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KNOWLEDGE, ATTITUDE AND ANXIETY TOWARDS PANDEMIC FLU A POTENTIAL BIO WEAPON AMONG HEALTH CARE PROFESSIONALS IN INDORE CITY

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ABSTRACT

BACKGROUND. Flu is one of the oldest medical concerns, causing high mortality rates among humans. Swine flu has not only emerged as a fatal disease omong Indian population but has also created havoc among various sections of society.

OBJECTIVE. To determine Knowledge, Attitude and Anxiety towards pandemic flu a potential bioweapon among health care professionals in Indore City.

METHOD. The study design used was a cross sectional descriptive study was carried out between February-March 2015 during the outbreak of Swine Flu. The survey was administered to a sample of 271 health professionals. Participants comprised of 148 medical professionals and 123 dental professionals practicing in Sri Aurobindo Institute of Medical Science. The data collection tools comprised of a questionnaire on demographic characteristics, knowledge and attitude. Beck Anxiety Inventory was used to assess the anxiety among professionals.

RESULTS. The medical professionals (95.9%) had significantly higher (p value=0.007) knowledge about available vaccines against Swine Flu. The dental professionals (33.3%) were more hesistant in treating patients suffering from Swine Flu compared to medical. .

CONCLUSION. The results of the present study suggest that the health care professionals had good knowledge, showed positive attitude, and demonstrated lower anxiety levels.

INTRODUCTION

Flu is one of the oldest medical concerns, causing high mortality rates among humans. "Pandemic Influenza A/H1N1 2009" (pdmH1N1), which is commonly known as "Swine Influenza", emerged from North American pigs caused by H1N1 Influenza Virus, and spread globally in a short span of time resulting in high morbidity and mortality.(1) The earliest confirmed case of influenza A/H1N1 (Swine flu) in 2009 was reported in Mexico in March.

Evidence that this new strain could pass from human to human led the World Health Organization to quickly raise its pandemic alert level to phase5, representing a strong signal that a pandemic is imminent.(2) This was subsequently raised to phase6, indicating that a full global pandemic was under way.

Swine flu has not only emerged as a fatal disease among Indian population but has also created havoc among various sections of society. Swine flu has recently emerged as deadly disorder in Madhya Pradesh and about 60 Individuals lost their lives and 400 have been affected due to swine flu. A number of health professionals themselves have been affected by the flu and apart from being affected they are always in a state of being infected. The health professionals thus form a prone group of individuals to be affected by swine flu which has resulted in anxiety and apprehension among them.

There is a lacuna of research regarding Knowledge, attitude and anxiety among health professionals regarding swine flu. However it has still not been studied in Central India. Thus the present study was planned to assess knowledge, attitude and anxiety towards swine flu among health professionals in Indore city.

MATERIALS AND METHODS

Study Design:

The study design used was a cross sectional descriptive study was carried out between February – March 2015 during the outbreak of Swine Flu. Written permission to conduct this study in hospitals was obtained from the institutional review board of Sri Aurobindo College of Medical Sciences Indore. Written information was given to the participants and their written consent was obtained. The Health professionals were informed about the purpose of the research and assured of their right to refuse to participate in or to withdraw from the study at any stage. Anonymity and confidentiality of subject's data were guaranteed.

Eligibility Criteria:

The study included medical and dental professional practicing in Sri Aurobindo College of Medical Science. The participants needed to have a minimum of graduate (M.B.B.S/B.D.S) degree to be included in the study and who agreed to participate in the study were eligible to be part of study.

Sample selection and recruitment:

The survey was administered to a sample of 271 Health professionals. Participants comprised of 148 medical professionals and 123 dental professionals practicing in Sri Aurobindo Institute of Medical science. Sample size estimation was done on the basis of pilot study. All the health professionals were contacted personally and a questionnaire consisting of demographic details written informed consent, questions assessing knowledge, attitude and Beck anxiety inventory scale determining the level of anxiety was handed over. No investigator was present during fulfillment of questionnaire. The completed questionnaires were collected by the investigator in the hospital. According to declarations of the respondents, average time to complete the questionnaire was nearly 5 minutes. All of the participants completed the questionnaire and none refused to fill.

Survey Development

The survey item consisted of questions assessing knowledge and anxiety and Beck anxiety inventory determining the level of anxiety**.** The pre tested questionnaire consisted of 20 closed ended questions assessing the knowledge and attitude towards swine flu among health professionals. Anxiety was measured by means of the Beck Anxiety Inventory scale.(3)This self-report questionnaire consists of two subscales each containing 10 items. The anxiety scale measures the anxiety based on the list of common symptoms. The participants encircled the corresponding space in the column next to each symptom on the basis of how much they have been bothered by that symptom. The columns were summed to achieve grand score.

