

**BASIC KNOWLEDGE AND ATTITUDE OF INFLUENZA VIRUS A H1N1 AMONG  
NURSING STUDENTS IN KARACHI: A CROSS SECTIONAL SURVEY**

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**ABSTRACT**

Influenza cases in healthy adults can prevent up to 70%-90% by the help of vaccination as well as vaccination is acceptable and well tolerated. The danger posed by break frothing infectious disease in the form of epidemics and pandemics has become even greater. The objective of the study is to critically identify the basic knowledge and attitudes about influenza virus among nursing students in Karachi, Pakistan. The design of the study was the cross sectional design which was conducted with the sample size of 200 from April 2016 to June 2016 in the different college of nursing in Karachi, Pakistan. To analyze, a self-administered questionnaire was designed. Individual who are at risks in which higher percentage of the poultry workers 49% while lower percentage of the vertinarian that is 14%. knowledge of mode of transmission of influenza in which the response in yes answers of the animal to animal 49% that is higher while the response in no answers lower of the human to human that is 29.50%. After careful consideration, for the improvement of influenza A H1N1 virus education and communication approach for nurses that provides useful and descriptive information as necessary of enhancing the level of knowledge about this virus is the conclusion of this survey.

**KEYWORDS:** Influenza A H1N1, transmission, epidemics, pandemics.

**INTRODUCTION**

Influenza cases in healthy adults can prevent up to 70%-90% by the help of vaccination as well as vaccination is acceptable and well tolerated.<sup>[1-2]</sup> Medical students especially nursing students and health care workers are the aptitude source of transmission, additionally, as they are at cause of alarm of exposure to influenza virus because of their contact with infected patients.<sup>[1-3, 24-26]</sup> Vaccination for influenza for health care personnel, health profession students and trainees to protect themselves and their patients has been recommended by the world health organization and United States center for disease control and prevention.<sup>[1-3]</sup> Improvement in hospitals and other health care facilities and decreased severe morbidity and mortality by the immunization of health care workers has been documented.<sup>[4-9]</sup> Among health care workers and heath profession students, it is beneficial for planning tailored influenza vaccination, their transmission and prevention by analyzing the opinions, attitudes and knowledge of influenza.<sup>[10-11]</sup> The danger posed by break frothing infectious disease in the form of epidemics and pandemics has become even greater as despite significant medical gains. A lot of infectious diseases have emerged (such as SARS in 2003), dengue fever in last few years since 1990.<sup>[12]</sup> H1N1 is the most current, reminds us that we have

enrolled into a new age of global pandemics by its dramatic spread, with which newly emergent pathogens are capable of being transmitted around the world because of its rapidity largely.<sup>[13]</sup> According to the history of infection, the first case of innovative influenza infection in Mexico in April 2009 was announced. The strain had earlier spread to more than 120 countries by the end of June (2009). Due to the new strain of influenza A subtype H1N1 outbreak (2009) swine flu in 2009. Current viral strains will disseminate extensively in the autumn or winter causing more illness and death suggested by history of previous flu pandemics. Contributing factor in this emergence is the increasing travel and trade within and beyond the region significantly. Cases come in waves because patterns of the evolving of virus are varying from country to country. We can prevent this virus from spreading in the hospital setting absolutely if we have knowledge experience and tools.<sup>[12]</sup> Acute viral infection is caused by an influenza virus is seasonal influenza. This infection causes severe illness and death among high risk population as well as considered as a serious public health problem. According to the annual influenza epidemics attack 5-15% of the population, worldwide 2-5 million cases approximately of severe illness has been documented with the range of annually 250,000

deaths.<sup>[14]</sup> Nurses have a high risk of exposure to influenza although and may be potential vectors of influenza to their patients and the focused point is that the topic of influenza among nurses has attracted limited research interest.<sup>[15-18]</sup> Acute febrile respiratory illness (fever  $>38^{\circ}\text{C}$ ) with a spectrum of disease from influenza like illness to pneumonia was the clinical case description. Patients with real time (RT) PCR viral culture or four fold rise in swine influenza A (H1N1) a virus specific neutralizing antibody is the diagnostic tool and can said and recognize the confirmed case.<sup>[19-20]</sup> Influenza virus is responsible every year for additional hospitalizations and mortality has been well documented<sup>[21-23]</sup>, with respect to source of transmission to spread infection by health care workers and medical students, indeed.<sup>[24-26]</sup> To play a leadership role in disseminating targeted implementation preventive strategies will be expected from healthcare workers and at reducing influenza related morbidity and mortality education programs aimed. Whether, health care workers and students are knowledgeable, have positive attitudes and acquire adequate information, achievements of this goals varies according to the evidence.<sup>[27-29]</sup>

The objective of the study is to critically identify the basic knowledge and attitudes about influenza virus among nursing students in Karachi, Pakistan.

