Original Article www. pimr.org.in

# Assessing an effectiveness of structured teaching on knowledge of swine flu amongst nursing staff

**Pratibha Mane[1], Jyoti Sangwan[2]**

**[1]Associate Professor, [2]Assistant Professor Department of Microbiology, Shaheed Hasan Khan Mewati, Government Medical College, Nalhar, Mewat, Haryana, India.**

**Address for Correspondence: Dr.Pratibha Mane, Associate Professor, Department of Microbiology, Shaheed Hasan Khan Mewati, Government Medical College, Nalhar, Mewat, Haryana, India.**

**e-mail: drpratibhakolte@gmail.com**

**ABSTRACT**

**Introduction:** An outbreak of novel influenza A (H1N1) (here after called A/H1N1) infection occurred in Mexico, followed by ongoing spread to all over the world in a short period. Fluviruses are spread mainly from person to person through coughing or sneezing by people with influenza.

**Objectives:** To evaluate the difference in knowledge after structured teaching

**Materials & Methods:** The present study was done in October 2015 and fifty nurses were included in the study. The questionnaire was designed on different aspects of H1N1 influenza.The questionnaire were distributed before teaching and they were asked to tick the answer from the given options. After the teaching same questionnaire were distributed and were asked to tick the correct answer.

**Results:** In the present study, no poor knowledge but18%,50% and 32% of participants had average, good and very good overall knowledge at pretest respectively. After structured teaching participants had nil, 20% and 80% of average, good and very good overall knowledge at posttest respectively about pandemic H1N1 influenza.

**Conclusion:** During a pandemic, nosocomial transmission is a major problem and information about the preventive measures that could be taken to reduce risk of transmission of infection is very important. Knowledge has a significant influence on attitudes and practices in a pandemic.

**Keywords:** Novel Influenza H1N1, pretest, posttest, structured teaching and nursing staff

**INTRODUCTION**

The outbreak of novel influenza A (H1N1) infection occurred in Mexico, at the end of March 2009, followed by ongoing spread to all over the world in a short period[1]. Last year 2015 in India Swine flu has claimed lives of 1,674; while the number of infected persons exceeded 29,000[2]. The worst affected state was Gujarat claiming lives of 375, followed by Rajasthan 372, Maharashtra 277, Madhya Pradesh 230, Delhi 11, Punjab 51, Telangana 69 , Haryana 45, Uttar Pradesh 35, West Bengal 18, Karnataka 71, Jammu and Kashmir 15, Chhattisgarh 11 and Andhra Pradesh 20 had claimed the lives[3].

It is well-known that negative attitude and confused comprehension towards the emerging communicable disease may lead to unnecessary chaos and worry, excessive panic which would aggravate the disease epidemic[1]. Fluviruses are spread mainly from person to person through coughing or sneezing by people infected with influenza. The symptoms of 2009 H1N1 flu virus in people include fever, sore throat , runny or stuffy nose, cough, body aches, headache, chills and fatigue. Some people may have pain in abdomen, vomiting and diarrhea[3]. During pandemic and disease outbreak, the attitude and actions of health care workers (HCWs) play an important role in prevention. It is crucial in that they should receive sensitization and updated knowledge regarding preventive measures[4,5].

Learning more about knowledge,attitudes, preventive measures and behaviors of nursing staff (HCWs) during an infectious outbreak is crucial in preventing the nosocomial spread of influenza pandemic[4]. The aim of the study is to sensitize and evaluate the difference in the knowledge after structured teaching among the nursing staff (HCWs) .

**MATERIALS AND METHODS:** The purpose of this study is to evaluate the difference in knowledge of nurses after structured teaching program on different aspects of swine flu (H1N1 influenza). The present study was done in October 2015 and fifty nurses were included in the study. The nurses working in emergency,medicine,paediatric wards were involved. The cross-sectional survey method was used. The questionnaire was designed on different aspects of H1N1 influenza. The questionnaire were distributed before teaching and were asked them to tick the answer from the given options. After the teaching same questionnaire were distributed and were asked to tick the correct answer. One point was given to each correct answer. Candidate were classified depending upon the score

as poor ≤ 5, average 6-10, good 11-15 and very good ≥ 15. The pretest and posttest were evaluated and analyzed by calculating the percentages. The nurses working in emergency, medicine, pediatric wards were involved.

**RESULTS**

Knowledge of different aspects about swine flu are shown in Table 1. Professional experience of the respondents in the study is shown in Table 2. Table 3 compares pretest and post tests analysis of responses.

