

Knowledge, Attitude and Practice of Doctors regarding Acute Respiratory Tract Infection (ARI) / H1N1 Influenza in Rajkot District, Gujarat, India

Dhara V. Thakrar¹, Umed V. Patel², Nirav K. Nimavat³, Vaidehi S. Gohil³

¹Assistant Professor, Community Medicine Department, American International Institute of Medical sciences, Udaipur, Rajasthan, India

²Associate Professor, ³Resident, Community Medicine Department, P. D. U. Govt. Medical College, Rajkot, Gujarat, India

Correspondence : Dr. Dhara V. Thakrar, E mail: drdharathakrar@gmail.com

Abstract :

Introduction: In 2009, a novel strain of influenza A, H1N1 emerged from the USA and Mexico. The first confirmed case with the virus in India was documented in May 2009. After that, a large numbers of positive cases were reported throughout India. **Objective:** To assess Knowledge, Attitude and Practice (KAP) of doctors regarding influenza A, H1N1. **Method:** Out of 14 talukas of Rajkot district, a study was conducted in 7 talukas where positive cases of H1N1 Influenza A were reported by purposive sampling method during March 2015. Total 18 areas (taluka + their villages) were surveyed, which were having cases of H1N1 Influenza A cases. A total of 22 doctors were interviewed. **Results:** Among all 22 doctors that were interviewed, majority (54.55%) were M.B.B.S. According to doctors, majority of patients were of Acute Respiratory Infection (ARI). Only 40.91% doctors had correct knowledge of category A of influenza A (H1N1). Nobody had been advised to follow up on next day. Preventive advice was given in only 15% of ARI patients. **Conclusion:** Sensitization of doctors through personal visits of paramedical workers/doctors is done. Provide posters to doctors of Govt. and private sectors showing various categories of suspected H1N1 influenza and its management.

Keyword : Attitude, Influenza AH1N1, Knowledge, Practice

Introduction :

In 2009, a novel strain of influenza A H1N1 emerged from the USA and Mexico. In few weeks, the virus spread around the world, becoming the first pandemic of the 21st century. ^[1] Experts predicted that influenza A, H1N1 would be a highly virulent virus, which created a great social alarm. ^[2] Most countries rapidly developed and implemented pandemic influenza plans and the disease was detected and reported within a suitable time. ^[3] A large number of studies were conducted during the pandemic, showing a wide range in public perceptions ^[4] and the adoption of non-pharmacological preventive measures and vaccination. ^[5,6]

The first case of confirmed infection with the virus in India was documented in May 2009^[7], but only few cases were reported till August 2009. After that, a large number of positive cases were reported

throughout India. From Gujarat state, the first Influenza A, H1N1 confirmed case was reported in June 2009. ^[8] Saurashtra region, in the western part of Gujarat state, reported its first case in August 2009. ^[9] All patients with confirmed infection were quarantined in isolation ward to prevent spread in the general population. Although many individuals presented with mild, self-limited illness and no signs of pulmonary involvement, some people required intensive care and received maximal life support measures. ^[10,11]

Compliance with preventive measures, e.g. non-medical action, is dependent on the attitude and willingness of the population and on the specific actions recommended by health authorities. ^[12-14] Precautionary behaviour results from a combination of social and psychological factors such as personal values, socio-economic status and cultural background, gender, education, knowledge, and beliefs about the disease, including perceived risks

and perceived effectiveness of the proposed action.^[13, 15-17] These factors may be specific to each target population and should be investigated to develop a locally adapted approach.^[18,19] Understanding perceptions and reactions among the general public during pandemics may improve information and communication about health risks and help shifting attitudes among the general public.^[20-22]

During the year 2015, large numbers cases of H1N1 Influenza were reported across the country. Gujarat also reported large number of cases, maximum from Kutch district and some cases from the Rajkot District also. To understand the Acute Respiratory Tract Infection (ARI) and its treatment scenario through Knowledge, attitude, practice among treating doctors and ARI patients, the present study was conducted in Rajkot district of Gujarat in 2015.

Objectives:

1. To assess the Knowledge of H1N1 Influenza and treatment practice among doctors
2. To study the treatment given to ARI patients

Method:

Rajkot district has a population of 38,04,558 and has 14 talukas according to Census 2011. List of confirmed cases of H1N1 Influenza A was obtained from Health Department, Jilla Panchayat, Rajkot

reported during January and February 2015. Cross sectional study was conducted with purposeful selection of doctors practicing in areas where cases of H1N1 reported.

