ORIGINAL ARTICLE

Gender Based Knowledge, Attitude and Practices About Swine Flu in a Rural Indian Population

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Abstract

During recent Influenza A H1N1(swine flu) outbreak the current study was undertaken to assess knowledge, attitude and practices (KAP) of rural population of Jammu region regarding swine flu. 270 participants were administered a pre-designed and pre-tested questionnaire consisting of 26 questions evaluating KAP. Overall knowledge score was 62.9%. More than 90% had heard of swine flu, knew prevalent season and had knowledge of disease symptoms. However, knowledge about preventing vaccine was low (27.7%). Overall attitude score was 79.5%. Higher number of the participants expressed willingness to seek more knowledge about disease prevention , though half of them were not satisfied with health authorities efforts. The total practice rate was 60%.Preference for nutritious diet and willingness to use tissue/handkerchief was over 80% ,but only 40% expressed willingness to use mask. On most of the parameters of KAP, there was no difference on gender basis except for swine flu treatment ,panic reaction and preference for herbal medication in females. The current study found good KAP regarding swine flu in the rural area of Jammu. However, unwillingness to use mask, dissatisfaction with health agencies and lack of knowledge about population at risk is a matter of concern.

Key Words

Influenza A, H1N1, Swine Flu, KAP study

Introduction

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 (1). In June-2009,WHO raised its pandemic alert to phase-6 which is the highest level (2). The influenza A H1N1 viral strain implicated in 2009 flu pandemic in humans was earlier referred to as swine flu because genes in the virus were similar to influenza viruses normally occurring in North American swine (3,4). Since the start of new pandemic wave 2015 in India, more than 28000 positive Influenza A/H1N1 (Swine flu) cases and about 1600 deaths has made it a an emerging health problem. This has huge implications as number of these patients would easily overburden the already fragile and overstretched health services in the developing nations like ours (5). The novel strain of H1N1 transmits from human to human through respiratory aerosols and fomites. Most people who get influenza recover in a few days to less than 2 weeks but some may develop complications like pneumonia which could prove fatal (6). Confused comprehension and negative attitude towards emerging communicable disease may lead to unnecessary worry and chaos. Even increased panic may aggravate the epidemic of the disease (7). Monitoring of public perception in disease control epidemic enhances the compliance of community to the precautionary strategies. Monitoring and analyzing the public response helps decision makers take appropriate measures to promote individual/ as well as community health. The community can keep itself informed and need to take steps to prevent the spread of the flu (8). The media and government also play a key role in educating people about the

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disease, its causes and remedies (9). Understanding KAP of community can help in designing adequate control, education and prevention programs and contribute towards successful control programs. During the review of literature, no study on KAP on swine flu was found from this part of country. It was in this context that the present study was conducted in a rural area of Jammu.

Material and Methods

The present study was conducted during a wave of pandemic erupted all over India. As guidelines recommend a minimum of 200 as sample size for a KAP study (10) therefore the current study was carried out in 270 rural people including both gender.

The study subjects were residents of Langotian village in Miran Sahib area of CHC Ranbir Singh Pura , a field practice area of Post Graduate Department of Community Medicine, Government Medical College Jammu. The study participants were selected from 980 families using systematic random sampling. Respondents both male and female needed to be of above 18 years of age, willing to participate and give informed verbal consent before being included in study. The study subjects were informed about the objectives and their confidentiality was maintained. Those who were not willing to take part were excluded.

The study subjects were presented a pretested and pre-designed questionnaire consisting of 26 questions evaluating knowledge (10 questions),attitude(5 questions) and the practices(11 questions) regarding swine flu. The socio-demographic characteristics were also recorded.

Statistical Analysis

The results obtained were analyzed and data presented as proportions while Chi-square test was used to find out the association. Two-tailed p-values <0.05 were considered significant.

Results

A total of 270 participants were administered the questionnaire of which 140 were males and 130 were females .Majority of the participants were in 30-39 year age group(34.3%) followed by 18-29 year age group (27.6%). 28.5% of the participants were literate up to primary level and 25.4% were graduates.

Assessing knowledge showed overall score of 62.9%(1699/2700).95.5% of both the sexes had heard of swine flu (M:F 95vs 96.15) but its causative agent being a virus was not very well known to both males(27.1%) and females(32.3%). Overall mode of transmission knowledge was 77.4% but gender wise, it was better known to females than males.(82.3 vs. 72.8).Good knowledge was found in both sexes regarding sign and symptoms of the disease(92%) with M:F 94.2 vs 90.7, prevalent season of swine flu(95.1%) with M:F 96.4 vs 93.8 and availability of its treatment(88.8%) with M: F 85.7 vs 92.3.Higher proportion of females knew of swine flu treatment than their male counterparts and it was highly significant($p< 0.0000001$).However they lacked knowledge about difference between seasonal flu and swine flu(M:F 70 vs 60), population at risk during swine flu (42.2%) with M:F 65.7 vs 40.0 and vaccine availability(27.7%) with M:F 28.5 vs 26.9.On all knowledge parameters there was no statistical difference except for treatment of swine flu.