**DISCUSSION**

The results of the present study denotes a range of knowledge, attitude, and practices concerning Pandemic influenza (PI) among nursing staff. This study investigated the levels of knowledge, attitude and practices regarding the risk factors and scientific support to assist hospital administration in developing policies/ strategies and health education campaigns to prevent transmission of PI. WHO 2009, Guidelines and recommendations have been developed to prevent and control the spread of PI during pandemic threat. The main recommended measures which need to be used are: 1) isolation and quarantine measures; 2) contact tracing and management, including the number of contacts under observation, their clinical status, and the date of the last known contact; 3) infection control measures implemented in health care facilities; 4) extent of animal culling, if any; 5) use of antivirals for treatment or prophylaxis; 6) border controls and travel restrictions, if any; 7) risk communication activities; 8) estimates or indicators of effectiveness of containment; 9) lessons learned [3].

Data gathered showed that a high number of respondents had detailed understanding of most known sign and symptoms of PI which were fever, cough, myalgia and fatigue. Specifically, the least known complications were nose bleed, conjunctivitis, convulsion and mental confusion. A high number of respondents had detailed knowledge about the period of communicability, and emergency intervention for hospitalization. The studies have been recently published specifically on behavioral and attitudinal responses to pandemic (H1N1)2009 influenza[6,7]. If Health Care Workers (HCWs) has to respond appropriately during an outbreak of infectious disease, nosocomial transmission of disease between people could be prevented. Many reports have highlighted various levels of knowledge towards infectious agents and the public behavior towards these infections, especially after avian influenza outbreaks[8].

In the present study, no poor knowledge but 18%, 50% and 32% of participants had average, good and very good overall knowledge at pretest respectively. After structured teaching participants had nil, 20% and 80% of average, good and very good overall knowledge at posttest respectively about pandemic H1N1 influenza. The attitude and knowledge were not different among several groups, but high knowledge is not sufficient alone for improving attitude and practices. So by using motivational educating models can be helpful to convert individuals knowledge to correct attitudes and behaviors[9,10].

The working environment may be crucial to pandemic preparedness planning[11]. For that the health care system needs to be aware of the safety of their HCWs because they are at significant risk. HCWs are at risk of occupational exposure to influenza and may transmit the infection to their patients and co-workers[12].The influenza attack rate among unprotected HCWs might be approximately 60% higher than that of the general population, which would result in substantial absenteeism and morbidity[12,13]. Occupational health and infection prevention and control should follow the precautionary principle and the recommendations or findings presented in the scientific literature to ensure staff safety during an influenza pandemic.

A comprehensive approach to staff safety should be considered when planning for such an event. Even though all preventive cautions are taken, patients will be best cared for when HCWs are convinced that everything possible is being done to protect their own health as well[14]. For these reasons, HCWs should be educated before any type of pandemia. Increased efforts should be made by hospital administration to buildup adaptive behavioral changes among HCWs and encouraging them during early stages of any outbreak of pandemic .

Table 1 Knowledge regarding different aspects of swine flu

| Knowledge regarding different aspects of swine flu | Pretest responded correctly | Posttest responded correctly |
|---|---|---|
| **Epidemiology** | | |
| Mode of transmission | 48 | 50 |
| Persons at high risk | 25 | 45 |
| **Etiology** | | |
| Causative organism | 43 | 50 |
| Animal reservoir | 20 | 30 |
| Symptoms | 46 | 50 |
| Complications | 30 | 46 |
| **Laboratory diagnosis** | | |
| Personal protective equipment | 42 | 50 |
| Nature of swab used | 25 | 47 |
| Site of sample | 40 | 48 |

| | | |
|---|---|---|
| Storage of sample | 35 | 40 |
| Packaging of sample | 34 | 50 |
| Diagnostic test | 24 | 45 |
| Authorized lab | 33 | 49 |
| Mask used | 44 | 50 |
| Need of testing of every common cold patient | 5 | 28 |
| Need of isolation ward | 48 | 50 |
| **Treatment** | | |
| Availability of drugs in market | 39 | 48 |
| **Prophylaxis** | | |
| Hand hygiene | 45 | 50 |
| Vaccine | 38 | 48 |
| Need of Chemoprophylaxis | 00 | 14 |
| Hesitation to treat the patient | 22 | 50 |
| Source of knowledge | Mixed | |

Table 2: Professional experience of the respondents in the study

| Experience in yrs. | No of candidates |
|---|---|
| 0-5 | 26 |
| 6-10 | 18 |
| 11-15 | 06 |