#### METHODOLOGY

The design of the study was the cross sectional design which was conducted with the sample size of 200 from April 2016 to June 2016 in the different college of nursing in Karachi, Pakistan. A simple random sampling was performed in the college of nursing by using random number table, which include nurses. The nature and protocol of the study to obtain permission to carry out the survey another institution through the contact of research team to the management staff of the college and the nature and the protocol of the study was also presented by research team. Furthermore, a self reported form, an informed consent form, a self administered questionnaire and an envelope to return the completed questionnaire received by each nursing student's with a cover letter reporting a detail study presentation encouraging responses to the survey. To analyze nursing student's sociodemographic and professional characteristics, knowledge and attitudes about influenza, a self administered questionnaire was designed. Data was analyzed (descriptive analysis) by using SPSS version 20 carefully.

From previously published standards questions were derived regarding definition, mode of transmission and preventive measures of influenza.<sup>[30,31]</sup>

#### RESULT

Socio demographic characteristics have been estimated in which the percentage of male participants was found to be 130% while female participants were found to be 30%, The level of qualification of nursing students has

also estimated in which higher percentage of the participants obtained from the diploma students that is 49% while lower percentage obtained from the MScN students that is 5%. Higher percentage obtained from the age group of 21-25Y that is 35% while lower percentage obtained from the age group of 31-35Y that is 10% as shown in table 1. Individual who are at risks in which higher percentage of the poultry workers 49% while lower percentage of the veterinarian that is 14% as shown in table 2.

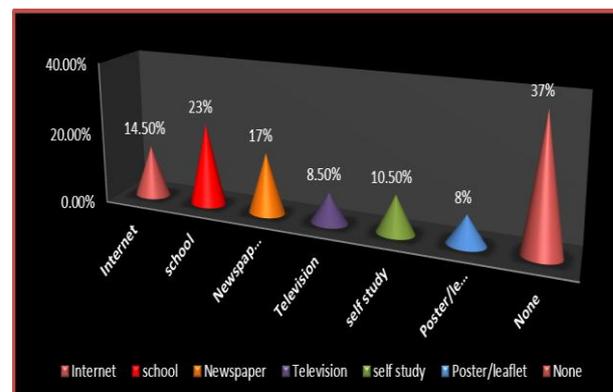
**Table 1: Showing Socio demographic Characteristics**

Gender	
Male	130%
Female	30%
Level of Qualification	
Diploma	49%
Post Specialization	17.50%
Post RN BScN	28.50%
MScN	5%
Age group	
16-20	32.50%
21-25	35%
25-30	22.50%
31-35	10%

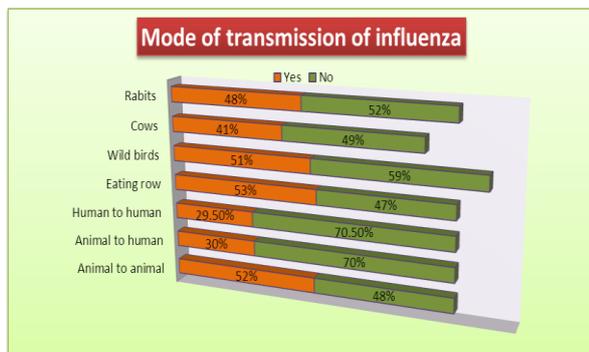
**Table 2: Showing percentage of knowledge of individuals who at risk from influenza virus in Nursing students**

Individuals	Percentage
Health workers	26%
Community	28%
Poultry workers	32%
Veterinarian	14%

Figure 1 represented the sources of information about influenza virus in which higher percentage 37% in those who had information without any source while lower percentage from those who had information poster/leaflet were found 8%

