# **Original Research Article**

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# A study on swine flu (H1N1) awareness among college students of Valsad city

# Hinal Govindbhai Baria\*, Priti Solanky, Hitesh Shah, Ravikant Patel

Department of Community Medicine, GMERS Medical College, Valsad, Gujarat, India

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# \*Correspondence:

Dr. Hinal Govindbhai Baria, E-mail: drbariag@gmail.com

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# **ABSTRACT**

**Background:** The aims were to study knowledge, perceptions and beliefs regarding swine flu among college students and to study any difference in knowledge between science and commerce students.

**Methods:** A cross sectional study conducted in Science and Commerce College of Valsad city from June-July 2015. Simple random sampling technique used. Total 400 students were randomly selected from both the colleges. The study was started after obtaining the verbal and informed consent from both the college authorities whereas verbal and informed consent was taken from each student. Data collection done by using predesigned, pretested, bilingual language (English and Gujarati) semi structured questionnaire. Students who were present and had given consent to participate in the study been included and those who are absent and not willing to participate are excluded from study. Data were presented in percentages and p value was calculated by Chi-square test.

**Results:** 63.18% and 53.73% commerce, 86% and 84.5% science knows causative agent and other name of swine flu respectively and difference is statistically highly significant. More than 60% of science and commerce students reported cough/sneezing as modes of transmission. 57% science and 40% commerce correctly answer symptoms of swine flu. Television (>35%) was major source of information in both groups.

**Conclusions:** Although students are aware of swine flu but correct knowledge about swine flu is lacking in both the groups. Knowledge regarding key points such as frequent hand washing, avoiding crowding places, vaccine and treatment availability, which is much important during epidemics and pandemics as precautionary measures, was lacking in both the groups.

Keywords: Swine flu, Students, Science, Commerce

# INTRODUCTION

Swine flu is caused by novel H1N1 virus, lead to the major pandemic in 2009. World Health Organization declared it phase 6 level of pandemic. As of 1 August 2010, worldwide more than 214 countries and overseas territories or communities reported laboratory-confirmed cases of pandemic influenza H1N1 2009, including over 18449 deaths.<sup>1</sup>

In India, especially Gujarat suffered most from its high case fatality rate with 1674 cases and 144 deaths as on February 2015.<sup>2</sup>

By simple hygiene and sanitation measures for cough and respiratory problems, one can effectively prevent swine flu transmission. Correct knowledge and information regarding swine flu helps in taking effective steps to prevent the spread of the flu. The purpose of this study was to know whether the students had enough knowledge

about swine flu (H1N1) and to assess their knowledge about possible preventive measures that can be taken by the students including vaccination against swine flu epidemics. Study was conducted among college students as this is the young population and can helps in spreading the message of prevention in the community.

#### Aims and objectives

- 1) To study knowledge, perceptions and beliefs regarding swine flu among college students.
- 2) To study any difference in knowledge between science and commerce students regarding Swine flu.

#### **METHODS**

# Study design

It is a cross sectional study conducted among Science and Commerce college students of Valsad city.

#### Study period

June-July 2015

# Sample size and sampling technique

Purposively Science and Commerce college students were chosen for the study. 200 students from each college were selected (total 400 students) by Simple random sampling method.

# Data collection

Data collection was done by using predesigned, pretested, bilingual language (English and Gujarati) and semi structured questionnaire. The questionnaire contain the information regarding socio-demographic profile, knowledge about the disease (nature, modes of transmission, source of information, perceptions, clinical

features, preventive measures) and questions on health seeking behaviour. The study was started after obtaining the verbal and informed consent from both the science and commerce college authorities whereas verbal and informed consent taken from each student before conducting the study.

#### Inclusion criteria

All students who were present and gave the consent to participate in the study.

#### Exclusion criteria

Those who are absent and do not willing to participate are excluded from the study.

#### Statistical test

Percentages, chi-square.

#### **RESULTS**

In present study 86% science and 63.18% commerce students correctly answer the causative agent for swine flu, while 84.5% (science) and 54% (commerce) students knew the other name of swine flu (H1N1) whereas only 48.5% (science) and 21.5% (commerce) answered correctly about the drug used as prophylaxis for prevention of swine flu infection.

Regarding the availability of swine flu vaccine at govt. hospitals was known by only 61% (commerce) and 56% (science) students whereas 75.5% (science) and 58% (commerce) was satisfied with the preventive and curative services offered by the government for swine flu prevention. 57% (science) and 40.30% (commerce) knew about availability of free treatment of swine flu at government hospitals.

Table 1: Knowledge and perceptions regarding swine flu among science and commerce students.