Survey Measures

The survey assessed healthcare professional knowledge, attitude and anxiety towards Swine flu in Indore city.

Statistical Analysis

Data collected was entered in excel sheet and was analyzed using SPSS software version 15. P value $\geq$.05 was considered statistically significant. Appropriate descriptive statistics like Chi Square test was used to test the level of significance.

RESULTS

A total of 127 dental and 148 medical professionals participated in the survey. Table I shows the demographic details of the study participants. Table 2 shows the Questionnaire related to knowledge & awareness of swine flu among professionals. The medical professionals (95.9%) had significantly higher (p value=0.007) knowledge about available vaccines against Swine flu (Table II) and agreed with the fact that government had taken enough steps for its prevention compared to dental professionals. The dental professionals (33.3%) were more hesitant in treating patients suffering from Swine flu compared to medical (Table III). No significant differences were observed between Groups, Age, Gender, and Designation with different categories of Beck Anxiety Inventory (Table IV).

Table I.   Demographic characteristics of study population

Demographic Variables	Categories	Dental	Medical	p value
Age	≤30 years	94 (76.4%)	100 (67.5%)	<0.001*
	>30years	29 (23.6%)	48 (32.5%)	
Gender	Male	52 (42.3%)	85 (57.4%)	0.015*
	Female	71 (57.7%)	63 (42.6%)	
Designation	Professor	9 (7.3%)	17 (11.5%)	<0.001*
	Reader	12 (9.8%)	13 (8.8%)	
	Sr. Lecturer	10 (8.1%)	37 (25.0%)	
	Tutors	19 (15.4%)	40 (27.0%)	
	Pgs	73 (59.3%)	41 (27.7%)	

*p value<0.05: statistically significant difference

DISCUSSION

Health professionals are at higher risk of infection during any infectious epidemic and can transmit such infections rapidly to patients.

Table II. Questionnaire related to knowledge & awareness of swine flu among the study subjects:

Question	Categories	Dental	Medical	p value
Have you heard about H1N1/swine flu?	Yes	120 (97.6%)	146 (98.6%)	0.751
	No	3 (2.4%)	2 (1.4 %)	
Source of information about the disease?	Newspaper	33 (26.8%)	28 (18.9%)	0.120
	Internet	22 (17.9%)	42 (28.4%)	
	T.V.	44 (35.8%)	45 (30.4%)	
	Others	24 (19.5%)	33 (22.3)	
Is the causative organism a virus?	Yes	121 (98.4%)	147 (99.3%)	0.592
	No	2 (1.6%)	1 (.7%)	
Is the disease preventable?	Yes	119 (96.7 %)	147 (99.3%)	0.180
	No	4 (3.3%)	1 (.7%)	
Have you heard about vaccines available for cure?	Yes	106 (86.2 %)	142 (95.9%)	0.007*
	No	17 (13.8 %)	6 (4.1%)	
Is swine flu a serious outbreak?	Yes	105 (85.4%)	128 (86.5%)	0.861
	No	18 (14.6%)	20 (13.5%)	
Is the disease fatal?	Yes	110 (89.4%)	141 (95.3 %)	0.100
	No	13 (10.6 %)	7 (4.7 %)	
Is the disease contagious?	Yes	118	142 (95.9 %)	1.000
	No	5	6 (4.1 %)	
Worried about current outbreaks of virus?	Yes	99	129 (87.2%)	0.181
	No	24	12 (12.8 %)	

*p value<0.05: statistically significant difference

Table III. Questionnaire related to attitude towards swine flu among the study subjects

