

Research Article

Knowledge, Attitude and Practices towards Swine Flu among School Students of Nilgiris, Tamil Nadu

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DOI: <https://doi.org/10.24321/0019.5138.201935>

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How to cite this article:

Suresh A, Sruthi N, Krishnan K, Hariharan V, Karthikeyan LV, Anitha S. Knowledge, Attitude and Practices towards Swine Flu among School Students of Nilgiris, Tamil Nadu. *J Commun Dis* 2019; 51(4): 41-46.

Date of Submission: 2019-09-24

Date of Acceptance: 2020-01-27

A B S T R A C T

Background: Since 2009 the swine flu pandemic has been prevalent in India and South India have been afflicted with numerous cases. This study was conducted with an objective to assess the knowledge, attitude and practices of school students towards swine flu in Nilgiris district, Tamil Nadu.

Methods: A pre-validated, semi-structured questionnaire was used for collecting data which comprised questions on socio-demographic characteristics (Gender, age, father's education, residence, father's occupation, mother's education, mother's occupation, and socio-economic status), knowledge (15 questions), attitude (1 question) and practices (5 questions) of students. There were a total of 21 close ended questions with the options of Yes & No. Option of Don't Know was also added for assessment of Knowledge. The p-value was then estimated for finding the statistical significance in yes/no questions using binomial distribution.

Result: The overall knowledge, attitude and practices were better among females than males (knowledge 77.41% vs 62.94%; attitude 89.29 % vs 84.44%; practices 78.22 % vs 73.41%). The perceived risk of getting swine flu was found to be 53% in females and 47% in males.

Conclusion: Although the students were aware of swine flu, importance of following appropriate practices to prevent swine flu need to be informed.

Keywords: Knowledge, Attitude, Practices, Students, Swine Flu

Introduction

Swine flu also called Hog or Pig Flu is a highly contagious disease caused by a strain of the influenza type A virus (family: *Orthomyxoviridae*) called H1N1, officially referred to as novel A/H1N1. The virus includes four known strains of influenza A virus: one endemic in humans, one endemic in birds and two endemic in pigs. Transmission of the new strain is human-to-human. An outbreak of novel influenza A/H1N1 infection first occurred in La Gloria, Mexico in March-2009 and spread all over the world in short span of time. The swine-flu pandemic of 2009 may have killed up to 203,000 people worldwide; 10 times higher than the first estimates based on the number of cases confirmed by lab tests, according to a new analysis by an international group of scientists. There have been more swine flu cases and deaths in first four months of 2017 in India than all of 2016.¹

India is ranked 3rd among the most affected countries for cases and deaths of swine flu globally. The state of Tamil Nadu has witnessed several cases (2069 cases and deaths in 2009; 1197 cases in 2010; 38 cases in 2011 and 790 cases in 2012).² The fact that Nilgiris witness more visitors during festive season and H1N1 virus sustains longer in cold climate, there is a chance of outbreak of pandemic H1N1 virus in this region. During 2018, approximately 29 cases were reported on swine flu in Nilgiris district. Around 11 cases of H1N1 were reported in Lawrence school in Lovedale near Ooty. The Knowledge, Attitude and Practices (KAP) survey will help to identify the factors obstructing the proper implementation of relevant preventive practices by individuals. Per se, these obstacles result from poor knowledge which becomes their positive or negative attitude which eventually becomes their habit of doing something. This study assesses KAP of school students towards swine flu and also measure the perceived risk of contracting swine flu among male and female students.

Materials and Methods

The study was carried out at two private schools located in Ooty, The Nilgiris district which is an urban area of Tamilnadu. This Descriptive Cross-Sectional Study was conducted from 2018 December to 2019 May. Purposive sampling was used for recruitment of subjects. Students from class eight to ten were included; those who did not express willingness to participate and absent on the date of study were excluded. A total of 208 participants were selected in this manner. Written permission was obtained from the school principal prior to the conduction of the pilot and the main study. Also, the protocol was approved by Institutional ethics committee of the affiliated institution where the work was carried out (Reference No: JSSCP/IEC/07/2019-20).

