.

Table 4: Within how many days the students would seek care in case of a particular symptom

Sr. No.	Symptoms	Within 2 days	Within 4 days	Within 6 days	Within 10 days
1	Cough	57.5%	78%	92%	97%
2	Fever	65%	91.5%	95%	97.5%
3	Running nose	67.5%	87%	95%	98%
4	Throat Pain	72%	90%	97%	99%
5	Breathlessness	85%	95%	97%	99%

More than half of the school students (56%) mentioned that they would go to government hospital in case they develop symptoms of Swine Flu; 44% school students would consult a General Practitioner; while 37% school students would consult a specialist; 29% school

students would prefer home treatment; and 21% school students would visit a trust hospital. Ninety two percent school students were willing to get vaccinated against Swine Flu if they are offered a vaccine.

Table 5: Care seeking behavior in case of symptoms of Swine Flu

Variable	Group	Frequency	Percentage
Where will you go if you develop symptoms of swine flu?	Government hospital	67	56%
	Consult a General Practitioner	52	44%
	Consult a specialist	44	37%
	Home treatment	34	29%
	Visit a trust hospital	25	21%
Will you accept vaccination against swine flu?	Yes	110	92%

DISCUSSION

The present study was carried out during the high transmission season of swine flu. The awareness generation activities were started some times before the study was carried out and were going on in full swing during the study period. The schools were also involved in these activities by instructions of education department.

This demonstrates that almost all the school students have heard about the disease and substantial number of students are aware about the causative agent. Television was the main source of information which is also seen in a similar study carried out by Chaudhary V. *et al.* (2010).^[5] Thirty two percent school students also reported social media as their source of information. Fever was listed as the most common symptom of swine flu by school students. This finding is in line with other studies carried out previously at Uttar Pradesh and Karnataka.^[5,6] Less than half of school students mentioned throat pain as symptoms of swine flu. School students had good knowledge regarding transmission of swine flu. Eighty two percent of school students mentioned coughing or sneezing as mode of transmission. Similar findings were observed in other study but in our study, substantially high proportion of school students had the knowledge about mode of transmission.^[7]

The knowledge of availability of testing and treatment was better in school students as compared to the findings of similar studies done at Karnataka.^[8] In our study, half of the students were aware about the availability of vaccine against swine flu. In a similar study carried out by Sumeet Singh *et al.* at Patiala district, 60% respondents were aware about the availability of vaccine.^[9] About 8% school students believed that swine flu is incurable. Use of face mask was the commonest measure followed by the school students as a preventive measure followed by avoidance of crowded places. Use of face mask is also reported as commonest measure mentioned by school students in other studies.^[5] Slightly less than half school students mentioned that they wash hand frequently as a preventive measure. These practices are quite better as compared to what is reported by Sharma *et al.* in their study conducted at Index Medical College, Indore (M.P.).^[10] Very negligible students followed practices like avoidance of shaking hands with other, not touching to mouth and nose and avoid coming in contact with a patient of swine flu.

In our study, more than two third students mentioned that they would avoid going to school if they have symptoms of swine flu, while 12% would follow instructions of school in case of symptoms. Cough, fever, running nose and throat pain are perceived as minor symptoms while breathlessness as major symptom of swine flu by school students. More than half of the school students would prefer to visit government hospital while 44% school students would consult a General Practitioner in case they develop symptoms of Swine Flu. More than 90% school students showed readiness to accept vaccination against swine flu if offered.

CONCLUSION

The school students are having good knowledge regarding the disease and the causative agent of swine flu. Television followed by friends and relatives was the commonest source of information listed by school students. Fever, running nose and cough are the commonest symptoms known to school students. This study demonstrates that

school students are having good knowledge about mode of transmission, preventive measures, testing and treatment available for swine flu. They should be identified as messengers for spreading awareness messages regarding swine flu in the community. They are good sources of communication with adequate knowledge and should be used for this purpose.

Conflicting Interest: None.

Contribution Details

NCF: Concept and design of study, Acquisition of data, Data analysis and Interpretation of data, Literature search, Drafting the article. **MRP:** Analysis and Interpretation of data, Literature search, Drafting the article. **KDB:** Concept and design of study, Final approval of the version to be published. **MPS:** Concept and design of study. **VAR:** Acquisition of data, quality control during data collection and data analysis.

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REFERENCES

- Patel KK, Patel AK, Mehta PM, Amin RP, Patel KP, Chuhan PC, Naik E *et al.* Clinical Outcome of Novel H1N1 (Swine Flu)-Infected Patients During 2009 Pandemic at Tertiary Referral Hospital in Western India. *J Glob Infect Dis.* 2013;5(3):93-7.
- State now has most Swine flu cases in country - Times of India [Internet]. The Times of India. [cited 2016 Aug 22]. Available from: <http://timesofindia.indiatimes.com/city/ahmedabad/State-now-has-most-Swine-flu-cases-in-country/articleshow/46603544.cms>
- The Times Group [Internet]. [cited 2016 Aug 22]. Available from: <http://epaperbeta.timesofindia.com/Article.aspx?eid=31805&articlexml=BIMARU-GUJARAT-9-more-die-of-H1N1-in-12032015005005>
- John P. The Times Group [Internet]. [cited 2016 Aug 22]. Available from: <http://epaperbeta.timesofindia.com/Article.aspx?eid=31805&articlexml=Lesson-lost-H1N1-follows-pattern-09032015002030>
- Chaudhary V, Singh R, Agrawal V, Agarwal A, Kumar R, Sharma M. Awareness, perception and myths towards swine flu in school children of Bareilly, Uttar Pradesh. *Indian J Public Health.* 2010;54(3):161.
- Praveen Kumar B, Kumar Sy, Ugargol A, Naik V, Mallapur M, Shiipa K. A study on awareness regarding swine flu (influenza A H1N1) pandemic in an urban community of Karnataka. *Med J Dr Patil Univ.* 2014;7(6):732.
- Damor R, Bhabhor H, Kosambiya JK, Gohil A, Rani G, Parmar P. Knowledge, Attitude and Practices Regarding Swine Flu among OPD Attendees of Tertiary Care Hospital, Surat. *IOSR J Dent Med Sci.* 2015;14(7):60-64.
- Praveen Kumar B, Karnum S, Kumar Sy, Ugargol A, Naik V, Mallapur M. Pandemic influenza A H1N1 awareness in a rural community of North Karnataka, India. *Trop J Med Res.* 2015;18(2):74.
- Singh S, Kaur P, Singh G. Study to assess the awareness, perception and myths regarding swine flu among educated common public in Patiala District. *Int J Res Dev Health.* 2013;12:54-60.
- Sharma SVKA, Mahashabde P. Knowledge and behavior regarding swine flu among interns at index medical college, hospital & research center, indore (M.P.). *J Evol Med Dent Sci.* 2014; 3(10):2590-4.