Question	Categories	Dental	Medical	p value
Will you be cured if you are affected by swine flu?	Yes	118 (95.9%)	144 (97.3%)	0.736
	No	5 (4.1%)	4 (2.7 %)	
Does all infected swine flu cases result in death?	Yes	4 (3.3%)	8 (5.4%)	0.556
	No	119 (96.7%)	140 (94.6%)	
Are you at occupational risk of getting swine flu	Yes	115(93.5%)	135 (91.2%)	0.649
	No	8 (6.5%)	13 (8.8%)	
Are you hesitant about treating patients with swine flu	Yes	41 (33.3 %)	23(15.5%)	0.002*
	No	82 (66.7%)	124 (83.8%)	
Are you worried about losing patients if they see you treating a patient with swine flu like symptoms	Yes	35(28.5 %)	38 (25.7 %)	0.680
	No	88(71.5 %)	110 (74.3%)	
Personal measures against the disease?	Using a mask	9 (7.3%)	18 (12.2%)	0.057
	Hand washing	22 (17.3%)	11 (7.4%)	
	Avoiding indoor and crowded places	33(26.8%)	34 (23.0%)	
	Avoiding close contact	46 (37.4%)	66 (44.6%)	
	Others	13 (10.6%)	19 (12.8%)	
For the prevention of H1N1 flu have you?	Consulted a doctor	110 (89.4%)	120 (81.1 %)	0.345
	Used home based management	7 (5.7 %)	17(11.5%)	
	Both consulted and used home based management	5 (4.1%)	9 (6.1%)	
	Have done nothing	1 (.8%)	2 (1.4%)	
Swine flu is getting unnecessary attention currently?	Yes	40 (32.5%)	55 (37.2%)	0.463
	No	83 (67.5%)	93 (62.9%)	
Are you vaccinated?	Yes	26 (21.1%)	44 (29.7%)	0.126
	No	97(78.9%)	104 (70.3 %)	
Are there any potential complications related to vaccine?	Yes	18 (14.6%)	24 (16.2%)	0.739
	No	105 (85.4%)	124 (83.8%)	
Do you feel government has taken enough steps to eradicate the disease	Yes	45 (36.6%)	104 (70.3%)	<0.001*
	No	78 (63.4%)	44 (29.7%)	

*p value<0.05: statistically significant difference

Table IV. Distribution of study subjects according to the anxiety levels

Factors	Categories	Low Anxiety	Moderate Anxiety	High Anxiety	p value
Groups	Dental	121(98.4%)	2(1.6%)	0(0.0%)	0.131
	Medical	146(98.6%)	0 (0.0%)	2(1.4%)	
Age	≤30 years	171(98.8%)	2 (1.2)		0.097
	>30 years	96 (98.0)	0(0.0)		
Gender	Male	137 (100.0%)	0 (0.0%)	0 (0.0%)	0.126
	Female	130 (97.0%)	2 (1.5%)	2 (1.5%)	
Designation	Professor	26 (100%)	0(0%)	0(0%)	0.136
	Reader	25 (100%)	0(0%)	0(0%)	
	Sr. Lecturer	45 (95.7%)	0(0%)	2(4.3%)	
	Lecturer	59 (100%)	0(0%)	0(0%)	
	PGs	112 (98.2%)	2(1.8%)	0(0%)	

*p value<0.05: statistically significant difference

In the present study majority of health professional had good amount of knowledge and awareness regarding swine flu. Majority of health professional's medical (98.6%) and dental (97.6%) heard about swine flu. The present study showed that majority of dental and medical professionals heard about the disease through television the results are in line with the study conducted by Shivlingesh Krishnappa Kamate et al(4).

To the best of our knowledge, this is the first study of its kind among knowledge attitude and anxiety among health professional in Indore city hence we are unable to compare the results of this study with other Indian studies. The present study found that for all the questions regarding knowledge and awareness towards swine flu medical professionals were more aware than the dental professionals however a significant difference was associate with question regarding hearing about vaccine for swine flu.

In the present study majority of dental and medical professionals believed that they will be cured if they had swine flu however the medical professionals (97.3%) showed better rate than dental (95.9%).Majority of dental and medical professionals did not believe that infected cases of swine flu lead to death however dental professionals showed better rates than medical. More number of dental professionals felt that they were at risk of getting swine flu.

The medical professionals (95.9%) had significantly higher (p value=0.007) knowledge about available vaccines against Swine flu and agreed with the fact that government had taken enough steps for its prevention compared to dental professionals. The dental professionals (33.3%) were more hesitant in treating patients suffering from Swine flu compared to medical.

Hence effective strategies need to be implemented to combat the hesitance among the dental professionals in the form of seminars, workshops and symposium.

In the present study 21.1% of dental and 29.7% of professionals were vaccinated. Although a majority of the participants considered the swine flu outbreak as serious, described it as a fatal disease and had a high level of knowledge about the disease, vaccination rate was very low. Similarly, it was determined that the vaccination rates of HCW were very low in Greece, Germany and Italy(5-7).

When anxiety regarding swine flu was seen among medical and dental professionals it was found that majority of the professionals showed low anxiety when factors such as age, gender and designation were compared there was no significant association seen. The use of cross sectional study and inability to determine the dose response relationship limits our findings.

CONCLUSIONS

The results of the present study suggest that the health care professionals had good knowledge, showed positive attitude, and demonstrated lower anxiety levels and can serve as an effective means for carrying out treatment and prevention of Swine flu. Health education sessions, seminars, workshops and symposia should be organized for creating awareness in order to reduce the reluctance towards treating Swine flu patients. Effective policy needs to be drafted for eradication and prevention of Swine flu.

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