A pre-tested, semi-structured questionnaire, consisting of 4 parts was used as a tool for data collection.³ This questionnaire was checked for face validity by two experts who have previously worked on KAP studies and also pilot tested among a subset of the student population to assess the feasibility and remove irrelevant or confusing questions. Accordingly, the questions and responses were fine tuned. This pre-designed instrument consisted of socio-demographic characteristics (Gender, Age, Fathers' education, Residence, Father's occupation, Mother's education, Mother's occupation, and Socio-economic status), knowledge (15 questions), attitude (1 question) and practices (5 questions) of students. There are total 21 close ended questions with the options of Yes & No. Option of Don't Know was also added for assessment of Knowledge. The p-value was then estimated using binomial probability distribution and knowledge, attitude and practices and the overall KAP are expressed as percentages.

Results

A total of 208 participants were administered the questionnaire of which 126 were males and 82 were females. Majority of the participants were in 12-14 years of age (72.60%) The basic demographic details of the study participants are summarised in Table 1.

Table 1. The Socio-demographic characteristics of the respondents

Measures	No. of participants (n=208)	Percentage
Gender		
Males	126	60.60%
Females	82	39.40%
Age (in years)		
12 – 14	151	72.60%
15 – 17	54	25.90%
18 – 20	3	1.40%
Education		
< 10 std	197	94.70%
11-12 std	11	5.30%
Dwelling		
Urban	96	46.15%
Rural	112	53.84%

The responses obtained on knowledge of H1N1 in students is shown in Table 2. Out of 208 study subjects, 87% (181) knew that the disease is respiratory and caused by a virus. The students were more likely to correctly identify the common symptoms of swine flu. Since the participants had a high school through higher secondary education, they showcased remarkable knowledge of the modes of transmission of swine flu pandemic.

Table 2. The knowledge about swine flu disease

(n=208)							
Statement	Yes	%	No	%	Don't know	%	p-value
1. Is swine flu a viral respiratory disease?	143	68.75	46	24.46	19	10.1	> 0.05
2. Which of the following are symptoms of swine flu?							
a. Fever and chills	152	73.07	28	14.89	28	14.89	*p=0.015
b. Cold, cough and sore throat	160	76.92	15	7.97	23	12.23	> 0.05
c. Muscle fatigue	119	57.21	49	26.06	40	21.27	*p=0.048
d. Headache	152	73.07	30	15.95	26	13.82	> 0.05
3. Which of the following are the potential modes of transmission of swine flu?							
a. Coughing and sneezing	170	81.73	31	16.48	35	18.61	*p=0.000
b. Objects of an infected person	115	55.28	35	18.61	58	30.85	*p=0.03
4. Can swine flu virus be transmitted from:							
a. Pigs to humans	122	58.65	46	24.48	40	21.27	*p=0.002
b. humans to humans	146	70.19	34	18.08	28	14.89	> 0.05
5. Vaccination for swine flu	73	35.09	122	64.89	13	6.91	*p=0.001
6. Medication for swine flu	164	78.84	24	12.76	20	10.63	*p=0.000
7. Is swine flu recurrent in humans?	130	62.5	36	19.14	42	22.34	*p=0.036
8. Wearing gloves to prevent transmission?	192	92.3	10	5.31	6	3.19	> 0.05
9. What are the possible complications of swine flu?							
a. Respiratory failure and death	164	78.84	19	10.1	25	13.29	*p=0.006
b. bacterial and viral pneumonia	134	64.42	41	21.8	33	17.55	> 0.05
10. What are the methods to prevent human to human transmission?							
a. Washing hands	170	81.73	7	3.72	31	16.48	> 0.05
b. Wearing a mask	154	74.03	19	10.1	35	18.61	> 0.05
c. Restricting cough and sneeze with tissue	155	74.51	23	12.23	30	15.95	*p=0.039

*p-value <0.05 is considered significant.

