PARTICIPANT'S RISK PERCEPTION AND ATTITUDE TOWARDS THE PANDEMIC OF H1N1 INFLUENZA & ITS VACCINE.

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INTRODUCTION: In April 2009, the Mexican Secretariat of Health reported an outbreak of respiratory disease. In affected patients, a novel swine origin influenza A (H1N1 09) virus was detected. Evidence that this new strain could pass from human to human led the World Health Organization (WHO) to quickly raise its pandemic alert level to phase 5 on 29 April 2009¹. In the world up to January 2010, 209 countries & overseas territories were reported laboratory confirmed cases of pandemic H1N1. In addition at least 15,174 deaths related to this infection had been recorded². In India up to November 2010, 44,101 laboratory confirmed cases and 2,679 deaths due to H1N1 influenza were reported³.

According to the recommendations from WHO, all countries should immunize their Healthcare Workers as a priority in order to protect the vital health infrastructure⁴. We surveyed a sample of Healthcare Workers from Ambajogai, Dist. Beed, Maharashtra with the objective, to ascertain their risk perception and attitude towards the pandemic H1N1 and its vaccine. And also change in behaviour of healthcare workers due to pandemic H1N1.

MATERIAL AND METHODS: STUDY DESIGN AND STUDY AREA: study was carried out in Government medical college Hospital of Ambajogai, i.e. Swami Ramanand Teerth Rural Medical College, Ambajogai, District Beed, Which is one of the rural medical college of India, serving mainly rural population. We conducted a cross sectional survey among Healthcare Workers of S.R.T.R. Medical College, Ambajogai, Dist. Beed, Maharashtra, between November and December 2010.

STUDY SUBJECTS: All HealthCare Workers of medical college hospital i.e. Doctors, nursing staff male and female, technicians and ward boys who were constantly exposed to patients were our target population. Out of them those healthcare workers were present at the time of survey, were included in the study. Thus a total of 236 healthcare workers were included in the study.

DATA COLLECTION: For Pandemic H1N1 a vernacular alternative i.e. Swine flu was used. A team of trained research associates collected the data for this study. Data were collected with the help of pre-tested, semi structured questionnaire. The questionnaire consists of four sections. In first section data regarding the personal information of study subjects were collected. In second and third section data regarding study subject's risk perception and attitude towards pandemic H1N1 and its vaccine were collected. And in fourth section data regarding study subject's behavioural modifications in response to pandemic H1N1 were collected.

ETHICAL APPROVAL: Research protocol was approved by institutional ethical committee of medical college. The informed consent was taken from each study subject.

DATA ANALYSIS: data was entered in Microsoft excel sheet, then imported to Epi Info software windows version (3.5.1) and analysed.

RESULTS: Table 1 shows age and sex distribution of study participants out of 236 participants 140 (59.3%) were male and 96 (40.7%) were female. Participants were younger with 59.4% of study participants aged <35 years.

Majority i.e.49.1% participants rated the average Ambajogai resident's risk of acquiring H1N1 as "very high" to "high" while the remainder rated the risk as "medium" i.e. 25.4%, or "very low to low" i.e. 10.2%(24/236). Rating of their own risk followed a similar pattern with majority i.e. 62.7% (148/236) rating it at "very high" to "high". 88.1% (208/236) of participants believed the current H1N1 situation was serious. While 54.2%, believed that they had no control over whether they got "swine flu". 50.8% had not witnessed their friends or family having "swine flu" and 44.1% also believed people were still going to catch it six months time. If acquired, 44.1% of participants rated pandemic H1N1 influenza "somewhat affect" their own health, while a 23.7%, thought their health would be "very seriously" affected. Of concern, 33.9.0% of participants did not understand what was happening with the "swine flu" pandemic (Table 2).