Overall attitudes of the respondents was 79.5%(1074/1350).It was good regarding consultation with doctor(82.9%) in case of suggestive sign and symptoms of swine flu. Panic reaction was more in females which was statistically significant ($p< 0.04496$).Attitude about health information was good as the participants wanted to know more about swine flu.The results revealed that 93.3% of the respondents were not willing to send their children to school during influenza pandemic.

The overall practice score was 67.07% (1992/ 2970) . It was found that 80% of both the sexes were willing to use tissue/handkerchief as a preventive measure during coughing/sneezing.More than 70% of the respondents would avoid visiting crowded places (M:F 70 vs 73.8) and would wash hands frequently during swine flu pandemic (M:F 74.2 vs 73.8) but willingness regarding usage of face mask was low(M:F 58.5 vs 60) .It was further found that 80% (M:F 80 vs 81.5) of the respondents would prefer taking balanced and nutritious diet though drinking plenty of water was found to be in the range of 35%-37% in both the sexes. A higher proportion of females than males were willing to use herbal medicine which was highly significant.($p< 0.000033$)

Discussion

KAP studies have immense influence in communicable disease containment strategies as they highlight public knowledge , attitude and practices as public co- operation is the backbone for the success in implementing any of the health programme. This is more so important in context to influenza A outbreak as there are many

Table1. Knowledge of the Participants Regarding Influenza A H1N1(n=270)

	Males (n=140)		Females (n=130)		Total % age	P-Value
	No.	% age	No.	% age		
Have you heard of swine flu	133	95.0	125	96.15	95.5	0.6629
Is it a viral disease	38	27.1	42	32.3	29.6	0.3573
Swine Flu is transmitted by sneezing/coughing/ shaking hands/ shaking towels etc.	102	72.8	107	82.3	77.4	0.06548
Swine Flu is characterized by fever, cough, sore throat, running nose, diarrhoea, vomting, breathing difficulty etc.	132	94.2	118	90.7	92.5	0.2830
Swine Flu is prevalent in winter?	135	96.4	122	93.8	95.0	0.3412
Is seasonal flu and swine flu are same ?	98	70.0	78	60.0	65.1	0.08726
If pregnant female,,< 5 yr children, patients with chronic diseases more at risk?	62	65.7	52	40.0	42.2	0.4797
Is swine flu always fatal?	23	16.4	17	13.07	14.8	0.4459
Is treatment for swine flu available	120	85.7	120	92.3	88.8	0.0000001
Is swine flu vaccine available	40	28.5	35	26.9	27.7	0.7653

Table 2. Attitudes of the participants regarding influenza A H1N1(n=270)

	Males n=140		Females n=130		Total % age	P-Value
	No.	%age	No.	%age		
After having signs & symptoms of suspected swine flu, should we report to doctor?	122	87.1	102	78.4	82.9	0.06093
Are you in panic when you or your family member has symptoms of swine flu.	102	72.8	108	83.07	77.7	0.04496
Will you seek more knowledge about prevention of swine flu	128	91.4	116	89.2	90.3	0.5490
Are you satisfied with govt. health personnel effort to contain the epidemic	76	54.2	68	52.3	53.3	0.07466
Will you stop sending children to school doing swine flu pandemic.	130	92.8	122	93.8	93.3	0.7544

uncertainties among people regarding precautionary behaviors. The problem may be more in the rural areas because of lack of education, accessibility to the health institutions and may be further affected due to gender differences. In this context the present gender based KAP study was undertaken about swine flu in rural areas of Jammu region which is currently witnessing the outbreak of this disease.

The results revealed that 95.55% of the total respondents had heard about swine flu which concur with earlier studies which reported 98.3% and 83.1% respectively (11,12). In contrast, only 53% respondents had heard of swine flu as reported by Nagar S *et al* (13) probably due to low literacy levels in their population. Regarding the knowledge about transmission of swine flu 77.4% of the participants knew about transmission and these results concur with other reported studies (14, 15,16). However lower rates of 44% and 56% have also been reported regarding transmission (17, 18). In a Thailand study, Rukmanee N *et al* (19) reported that 73% respondents did not know transmission mode.

