MEDICAL EDUCATION – RESEARCH ARTICLE

AWARENESS OF NOVEL H1N1 PANDEMIC INFLUENZA AMONG NON-MEDICAL PERSONNEL, MEDICAL STUDENTS & MEDICAL PROFESSIONALS

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ABSTRACT

Objective: To study the awareness of swine flu among general population, medical students and medical professionals

Study Design: Descriptive study.

Place and Duration of Study: Study was carried out in the department of Pathology (Microbiology), Army Medical College, the Military Hospital (MH) and Combined Military Hospital, Rawalpindi, from 17th January 2010 to 24th January 2010.

Materials and Methods: A total of 519 people were included in this study, 228 were medical students, 181 were doctors and 110 were non health care professionals. A questionnaire with closed questions regarding the awareness of the basics of swine flu was required to be filled by all participants.

Results: It was found that the general population was totally unaware to the extent that 1/3rd had never heard of this disease. The survey of medical students showed reasonable knowledge in the senior classes (80-85%) knew the main features of the disease), whereas the 2nd year students had the awareness around 40-45%. Among the medical professionals the knowledge was excellent in the seniors, whereas the trainees and house officers had suboptimal knowledge of swine flu.

Conclusion: The result of this study show a significant gap between the seniors specialists and the juniors and this gap warrants immediate bridging. The general public also need to be informed by various means more comprehensively.

Keywords: Awareness, public education, Swine flu

INTRODUCTION

The first case of 2009 H1N1 pandemic influenza was reported in April 2009 from Mexico[1]. The virus has then spread rapidly to other countries around the globe and the World Health Organization has now raised the pandemic level to 6[2]. Pakistan had its first case confirmed in August 2009[3].

Swine flu cases after being identified are isolated and treated. The vaccine for this novel H1N1 influenza is not yet available in Pakistan so preventive measures remains the most effective way of controlling the spread of this disease. For effective prevention, awareness about its signs, symptoms and safety precautions has now become a compelling need among the doctors as well as the general public.

This study was aimed to explore the level of awareness about the signs, symptoms, prevention, transmission, identification and treatment of swine flu among medical students and doctors. Awareness about its signs, symptoms and preventive measures was also sought among the non-medical personnel. The data was collected from a tertiary care hospital and its allied medical college in Rawalpindi to assess the level of awareness about swine flu among the doctors, medical students and the non-medical personnel.

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MATERIALS AND METHODS

It was a simple descriptive study carried at the Military hospital, Combined Military Hospital and Army Medical College, National University of Sciences & Technology, Rawalpindi. The duration of the study was one week from 17th January 2010 to 24th January 2010

A total of 519 people were approached at convenience to undertake the survey, of which 181 were doctors, 228 medical students and 110 non-healthcare personnel employed at Army

Medical College and the Military Hospital Rawalpindi. Individuals unwilling to participate or below 18 years of age, were excluded from the study.

A one-page questionnaire consisting of 16 closed questions was presented to each of the Medical professionals, which assessed: knowledge about novel H1N1 (swine flu) and its characteristics; the signs and symptoms of swine flu, risk factors, diagnosis, treatment, recovery, control measures, and complications. The medical students were divided further into categories according to their level in medical school, and students of 2nd, 3rd, 4th and 5th year were recruited for the study. The doctors included in the study were house officers, trainees and specialists. Those who did not mention their category were excluded from the study.

The questionnaire provided to the non-healthcare personnel comprised 7 questions regarding the level of education, awareness about swine flu, common symptoms of swine flu, common preventive measures, treatment for swine flu and the number of times the individual washes his hand.

Data had been analyzed using SPSS version 15. Descriptive statistics were used to describe the data. Che-square test was used for comparison of different variables between groups. P-value <0.05 was considered significant.