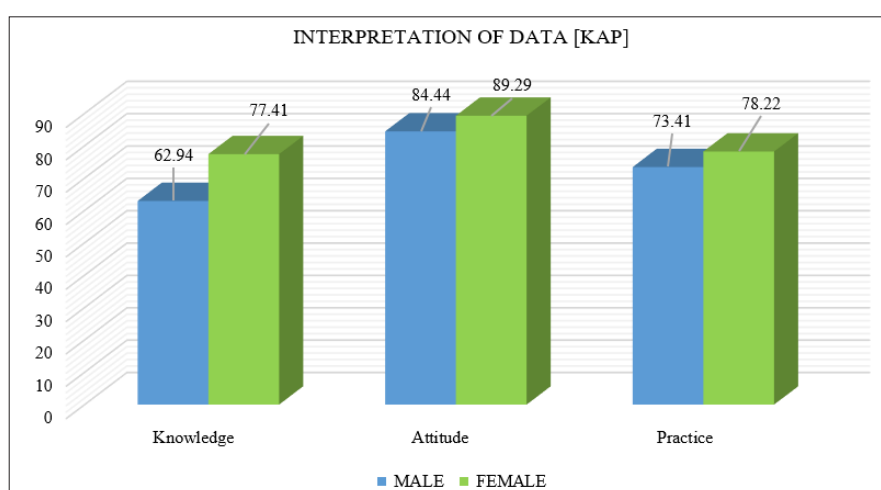


Figure I. Frequency of Knowledge, Attitude and Practices of swine flu among genders

Table 3. The attitude towards a swine flu outbreak

Statement	Yes	% Yes	No	% No	p-value
1. After getting to know about a swine flu outbreak; what would you prefer?					
a. Wash hands frequently	194	93.26	14	7.44	> 0.05
b. Seek additional information	171	82.21	37	19.68	> 0.05
c. Consume more nutritional diet	183	87.98	25	13.29	*p=0.011
d. Drink plenty of water	186	89.42	22	11.7	*p=0.006
e. Avoid going to crowded area	164	79.32	43	22.87	*p=0.009

*p value <0.05 is considered significant.

Attitude of Swine Flu

It was found that the overall attitude of both genders was good related to swine flu (Male: Female 84.44% vs 89.29%) as inferred from Table 3. Having an adequate knowledge have helped the students to maintain a positive attitude towards preventing swine flu.

the students came from rural areas as evident from Table 1, the overall practices were relatively good.

Overall Knowledge, Attitude and Practices (KAP)

As depicted in Figure 1, overall KAP of the school students was higher for females. The perceived risk of getting swine flu was found to be 53% in females and 47% in males.

Table 4. The self-care practices related to swine flu

Statement	Yes	% Yes	No	% No	p-value
1. When coughing or sneezing:					
a. Cover mouth and nose with tissue or handkerchief?	205	98.55	3	1.59	> 0.05
b. Throw away the used tissue in a bin?	191	91.82	17	9.04	> 0.05
c. Turn your face from the surrounding people?	190	91.34	18	9.57	> 0.05
2. Do you wash your hands:					
a. Before touching your eye and nose?	169	81.25	39	20.74	*p=0.004
b. After covering the nose while sneezing?	199	95.67	9	4.78	> 0.05
c. After using the toilet?	201	96.63	7	3.72	*p=0.041
3. Do you apply soap while washing your hands?	201	96.63	7	3.72	*p=0.019
4. Regarding your usage of facemask:					
a. Do you wear a facemask while having a fever, cough or a running nose?	80	38.46	128	68.08	> 0.05
b. Do you wear a facemask in a crowded area?	71	34.13	137	72.87	* p <0.001
c. Do you change the face mask after using it once?	80	38.46	128	68.08	*p <0.001
d. Do you never use a face mask?	60	28.84	148	78.72	p> 0.05
5. Regarding a person is infected with swine flu:					
a. Avoid contact with the infected person	191	91.82	17	9.04	p> 0.05
b. Avoid touching and shaking hands	186	89.42	22	11.7	*p=0.015
c. Put handkerchief on mouth and nose around them	179	86.05	29	15.42	*p=0.002