One or more changes to behaviour were reported in response to the swine flu situation by most of the participants (96.1%). The most common changes included hand cleansing through increased hand washing (94.9%) and the use of alcoholic hand gel (81.4%) (Table 3)

Overall likelihood of accepting vaccination against H1N1 vaccine was 94.9% (224). A common supportive reason was "if recommended by doctor" (91.5%) and "if recommended by Indian government" (89.8%), followed by the belief that the vaccine would provide protection against the disease (69.5%). But the concerns about side effects due to vaccine (74.6%) and adequacy of testing the vaccine (47.5%) were there in the participants (Table 4). Some participants classified themselves at high risk of influenza and therefore believed it was extremely important to be vaccinated, whereas others expressed an obligation to be vaccinated because of work commitments. A general belief or confidence in vaccination was commonly expressed as a reason for accepting the vaccine.

Participants who rated their level of risk of acquiring H1N1 infection high to very high were 3.57 times more likely to intended to be vaccinated. Also the participants who perceived H1N1 situation as serious one and who undertake .1 behavioural change in response to H1N1 pandemic were 9.02 times and 138.3 times respectively more intended to vaccinated with H1N1 vaccine.

DISCUSSION: A novel influenza A H1N1 virus, quite different from the circulating seasonal influenza viruses which got noticed in Mexico in April, 2009, spread fast across the globe during 2009-10. On 11th June, 2009, World Health Organization declared this a pandemic. It affected over 200 countries globally including India.³

We found that more than 50% of study participant perceived that they were at significantly high risk of acquiring H1N1. This is perhaps not surprisingly because there is perception of risk amongst the community, as many of the reports on H1N1 cases in the newspapers and other media channels made regularly. The acceptance of, and adherence to public health measures by the population depends largely on the way people perceive a threat.

We also observed that change in behaviour in response to the swine flu situation by most of the participants (96.1%). The most common changes included hand cleansing through increased hand washing (94.9%), this was due to and also all the participants were healthcare worker and regular guidelines and education were given to them during this period by the authorities. It was not also surprising that few of our participants reported to keep away from public places and public transportation

One important prevention / mitigation strategy is vaccinating the at risk population with Pandemic Vaccine. Ministry of Health & FW, Government of India has imported 1.5 million doses of vaccine to vaccinate selected population among the high risk group.⁵ In our study overall likelihood of accepting vaccination against H1N1 vaccine was 94.9% (224). A common supportive reason was "if recommended by doctor" (91.5%) and "if recommended by Indian government" (89.8%), followed by the belief that the vaccine would provide protection against the disease (69.5%). Our findings suggest that there will be uptake of the vaccine if the Govt. of India made available it.

CONCLUSION: Most participants believe that they were at high risk of acquiring pandemic H1N1 influenza, which can also be concluded from the acceptance of behavioral changes in response to pandemic H1N1. As H1N1 influenza vaccine was made available, the participants who believe that situation of H1N1 is serious and who think that, they are at high to very high risk of H1N1 were more likely to intend to receive the H1N1 vaccine. But concerns about vaccine safety, possibility of side effects and the vaccine development process need to be addressed.

CONFLICTS OF INTEREST: none. **Funding source:** none

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Table 1: Age and Sex distribution of participants

	No. of participants (N=236)	%
Sex		
Male	140	59.3%
Female	96	40.7%
Age groups(Yrs)		
18-24	24	10.2%
25-34	116	49.2%
35-44	44	18.6%
45-54	40	16.9%
55-64	12	5.1%

Table 2: Participants risk perception and attitude towards pandemic H1N1

Question	Response	% (N=236)
What level of risk do you think the average Ambajogai Resident has of catching H1N1Influenza or “Swine Flu” during this pandemic?	Very high-High Medium very low – low Unsure – not specified	49.1% (116) 25.4% (60) 10.2% (24) 15.3% (36)
What level of risk do you think you have of catching Influenza A H1N1 or “Swine Flu” during this pandemic?	Very high-High Medium very low – low Unsure – not specified	62.7% (148) 20.3% (48) 11.9% (28) 5.1% (12)
In general, I think the authorities are doing a good job of dealing with the “Swine Flu” pandemic	Agree Disagree Unsure – not specified	72.9% (172) 23.7% (56) 3.4% (8)
I think the current “Swine Flu” situation is serious	Agree Disagree	88.1% (208) 11.9% (28)
I think that whether I acquired the “Swine Flu” or not is out of my control	Agree Disagree Unsure – not specified	54.2% (128) 33.9% (80) 11.9% (28)