Table 3: Compares pretest and post tests analysis of responses.

| Score | Poor ≤ 5 | Average 6-10 | Good 11-15 | V good ≥ 16 |
|---|---|---|---|---|
| Pretest | 00 | 18%(09) | 50%(25) | 32%(16) |
| Posttest | 00 | 00 | 20%(10) | 80%(40) |

**CONCLUSION**

HCWs have been identified as the priority group whose preparedness is a critical element in the response to the pandemic. Knowledge has a significant influence on attitudes and practices in a pandemic. For that efforts should be taken at educating HCWs to improve knowledge, attitude and behavioral responses in the current pandemic, as well as for future. Moreover, we evaluated program effectiveness by using pre and post questionnaires to provide scientific support to assist hospital administration in developing strategies and health education campaigns to prevent the transmission of pandemic influenza in the hospitals.

**REFERENCES**


1. Lin Y,Huang L, Nie S ,Liu Z, Yu H, Yan W, et al. Knowledge, attitudes, and practices(KAP) related to the pandemic (H1N1) 2009 among Chinese general population :a telephone survey.BMC Infectious Diseases 2011;11:128.
2. "Swine flu has claims 47 more lives, toll reaches to 1,674" 14 March 2015,TV. www.ndtv.com/India news ;assessed from http://www.ndtv.com/india-news/swine-flu-claims-47-more-lives-toll-reaches-1-674-746659.
3. World Health Organization .(2009).Global surveillance during an influenza pandemic; assessed from http://www.who.int/csr/disease/swineflu/frequently_asked_questions/post_pandemic/en/
4. Aslan S, Gulsun S, CaglarCitak E, Oncul A ,and Pirincciogluh H . An inquiry of knowledge, attitudes and practices against pandemic H1N1 influenza among Turkish health care workers : Experience of single center in southeast of Turkey. Afr.J.Microbiol .Res. 2010 ;4 :2363-70.
5. Blendon RJ, Koonin LM, Benson JM, Cetron MS, Pollard WE, Mitchell EW, et al .Public response to community mitigation measures for pandemic influenza. Emerg.Infect .Dis 2008 ;14:778-786.
6. Rubin GJ, Amlot R, PageL,Wessely S. Public perceptions, anxiety and behavior change in relation to the swine flu outbreak :cross sectional telephone survey .BMJ 2009;339:b2651.
7. Goodwin R, Haque S, Neto F, Myers LB. Initial psychological responses to influenza A,H1N1(swine flu). BMC Infect. Dis.2009;9:166.
8. Balkhy HH, Abolfotouh MA, Al-Hathlool RH, Al-Jumah MA. Awareness , attitudes and practices related to the swine flu pandemic among Saudi public .BMC Infect Dis.2010;10; 42:1-7 9.Leiba A, Dreiman N, Weiss G, Adini B, BardayanY.The effectiveness of an educational intervention on clinicians knowledge of pandemic influenza . IsrMed AssocJ 2010;12:460-2.
10. Askarian M, Danaei M, Vakili V. Knowledge, attitudes, and practices regarding pandemic H1N1 influenza among

medical and dental residents and fellowships in Shiraz, Iran. Int J Prev Med 2013;4:396-403.

11. Blake KD, Blendon RJ, Viswanath K .Employment and compliance with pandemic influenza mitigation recommendations.Emerg. Infect.Dis. 2010;16:212-218.
12. Wicker S, Rabenau HF, Bias H,Groneberg DA, Gottschalk R. Influenza A (H1N1) 2009 .Impact on Frankfurt in due consideration of health care and public health .J.Occup. Med. Toxicol.2010 ;26:5-10.
13. Cooley P, Lee BY, Brown S,Cajka J, Chasteen B, Ganapathi L, et al. Protecting health care workers:a pandemic simulation based on Allegheny County. Influenza other respiviruses ,2010;4:61-72.
14. Chironna M, Tafuri S, Santoro N, Prato R, Quarto M, Germinario CA. A nosocomial outbreak of 2009 pandemic influenza A(H1N1 ) in a paediatric oncology ward in Italy. euro.surveill. 2010;7:15-1

**Please cite this article as:** Mane Pratibha, Sangwan Jyoti. Assessing an effectiveness of structured teaching on knowledge of swine flu amongst nursing staff. Perspectives in medical research 2016;4:1:27-30.

**Sources of Support:** Nil,Conflict of interest:None declared