Sr. No.	Questions	Science (n=200)	Commerce (n=200)	P value
1	Ever heard of swine flu?	200 (100)	194 (97.01)	-
2	Which is the causative agent for swine flu?	172 (86)	126 (63.18)	p<0.001
3	Knowledge regarding other name of swine flu	169 (84.5)	108 (54.0)	p<0.001
4	Knowledge regarding the name of the drug used for swine flu	97 (48.5)	43 (21.50)	p<0.001
5	Knowledge regarding any vaccination available for swine flu	112 (56)	122 (61.0)	p>0.05
6	Students perceptions regarding satisfaction with govt services given to prevent swine flu	151 (75.5)	116 (58.0)	p<0.05
7	Knowledge regarding free treatment of swine flu available at the govt. Hospitals	114 (57)	80 (40.0)	p<0.001
8	Knowledge regarding availability of treatment of swine flu	178 (89)	187 (93.50)	p<0.001
9	Prophylaxis taken other than allopathy	26 (13)	22 (11)	p>0.05

The difference in knowledge between science and commerce students was found highly significant (Table 1).

On inquiring about the mode of transmission of swine flu majority of students 64.6% (science) and 69.3% (commerce) reported cough/sneezing as one of the modes of transmission, while 10.6% and 11% (science) and 14% and 5.2% (commerce) students had the misconception that it is transmitted by food and water and by eating pigs meat respectively.

Table 2: Knowledge regarding swine flu transmission.

How swine flu is transmitted	Science No. (%)	Commerce No. (%)
Through blood	6 (2.65)	2 (0.96)
Through food and water	24 (10.62)	31 (14.83)
Through cough/sneezing	146 (64.60)	145 (69.3)
Through eating pig meat	26 (11.5)	11 (5.26)
Through shaking hands	19 (8.41)	10 (4.78)
No reply	5 (2.21)	7 (3.35)
Total responses	226	209

Table 3: Knowledge regarding signs and symptoms of swine flu.

Signs/symptoms of	Science	Commerce
swine flu	No. (%)	No. (%)
Fever	30 (11.72)	54 (23.08)
Cough/cold	38 (14.84)	57 (24.36)
Diarrhea	3 (1.17)	3 (1.28)
Runny nose	10 (3.91)	6 (2.56)
Abdominal pain	1 (0.39)	4 (1.71)
Breathlessness	16 (6.25)	6 (2.56)
Headache	12 (4.96)	7 (2.99)
All the above options are correct	146 (57.03)	95 (40.6)
Total responses	256	234

Table 4: Knowledge regarding precautions to be taken to prevent swine flu.

Precautions to be taken	Science	Commerce
to prevent swine flu	No. (%)	No. (%)
Frequent hand wash	14 (5.1)	9 (3.8)
Not eating meat	1 (0.3)	2 (0.8)
Using handkerchief while sneezing	85 (35.7)	84 (36.2)
Avoid going in overcrowding places	15 (5.5)	12 (5.1)
Kill pigs	0 (0)	3 (1.2)
Eating healthy food	9 (3.3)	12 (5.1)
Visit doctor	26 (9.5)	36 (15.5)
Vaccination against swine flu	18 (6.6)	10 (4.3)
All correct	70 (29.4)	64 (27.5)
Total responses	238	232

In the present study majority of students 57% (science) and 40.6% (commerce) students don't know the correct sign and symptoms of swine flu (Table 3).

Around 35%-36% students in both the groups reported the use of handkerchief while sneezing to prevent swine flu transmission while very less students in both the groups knew the other precautions to be taken for prevention of swine flu (Table 4).

**Table 5: Sources of information.** 

Sources of information	Science college	Commerce college
	No (%)	No (%)
News paper	78 (24.53)	68 (24.91)
Television	104 (32.7)	100 (36.63)
Internet	41 (12.89)	28 (10.26)
Doctors	40 (12.58)	36 (13.19)
School teachers	35 (11.01)	26 (9.52)
Banners and hoardings of govt.	20 (6.29)	15 (5.49)
Total responses	318	273

Though this is the era of internet and the social media and the social messengers most frequently used by the younger population, internet constitute only 10-12% as source of information while television was found to be the major source of information in both the groups of students (Table 5). This indicates that though the social media is in very much use by the young population but the use of this media for awareness and getting of information regarding the health awareness and diseases prevention is very less.

So the health departments can use this media for health education and IEC activities by circulating the preformed messages showing the signs/symptoms /modes/precautions especially during epidemics and pandemic situations to make them well informed as this social media sources are frequently used by this younger population.