92.5% participants had the knowledge about the disease symptoms. Earlier studies (18,20) had reported that main symptoms of fever was known to 71.4% and 68.1% while cough and cold was known to 62.4% and 51.5% respectively. Bholanath *et al* (16) reported knowledge of disease symptoms on the lower side and these results are in contrast to the results of the current study. All knowledge parameters statistically did not reveal any significant gender based differences except regarding the knowledge of availability of swine

Table 3. Practices Among the Participants Regarding Influenza A H1N1 (n=270)

	Males No.	%age	Females No.	%age	Total %age	P-Value
While coughing / sneezing, should we use tissue/ handker- chief	112	80.0	104	80.0	80.0	0.1914
Should we turn our face away while coughing/ sneezing	92	65.7	86	66.1	65.1	0.9402
Should we avoid touching eyes/ nose/ mouth doing swine flu pandemic	72	51.4	68	52.3	51.8	0.8861
Will you avoid direct contact/ hand shake with a suspected swine flu patient.	100	71.4	102	78.4	74.8	0.1873
Will you use a mask during pandemic ?	82	58.5	78	60.0	59.2	0.8130
Will you avoid crowded places during pandemic	98	70.0	96	73.8	71.8	0.4869
Will you wash your hands frequently during swine flu pandemic	104	74.2	96	73.8	74.07	0.9344
Would you drink plenty of during swine flu pandemic	50	35.7	48	36.9	36.2	0.8375
Will you eat nutritious diet during swine flu pandemic	112	80.0	106	81.5	80.0	0.7526
Will you practice isolation in case you or your family member has suspected swine flu infection.	92	65.7	86	66.1	65.9	0.9402
Do you use any herbal medication for prevention	92	65.7	116	89.2	77.03	0.000003383

flu treatment where females (92.3%) had more knowledge than males (85.7%).

This observation is contrary to the earlier observations made by Kamate SK *et al* (12) who has reported that males have significant higher knowledge than females due to their more interactions and socialization than females. Our results probably may be due to more females exposure to media (TV) highlighting swine flu in their leisure time.

In the current study the knowledge about vaccine was very low(26 - 28%) and it is in contrast to that reported by Kawanpure H *et al* (18) in a state like Kerala (55-80%). The results have highlighted that very low percentage of participants (42.4%) had knowledge about population at risk and concur with a earlier report (16). It is a matter of concern and needs to be addressed to avoid further morbidity and mortality due to swine flu. It was heartening to note that majority of participants knew that swine flu is not always fatal as only 14% believed that it is fatal. Lack of knowledge about vaccine availability against swine flu is another grey area in the knowledge parameter which needs due attention.

The attitude of the participants revealed no difference between both sexes except the panic attitude which was more in females. It could probably explained due to their basic caring nature. Analysing the attitude of the participants, most of them had positive responses(79.5%). 82.9% participants in the present study had positive attitude of reporting to doctor in case of suggestive sign and symptoms in contrast to 66.2% reported by Farhat T *et al* (17). An overwhelming 93.3% participants in the current study favoured in not sending their children to school during pandemic in contrast to a previously reported 83.8% respondents had no objection in sending their children to school (12).

It was however distressing to note that only 53% of the participants (54.2% males vs. 52.35 females) expressed their satisfaction about the efforts initiated by the health personnel. This underscores that more effort is needed to be put in educating people about the swine flu to instill further confidence in the public.

Among the positive practices found, 80% were willing to use tissue/handkerchief , 80.7% were willing to use nutritious diet during pandemic, about 75% would avoid contact/ shake hand with suspected swine flu patient and an equal proportion would wash hands frequently during pandemic.Frequent handwashing was known to 92.4% respondents in the study by Shilpa K *et al* (21) while Rubin GJ *et al* (22) reported 87.8% respondents believed that hand washing played an important role in reducing swine flu transmission. Farhat T *et al* (17) reported 51.7% respondents considered frequent hand washing as a simple effective preventive measure. In contrast, a dismal 2.1% believed handwashing as mode of prevention(Shireen Sharma *et al* (11). 71.8% respondents

were willing to avoid crowded places in the present study while Lin Y *et al* (23) reported only 42.9% respondents avoided crowded places. Higher proportion(89.2%) of females were using herbal medication in the present study which are in contrast to those reported by Kawanpure H *et al* (18). 38.6% respondents said that herbal medicines were least effective in a study by Kamate SK *et al* (12).

On further evaluating practices, it was also observed that lesser participants were inclined to use face-mask (59%), avoiding touching eyes (51%),isolation of infected family member(65%) and turning mouth away while sneezing (65%). Though these parameters did not differ much on the basis of gender but is a matter of concern for the health authorities as these pose hurdle in the containment of pandemic. The practices are cornerstone of any effort to contain swine flu in the community and need to be emphasized by the educators to practice them for their safety.

The study being conducted in a single village and in a rural population has limitation of being not generalizable besides with small sample size

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