Practice of Swine Flu

Table 4, represents the self-care practices of students related to swine flu. The overall practice score was 73.41% in males and 78.22% in females. Even though nearly half of

Discussion

The results from our study depict the range of knowledge, attitude and practices concerning H1N1 influenza pandemic among a sample of school students of Nilgiris district, Ooty

which is similar to other studies.^{4,6} The student population serves as an excellent tool to conduct questionnaire surveys. In the current study, the total no. of male participants are more than the female participants (male-126; female-82), while the study conducted by Hiremath et al reveals female participants were more than the male participants (male-26; female-34).⁴ Even though, the male participants are more in our study, girls had better KAP than boys (knowledge 77.41% vs 62.94%; attitude 89.29 % vs 84.44%; practices 78.22 % vs 73.41%). Similar findings were reported in a study conducted in Kanpur.⁵ In our study, 68% of the participants had previously heard about swine flu, which was lesser in comparison to the study conducted (99%) in Bhavnagar, Gujarat, India.⁶ This may be due to lack of health awareness and interest regarding health issues in present study population. In present study, overall 87.01% of participants knew that swine flu disease is caused by a virus and a respiratory disease which reflected results of similar studies.^{5,8} In present study 34.13% of participants avoided crowded places, while it was lesser in comparison to the findings of other studies.⁶ Hand washing as a preventive measure was followed by 81.25% of the participants in our study, which concurred with the findings of a study undertaken in rural Indian population. Also, in our study, 73.07% of population knew that fever was the most common symptom of swine flu; like-wise another study reported higher percentage (92.5%) having knowledge that fever is a symptom of swine flu.⁷ In our study, only 38.46% were having a positive attitude towards use of face mask, while it was higher in different studies.⁸ The students were more aware about the precautions taken during and prior to the swine flu attack. Availability of treatment against swine flu were known by 79% of students which is remarkably high as in few studies; however the percentage of students who knew about availability of vaccine against swine flu were 35% which is less than other studies.^{9,10} As prevention is the most appropriate measure to control H1N1 flu pandemic and awareness of H1N1 flu is cardinal to preventive measures, the dissemination of proper information to the public on the status of the H1N1 virus pandemic is deemed important to achieve awareness of the potential risks and the optimum code of behaviour required during the pandemic.¹⁰

Potential Directions

There is a need for routine integration and updating of the awareness and management programs in the schools. The students should regularly be vaccinated against influenza. Furthermore, the healthcare professionals must practice preventive measures pertinent to controlling future outbreaks.

Conclusion

Very few epidemiological studies on swine flu are available

in India because of its recent origin since 2009. This is the first study of its kind among school students in the state of Tamil Nadu (Nilgiris district) in India as per our knowledge. In the present study, overall KAP was found to be better among females for swine flu.

The perceived risk of contracting swine flu was slightly low in males when compared to females. Although the students were aware of swine flu, importance of following appropriate practices to prevent swine flu need to be informed. We hope that this study can pave the way for surveys to be conducted on a larger scale, encompassing the school students of the entire country aiding the development of better preventive protocols by the government.

Acknowledgement

The authors would like to thank the authors Fariha Hassan, Mohammad O. Khan, Mukarram Ali for their support in providing us with their questionnaire. We would like to express special gratitude towards the principal and faculty members of Crescent castle school, Ooty, Tamil Nadu for their willingness to help and provide us with all necessary information.

Conflict of Interest: None

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