#### DISCUSSION

The study was conducted with the objectives to know the awareness regarding the swine flu and to know the precautionary steps that can be taken by young population during the epidemics and pandemics of swine flu

According to our study 97% of commerce and 100% of Science students had heard about Swine Flu which is similar to study carried out by Dr. Varsha Chaudhary et al among students of two senior secondary schools of Bareilly that 98% students had heard about Swine Flu<sup>3</sup>

In present study 86% science and 63.18% commerce students correctly answer the causative agent for swine

flu, while 84.5% (science) and 54% (commerce) students knew the other name of swine flu (H1N1) whereas only 48.5% (science) and 21.5% (commerce) answered correctly about the drug used as prophylaxis for prevention of swine flu infection.

Regarding the availability of swine flu vaccine at govt. hospitals was known by only 61% (commerce) and 56% (science) students. 75.5% (science) and 58% (commerce) had the perception that the preventive and curative services offered by the government for swine flu prevention are satisfactory. 57% (science) and 40.30% (commerce) knew about availability of free treatment of swine flu at government hospitals. 13% (science) and 11% (commerce) students reported that they had taken medicine other than allopathy (ayurvedic, homeopathy) for prevention of swine flu. Further research is required in the alternative medicines for effectiveness of such prophylaxis in prevention of swine flu.

The difference in knowledge between science and commerce students was found highly significant (Table 1).

Present study revealed that 64.6% (science) and 69.3% (commerce) reported cough/sneezing as one of the modes of transmission, while 10.6% and 11% (science) and 14% and 5.2% (commerce) students had the misconception that it is transmitted by food and water and by eating pigs meat respectively. The findings is almost comparable to the study by Dr. Singh et al, it showed that 54% of them thought that Swine flu was transmitted by Coughing and Sneezing, 13% thought it spread by shaking hands with an infected person, 21% of them thought that it spread through food and water. 4 In the present study majority of students 57% (science) and 40.6% (commerce) students don't know the correct sign and symptoms of swine flu. According to the study carried out by Rathi et al, common symptom of Swine flu such as fever was known to 40% while cough and cold were known to 39% of the respondents.<sup>5</sup>

In our study, 35%-36% students in both the groups reported the use of handkerchief while sneezing to prevent swine flu transmission and only 4-5% of science and commerce students had given the importance of hand washing as precautionary measure to prevent swine flu. while a study conducted by Seale et al regarding the knowledge, attitudes and practices of domestic and international university students towards seasonal and pandemic influenza it was found that regular hand washing, cough etiquette (covering mouth and nose when coughing or sneezing), and avoiding the sick were suggested by students as good strategies to prevent becoming infected with pandemic influenza whereas study by Kawanpure et al 70.42% mention use of face mask as a way of prevention from swine flu whereas hand washing which is a very effective way to prevent swine flu transmission was known only to 31.90%.<sup>6,7</sup> According to the study carried out by Dr. Shilpa et al, 32.1% of the participants avoided crowded places, 81.5%

of population knew that the use of mask as a way of prevention from swine flu, whereas hand washing as a personal hygiene, which is a very effective way to prevent swine flu transmission, was known only to 37.0%, whereas around 2.7% stayed at home.<sup>8</sup>

In our study (32.7%) science and (36.63%) commerce students reported television was the main source of information for swine flu, which is similar to a study carried out by Mustafa et al that 82.85 of the respondents reported television/radio as the major source of information which is comparable to the study conducted by Farahat et al, where main source of knowledge was TV (65.5%).<sup>9,10</sup>

#### **CONCLUSION**

A statistically significant difference was found between the knowledge of science and commerce students. Although the students are aware of swine flu but the correct knowledge about swine flu is lacking in both the groups of students. Knowledge regarding the key points such as frequent hand washes, avoiding crowding places, vaccine and treatment availability, which is very much important in during the epidemics and pandemics as precautionary measures, was lacking in both the groups. Majority of students from both the colleges are satisfied with the services given by the govt.

#### Recommendations

Government should strengthened their IEC activities to spread awareness such as large banners and hoardings showing signs and symptoms, ways of transmission and necessary preventive measures and should be kept nearby colleges and schools as well as in public places. Educational programmes, health campaigns with the involvement of media should be organised in colleges and schools during the epidemics and pandemics on the causation, preventive as well as the curative aspects of the diseases. Involvement of the Department of Alternative medicines can be taken during the epidemics i.e. ayurvedic and homeopathic remedies, if they are useful and effective. As this the era of internet, preformed messages regarding the modes of transmission, precautions to be taken, availability of drugs, any helpline no. and the type of treatment and prophylaxis available can be frequently shown by the health department on the websites and application apps as this is frequently used by this younger population (i.e. WhatsApp, Facebook.). Special training programmes on awareness of disease can be organised for the faculties and other staff of colleges. As television is the main source of information for the adolescents, advertisement relating to swine flu can be shown frequently.

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