Out of these 14 talukas, a KAP study was conducted in 7 talukas namely Jasdan, Jetpur, Jamkandorana, Lodhika, Morbi, Halvad and Upleta where positive cases of H1N1 Influenza A were reported. Talukas were selected by purposive sampling method. Total 18 areas (taluka + their villages) were surveyed, which were having cases of H1N1 Influenza A cases. Physicians, Pediatrician, Family physician (M.B.B.S.) and AYUSH doctors were interviewed. A total of 22 doctors were interviewed who were treating Respiratory Infection cases and suspected cases Influenza A (H1N1). These were selected by purposive sampling method.

Two or three patients of ARI, who had taken treatment from the above mentioned doctors, were also interviewed, if these patients were available at the time of interview of doctors. All the taluka having positive cases and doctors practicing in these areas were willing, were interviewed. Total duration of study was 1 month i.e. March 2015.

H1N1 influenza has divided into 4 categories according to symptoms and treatment. Details are as follows (As per guidelines from Ministry of Health and Family Welfare Department, Government of India, 2015):

Category	Symptoms	Action
A	Mild fever, cough / sore throat, with or without body ache, headache, diarrhea & vomiting.	No Tamiflu, Symptomatic treatment, No testing, Home isolation
B1	Category A + High grade fever + severe sore throat	Home isolation + cap. Tamiflu may be given + No testing
B2	Category A + High risk group women, person >65 yrs, patients with lung, heart, liver, kidney diseases, Blood / cancer & HIV / AIDS	Home isolation + cap. Tamiflu should be given + No testing
C	Sign & symptoms of Cat. A& B+ following breathlessness, chest pain, drowsiness, Low BP, Sputum with Blood, Bluish Discoloration of Nails, Irritable child, Worsening of underline chronic condition.	Immediate testing, hospitalization & treatment

This study was conducted by Faculty members, Resident doctors and Medical Social Workers of Community Medicine department, PDU Govt. Medical College, Rajkot, using pretested semi-structured questionnaire. Study conducted among doctors and only on interview based. Government authority requested to do study. The data entry was done in Microsoft Office Excel 2007 and analysis was done using the software package Epi Info 7 (3.5.3).

Results:

Table 1 shows that among all 22 doctors that were interviewed, majority (54.55%) were M.B.B.S, 27.27% were AYUSH and 9.09% were Physician.

Figure 1 shows that 36.36% of doctors replied that in their OPD, proportion of ARI patients were 51-75%, 27.27% replied that proportion of patients were 0-25%, another 27.27% of doctors said that proportion of patients were 26-50% and 9.09 % replied that proportion of ARI patients were greater than 75%.

Figure 1: Correct knowledge of category A patients according to age group (n=22)

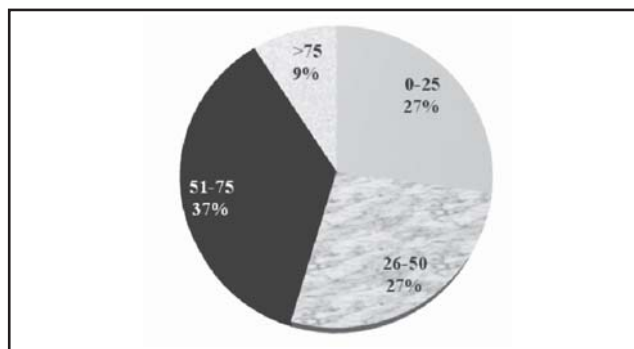


Table 2 shows that only 9 (40.91%) doctors had correct knowledge of category A of influenza A (H1N1) out of total [22 (100%)] numbers of doctors. Out of total practitioners, only 27% of doctors had correct knowledge of B1, B2 and C categories of influenza A (H1N1).

Table 1 : Specialty of interviewed doctors (n=22)

Specialty of Doctors	Government n (%)	Private n (%)	Total n (%)
Physician (M. D. Medicine)	00 (00.00)	02 (06.25)	02 (09.09)
M. B. B. S.	09 (100.0)	03 (18.72)	12 (54.55)
AYUSH	00 (00.00)	06 (50.00)	06 (27.27)
Medical Specialties other than General Medicine	00 (00.00)	02 (21.86)	02 (09.09)
Total	09 (100.0)	13 (100.0)	22 (100.0)

Table 2: Doctors' correct knowledge regarding categories and correct usage of Oseltamivir regarding Suspected Influenza A (H1N1) on the basis of symptoms

Categories of H1N1 influenza A	Government n (%)	Private n (%)	Total n (%)
A	06 (66.66)	03 (23.08)	09 (40.91)
B1	04 (44.44)	02 (15.38)	06 (27.27)
B2	04 (44.44)	02 (15.38)	06 (27.27)
C	05 (55.56)	01 (07.69)	06 (27.27)

Table 3: Follow up advice given by doctor to the patients of ARI (n=33)