RESULTS

Out of 110 individuals from general population, 77.3% were literate; the literacy cut off line was a qualified 10th grade. Out of 110 individuals, about two-third had heard the name of swine flu, while a little less than half of them knew that swine flu is a disease and knew the major signs and symptoms of the disease. Only 40% were able to tell the major preventive measures. Out of these, 42.7% did not know that there is a treatment available for swine flu. About three-quarters of the individuals washed their hands with soap more than three times a day. (Table-1)

For the medical students, a total of 228 students were interviewed out of which 53, 50, 60 and 65 were from 2nd, 3rd, 4th and final year MBBS/ BDS respectively. More than 90% students from each year identified the correct causative agent of swine flu. An average of 76.2% 2nd year, 74.4% of 3rd year, 84.8% of 4th year and 83% of final year medical students knew the common signs and symptoms of the disease, whereas 43% of 2nd year, 46% of 3rd year, 70.85% of 4th year and 49.2% of final year students knew about the rare symptoms (diarrhea, vomiting) of the disease. (Fig. 1)

Knowledge of medical students about the causative agent, various risk factors, mode of transmission, incubation period, carrier state, complications, recovery period, prevention, diagnosis and treatment of swine flu is given in Table 2.

From the medical professionals a total of 181 individuals were interviewed out of which 81 were house officers, 68 were post-graduate trainees and 32 were classified specialists of various disciplines, out of which 91% specialists, 85% trainees, and 98% house officers identified the correct causative agent of swine flu. An average of 78.1% specialists, 68.8% trainees, and 79.8% house officers knew the common signs and symptoms of the disease (head ache, tiredness, dry cough, running nose and muscle ache) whereas 45% specialists, 33% trainees, and 64.5% house officers knew about the less common symptoms (diarrhea & vomiting) of the disease. (Fig. 2)

Knowledge of doctors about the causative agent, various risk factors, mode of transmission, incubation period, carrier state, complications, recovery period, prevention, diagnosis and treatment of swine flu is given in Table 3.

Table-1: Results of analysis of non-medical personnel (n=110)

PARAMETERS	Yes
Qualified 10th grade	77%
Heard the name of swine flu	66%
Knowledge of swine flu as a disease	46%
Knowledge of main signs and symptoms	46%
Knowledge of treatment for swine flu	43%
Knowledge of preventive measures	39%

Table-2: Knowledge of different parameters of Novel H1N1 Pandemic Influenza amongst Medical Students (n=228)

	P value	2nd year (n=53)	3rd year (n=50)	4th year (n=60)	5th year (n=65)
Causative agent for swine flu	0.543	92.5%	98%	95%	92.3%
Risk factors	0.0004	30%	40%	60%	64%
Knowledge of its mode of transmission	<0.001	62.3%	90%	96.7%	63.1%
Knowledge of incubation period	0.022	50.9%	32%	45%	26.2%
Knowledge of carrier state	0.505	16.9%	16%	21.7%	26.2%
Knowledge of quarantine of the persons exposed to the infected people	0.001	9.4%	0%	21.7%	6.2%
Knowledge of major complication	0.002	54.7%	80%	70%	84.7%
Knowledge of recovery period	0.165	30.2%	26%	45%	32.3%
Knowledge about infection of swine flu more than once	0.170	22.6%	20%	30%	36.9%
Knowledge of preventive measures	0.234	58%	64%	58%	73%
Knowledge of the diagnostic test	<0.001	26.4%	36%	65%	56.5%
Knowledge about medicines used	0.015	81.1%	86%	96.7%	76.9%
Knowledge about analgesics used	0.024	32.1%	36%	56.7%	50.8%

Table-3: Knowledge of different parameters of swine flu in Medical Professionals (n=181)

	P value	Specialist (n=32)	Trainee (n=68)	House officers (n=81)
Causative agent for swine flu	0.025	91%	85%	98%
Risk factors	0.421	50%	36%	62%
Knowledge of its mode of transmission	0.775	90.6%	91.2%	94%
Knowledge of incubation period	<0.001	78.1%	38.2%	49%
Knowledge of carrier state	<0.001	59.4%	20.6%	42%
Knowledge about quarantine of the persons exposed to the infected people	0.271	6.3%	13.2%	6%
Knowledge of major complication	<0.001	100%	73.5%	63%
Knowledge of recovery period	0.030	62.5%	35.3%	51%
Knowledge about infection of swine flu more than once	0.020	65.6%	36.8%	52%
Knowledge of preventive measures	0.003	96.9%	72%	88%
Knowledge of the diagnostic test	0.015	84.4%	57.4%	57%
Knowledge about medicines used	0.002	90.6%	88.2%	86%
Knowledge about analgesics used	0.511	71.9%	61.8%	61%