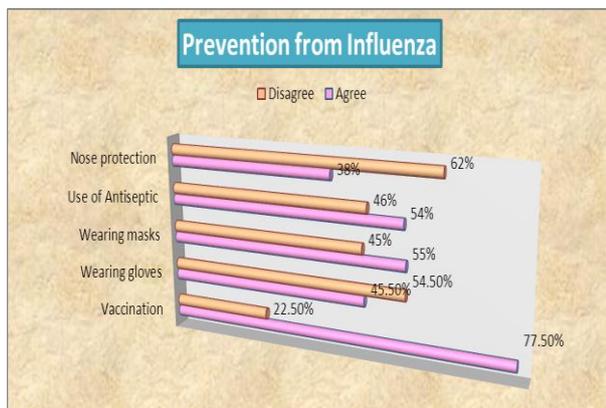


**Figure 1: Showing the sources of information about the knowledge of influenza virus in nursing students**



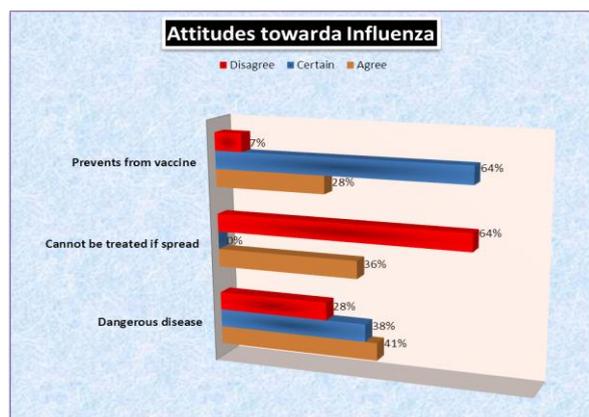
**Figure 2: Showing the s the knowledge of mode of transmission of influenza virus in nursing students**

knowledge of mode of transmission of influenza in which the response in yes answers of the animal to animal 49% that is higher while the response in no answers lower of the human to human that is 29.50% as shown in figure 2.



**Figure 3: Showing the knowledge of prevention from influenza virus in nursing students**

Higher percentage from the knowledge of prevention from influenza of in which the respondents agree from the statement of vaccination that is 77.5% while the lower percentage from the knowledge of prevention from influenza of in which the respondents agree from the statement of nose protection that is 77.5%. As shown in figure 3.



**Figure 4: Showing the Attitude towards influenza virus in nursing students**

Higher percentage from the attitude towards influenza in which the respondents agree from the statement of “dangerous disease” that is 41% while the lower percentage from the knowledge of prevention from influenza in which the respondents agree from the statement of “prevents from vaccine” that is 28% as shown in figure 4.

## DISCUSSION

The results reported by this survey highlights very concerning point about the nurses and created an alarming situation for health care professionals as nurses are the integral and important part in the health team. Findings have shown with the lack of knowledge relating at least one of the modes of influenza A H1N1 transmission that is very few nurses knew that this virus has transmitted from human to human up to 29.50% by droplet method. Low level of the knowledge in the health care workers is the focusing point and how they transmit influenza and acquire influenza during their working activity need to be aware and was surprising especially given by nursing students. To increase the level of knowledge among nurses the emerge need for educations programs should be arranged as suggested by findings. Nurses much more likely to answer the knowledge of question correctly were those only who had received information through poster/leaflet. It is observed that how the communicating information has an important impact on nurses knowledge as revealed by findings.<sup>[32,33]</sup> Attitude towards influenza virus related statement are also accommodated in the survey. The survey findings highlights attitudes of nurses towards influenza virus that approximately 41% of nurses agreed with that this virus is dangerous but did not know that it is spread by droplets so call for further literature to conduct studies about awareness in nurses as with other health workers. It is interesting to know that knowledge about prevention from influenza in nursing students shown good result and very interesting to mention here that mostly nurses knew that vaccination can prevent but the focusing point is that very low ratio 38% among nurses knew that nose protection can also prevent as this pathogen also enter in human body by nasal route found to be only 38%. It should be noted that the non-scientific, such as television was the source of information additionally higher percentage of those who had source of information without any source with the ratio of 37% so it is crucial to have access to reliable information source.<sup>[34,35]</sup>

## CONCLUSION

After careful consideration, for the improvement of influenza A H1N1 virus education and communication approach for nurses that provides useful and descriptive information as necessary of enhancing the level of knowledge about this virus is the conclusion of this survey. Results are limited although in this survey by the respondents and call for further research for health care workers for those studies which can enhance the knowledge of this issue especially in nurses.

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