Type of follow up	When to follow up	Frequency (%)
Routine Follow up	Next day	00 (00.00)
	2 days later	08 (24.24)
	3 days later	06 (18.18)
	>3 days	05 (15.15)
	No follow up advised	14 (42.42)
Doctor emphasized on immediate follow up if symptoms get worse		03 (09.09)

Table 4: Practice of health education given by doctors regarding ARI to the family members of patients (n=33)

		Frequency (%)	Actual advice	Frequency (%)
Preventive advice given	Yes	05 (15.15)	Home Isolation	00 (00.00)
			Frequent hand washing	05 (15.15)
			Wearing mask	00 (00.00)
			Plenty of water	00 (00.00)
			Use of handkerchief while coughing	00 (00.00)
			Rest	00 (00.00)
	No	28 (84.84)	—	—
Total		33 (100.0)	—	—

Table 3 shows that out of total ARI patients, nobody had been advised to follow up on next day, only 24 % had been advised to follow up after 2 days, only 18% had been advised to follow up after 3 days, only 15% had been advised to follow up after 3 or more days and 42% had been not given follow up advise. Only in 9% of ARI patients, doctor was given advised about immediate follow up if symptoms get worse.

Table 4 reported that preventive advice was given in only 15% of ARI patients. In this 15% of ARI patients, advise given was frequent hand washing. No any other advice given to these patients.

Discussion:

This study was conducted in Rajkot district, Gujarat, India. Among all 22 doctors that were interviewed, majorities (54.55%) were M.B.B.S, 27.27% were AYUSH and 9.09% were Physician. In study from medical college hospital of Delhi included total 334 health care providers. Among them 161 were doctors (57 senior residents, 61 junior residents and 43 interns) and 173 were staff nurses.^[23] Doctors replied that in their OPD, proportion of ARI patients were 51-75%, 27.27% replied that proportion of patients were 0-25%, another 27.27% of doctors said that proportion of patients were 26-50% and 9.09 % replied that proportion of ARI patients were greater than 75%. Study from

Saurashtra region, Gujarat, India reported that out of total patients attended OPDs, 35% of patients had influenza A H1N1 and 65% had seasonal influenza A H1N1. ^[24] Only 40.91% doctors had correct knowledge of category A of influenza A (H1N1) out of total numbers of doctors. Out of total practitioners, only 27% of doctors had correct knowledge of B1, B2 and C categories of influenza A (H1N1). Study in Dar es Salaam city of Tanzania reported that 64% of health practitioners were not aware about various categories of swine flu and their treatment according to that. ^[25] Out of total ARI patients, nobody had been advised to follow up on next day, only 24 % had been advised to follow up after 2 days, only 18% had been advised to follow up after 3 days, only 15% had been advised to follow up after 3 or more days and 42% had been not given follow up advise. Only in 9% of ARI patients, doctor was given advised about immediate follow up if symptoms get worse. Preventive advice was given in only 15% of ARI patients. In this 15% of ARI patients, advise given was frequent hand washing. No any other advice given to these patients.

Conclusion:

One third of doctors replied that 50- 75% patients in their OPD are of ARI at present. Due to fear, all patients were coming for treatment very early and majority was regularly coming for follow up. Doctors from Govt. health set up have more knowledge of symptoms and Oseltamivir usage for category A, B1, B2 and C as compared to private sector. Majority of ARI patients from OPD of doctors were Cough and Fever. Majority of patients were give medicines for 2 days for ARI. Nearly half of doctors didn't advice for follow up. Only some of the patients were given health education for prevention of ARI among family members. Major advice was frequent hand washing.

Recommendations:

1. Sensitization of doctors of private sectors through personal visits of paramedical workers/doctors with special focus on
 - a. Imparting health education about when to come back immediately (Awareness about warning signs).

- b. Imparting health education about cough etiquette and hand hygiene.
2. Provide posters to doctors of Govt. and private sectors showing various categories of suspected H1N1 influenza and its management. Doctors should be asked to display such posters in their consulting room.

Declaration:

Funding: Nil

Conflict of Interest: Nil

References:

1. Centers for Disease Control and Prevention. US outbreak of swine origin influenza A (H1N1) virus infection-Mexico. March-April 2009. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm58d0430a2.htm>. (15 August 2016, date last accessed).
2. Pappaioanou M, Gramer M. Lessons from pandemic H1N1 2009 to improve prevention, detection and response to influenza pandemics from a one health perspective. *ILAR J* 2010; 51:268-80.
3. Fisher D, Hui DS, Gao Z, et al. Pandemic response lessons from influenza H1N1 2009 in Asia. *Respirology* 2011; 16:876-82.
4. La Torre G, Semyonov L, Mannocci A, Boccia A. Knowledge, attitude, and behaviour of public health doctors towards pandemic influenza compared to the general population in Italy. *Scand J Public Health* 2012;40:69-75.
5. Rubin GJ, Amlo[^] t R, Page L, Wessely S. Public perceptions, anxiety, and behaviour change in relation to the swine flu outbreak: cross sectional telephone survey. *BMJ* 2009; 339:b2651.
6. Lino M, Di Giuseppe G, Albano L, Angelillo IF. Parental knowledge, attitudes and behaviours towards influenza A/H1N1 in Italy. *Eur J Public Health* 2012;22: 568-72.
7. Director General of Health Services. Human swine influenza: A pandemic threat. Vol. 12. Government of India: CD Alert; 2009. p. 1-8.
8. The Times of India. First swine flu case surfaces in Gujarat. 18th June, 2009. Available from: <http://www.timesofindia.indiatimes.com/city/ahmedabad/First-swine-flu-case-surfaces-in-Gujarat/articleshow/4669250.cms> [last accessed on 2016 Sep 1].
9. The Indian Express. Saurashtra's first confirmed swine flu case detected. 19th August, 2010. Available from: <http://www.expressindia.com/latest-news/saurashtras-first-confirmed-swine-flu-case-detected-in-bhavnagar/503678/> [last accessed on 2016 August 27].
10. Dominguez-Cherit G, Lapinsky SE, Macias AE, Pinto R, Espinosa-Perez L, de la Torre A, et al. Critically ill patients with 2009 influenza A (H1N1) in Mexico. *JAMA* 2009; 302:1880-7.
11. Kumar A, Zarychanski R, Pinto R, Cook DJ, Marshall J, Lacroix J, et al. Critically ill patients with 2009 influenza A (H1N1) infection in Canada. *JAMA* 2009;302:1872-9.

12. Kiviniemi M, Ram P, Kozłowski L, Smith K: Perceptions of and willingness to engage in public health precautions to prevent 2009 H1N1 influenza transmission. *BMC Publ Health* 2011, 11:152.
13. Rubin GJ, Amlôt R, Page L, Wessely S: Public perceptions, anxiety, and behaviour change in relation to the swine flu outbreak: cross sectional telephone survey. *BMJ* 2009, 339:b2651
14. Morrison LG, Yardley L: What infection control measures will people carry out to reduce transmission of pandemic influenza? A focus group study. *BMC Publ Health* 2009, 9:258
15. Bults M, Beaujean DJ, Zwart OD, Kok G, Empelen PV, Steenbergen JE, Richardus J, Voeten HA: Perceived risk, anxiety, and behavioural responses of the general public during the early phase of the Influenza A (H1N1) pandemic in the Netherlands: results of three consecutive online surveys. *BMC Publ Health* 2011, 11:2
16. De Zwart O, Veldhuijzen IK, Richardus JH, Brug J: Monitoring of risk perception and correlates of precautionary behaviour related to human avian influenza during 2006–2007 in the Netherlands: Results of seven consecutive surveys. *BMC Infect Dis* 2010, 10:114.
17. Kozłowski LT, Kiviniemi MT, Ram PK: Easier said than done: behavioural conflicts in following social-distancing recommendations for influenza prevention. *Public Health Rep* 2010, 125:789–792.
18. Wong L, Sam I: Knowledge and attitudes in regard to pandemic influenza a(H1N1) in a multiethnic community of Malaysia. *Int J Behav Med* 2011, 18(2):112–121
19. Gray L, MacDonald C, Mackie B, Paton D, Johnston D, Baker M: Community responses to communication campaigns for influenza A (H1N1): a focus group study. *BMC Publ Health* 2012, 12:205.
20. Holmes BJ: Communicating about emerging infectious disease: The importance of research. *Health, Risk & Society* 2008, 10:349–360
21. Vaughan E, Tinker T: Effective risk communication about pandemic influenza for vulnerable population. *Am J Public Health* 2009, 99:S324–S332
22. Kok G, Jonkers R, Gelissen R, Meertens R, Schaalma H, de Zwart O: Behavioural intentions in response to an influenza pandemic. *BMC Publ Health* 2010, 10:174.
23. Rajoura O, Roy R and Kannan A. A study of the swine flu (H1N1) epidemic among health care providers of a medical college hospital of Delhi. *Indian J Community Med.* 2011 Jul-Sep; 36 (3): 187-190.
24. Chudasama R. K., Patel U. V. and Verma P.B. Hospitalizations associated with 2009 influenza A (H1N1) and seasonal influenza in Saurashtra region, India. *J Infect Dev Ctries* 2010; 4(12):834-841.
25. Kamuhabwa A and Chavda R. Health-care providers' preparedness for H1N1/09 influenza prevention and treatment in Dar es Salaam, Tanzania. *J Infect Dev Ctries* 2012; 6(3):262-270.