DISCUSSION

Our results suggest that the non-healthcare personnel were mostly unaware of Swine Flu as a dangerous disease and almost 1/3rd of the people had not even heard of it. Due to lack of appropriate knowledge, only about half of the target population knew of the major symptoms of the disease, and even less knew about the control measures. Almost 60% thought that swine flu was an untreatable disease. Our results were similar to those of a study in the United Kingdom[4].

Some of the studies in the early stages of the swine flu pandemic portrayed the H1N1 virus as causing milder influenza than other viruses which had been linked to pandemics, which may account for the low risk-perception and awareness levels in our study. Encouraging the public to adopt specific practices relating to hygiene may thus prove difficult. Previous studies propose that compliance with health-related recommendations will improve if people believe they have a significant likelihood of

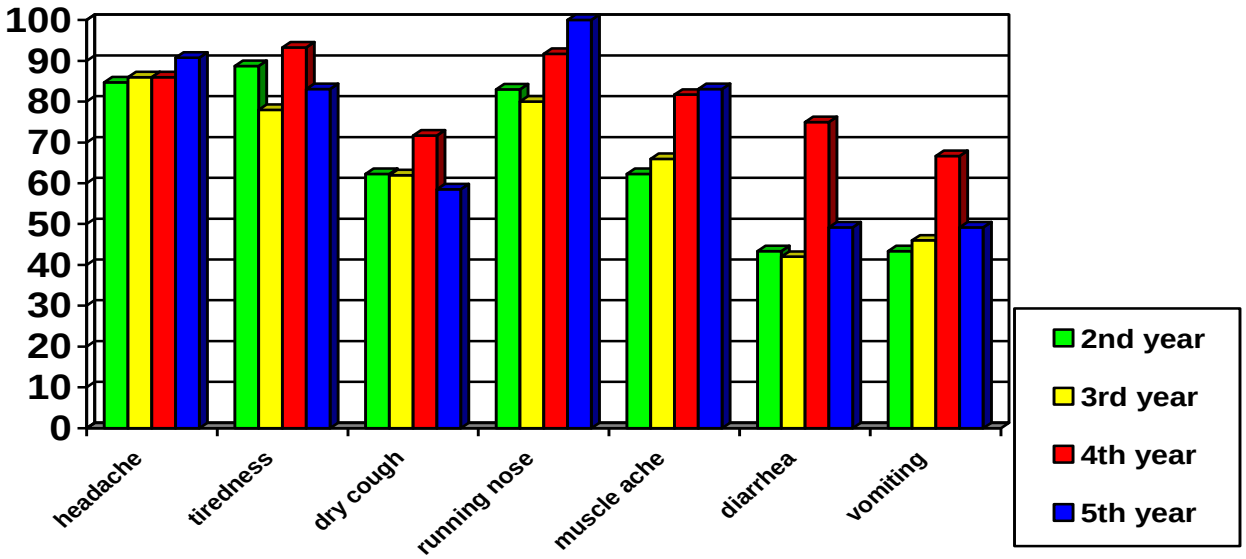

Figure 1: Knowledge of symptoms of Novel H1N1 Pandemic Influenza in Medical Students (n=228)