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Have there been cases of “Swine Flu” amongst your family or friends?	Yes No Unsure – not specified	2.2% (5) 50.8% (120) 47% (111)
In my opinion, people are still going to be catching “Swine Flu” six months from now	Agree Disagree Unsure – not specified	44.1% (104) 15.3% (36) 40.6% (96)
If you were infected with “Swine Flu”, how seriously do you think it would affect your health?	Not at all Somewhat affect Extremely – Very seriously Unsure – not specified	5.1% (12) 44.1% (104) 44% (104) 6.8% (16)
I do not understand what is happening with this “Swine Flu” pandemic	Agree Disagree Unsure – not specified	33.9% (80) 49.2% (116) 16.9% (40)

Table 3: Behavioural responses to pandemic H1N1

Behavioural change due to Swine flu	%(n) of positive responses
Washed my hands with soap and water more often than usual	94.9% (224)
Used alcoholic hand gel more than usual	81.4% (192)
Increased the amount I clean or disinfect things that I might touch, such as door knobs	78% (184)
Kept away from crowded places generally	67.8% (160)
Reduced the frequency I use public transport	32.2% (76)
Deliberately cancelled or postponed a social event, such as meeting friends, eating out or going to a sport event	27.1% (64)
Reduced the frequency I go into shops	28.8% (68)
Kept one or more of my children out of school or pre-school	16.9% (40)

Table 4: Participants risk perception and attitude towards H1N1 influenza vaccine.

Question	Response	% (N=236)
If a "Swine Flu" vaccine was made available to the general public , would you get vaccinated?	Yes No Not specified	94.9% (224) 3.4% (8) 1.7% (4)
Only people who are have underlying medical problems or who are pregnant should be vaccinated?	Agree Disagree Unsure – not specified	20.3% (48) 72.9% (172) 6.8% (16)
I will get "Swine Flu" vaccine if the Indian Government recommends it?	Agree Disagree Unsure – not specified	89.8% (212) 8.5% (20) 1.7% (4)
I will get "Swine Flu" vaccine if my doctor recommends it?	Agree Disagree Unsure – not specified	91.5% (216) 5.1% (12) 3.4% (8)
I am concerned about the side effects of the "Swine Flu" vaccine?	Agree Disagree Unsure – not specified	74.6% (176) 16.9% (40) 8.5% (20)
I am concerned that the vaccine has not been tested adequately ?	Agree Disagree Unsure – not specified	47.5% (112) 42.4% (100) 10.1% (36)
The "Swine Flu" vaccine may cause the Flu in some people?	Agree Disagree Unsure – not specified	55.9% (132) 23.7% (56) 20.4% (48)
The "Swine Flu" vaccine will protect me from the disease ?	Agree Disagree Unsure – not specified	69.5% (164) 3.4% (8) 27.1% (64)
The "Swine Flu" vaccine will stop the spread of "Swine Flu"?	Agree Unsure – not specified	50.8% (120) 49.2% (116)

Table 5: Willingness of survey participants to accept H1N1 influenza vaccine.

Variable	Stated acceptance of H1N1 vaccine		Odds ratio (CI 95) (p value)
	Yes (N=224) % (n)	No/Not specified (N=12) % (n)	
High to very high personal risk of H1N1 infection	62.5% (144)	66.6% (4)	3.57 (1.04-14.01) (p<0.05)
Perceives H1N1 situation as serious	86.6% (201)	83.3 (6)	9.02 (2.55-32.04)) (p<0.05)
Undertaken >1 behavioural change due to H1N1 pandemic	95.9% (222)	91.6% (5)	138.3 (24.75-1176) (p<0.05)