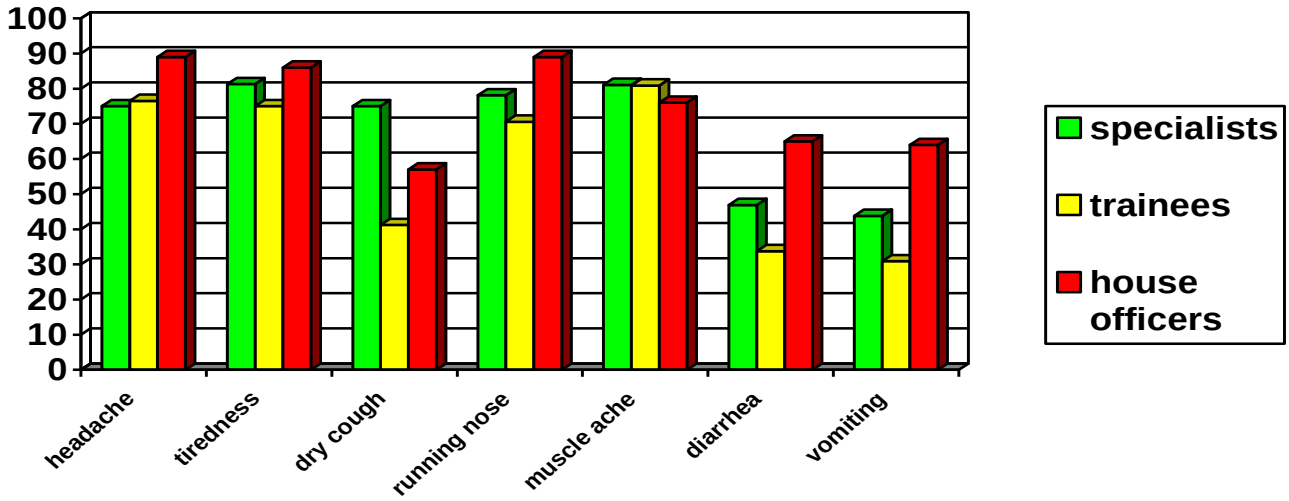

Figure 2: Knowledge of symptoms of Novel H1N1 Pandemic Influenza in Doctors (n=181)

being affected or they perceive the disease to have severe consequences[5, 6].

Of the medical professionals, specialists were generally well-aware about novel H1N1 Influenza pandemic, while the trainees and house officers were lacking in this knowledge. Medical students also did not have adequate knowledge about the disease, with no significant difference between students of clinical and non-clinical years.

Less than 75% of all the medical professionals had knowledge of the less common symptoms of swine flu like diarrhea and vomiting. This is similar to the findings of a study carried out by Health Education Division, Department of Health Service, MOPH, Thailand (Health Education Division, 2004)[7]. They found that about 70% of the respondents didn't know the symptoms characterized by high fever, headache, myalgia, sore throat, cough, and pneumonia. Majority of the medical professionals were also not clear about the isolation and quarantine protocols. There were further deficiencies in knowledge about recurrence, diagnosis and treatment of swine

flu, especially in the medical students. Awareness about the control measures was generally adequate in the healthcare professionals, though only about half of the students rated hand hygiene as an effective infection prevention measure, with more respondents rating isolation above the cornerstone of infectious disease prevention. This might be because the community no longer witnesses the effects of severe infectious diseases, such as polio, so the social normative role of hand hygiene should now be reintroduced with large public campaigns.

Many of the specialists were able to identify the incubation period of novel H1N1 Influenza Virus. Although keeping in mind that to date, it has been difficult to define the true incubation period of the virus[8-11]. An analysis of 642 cases from the United States suggested an incubation period of 2 to 7 days[8]. Close observation of diagnosed cases in China provided the opportunity to study the incubation period in 125 patients with an exact date of onset of illness. The median incubation period was 2 days, with a range of 1 to 7 days. All the specialists had also identified pneumonia as the major complication of the disease while only 63% of the house officers answered correctly.

This study had several limitations which are worth mentioning here. Firstly it was conducted in three associated institutions located in one city. Second, our study sample has the potential to be biased towards members of the general public who may be considerably more aware of swine flu than the rest, due to their employment in a medical college. Our study measured a specific population's views at a specific point in time; their beliefs and attitudes reflect the information available at the time and might not be stable. It is not known whether responses given to the questions posed in the survey would accurately reflect the respondents' real-world responses. However, behavioral intention-focused study indicates the potential for intentions to reasonably predict actual behavior[12].

CONCLUSION

The results of this study suggest that there is a significant educational gap between the specialist and the trainees. The senior level should strive to bridge it immediately and prepare guidelines and workups for diagnosing and treating the cases of swine flu. The print and electronic media should adopt a very proactive role whenever such a situation appears in the country. For the understanding of the general public animated features covering all important aspects of the disease should be covered.

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