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Awareness of H1N1 among Girls Students of Jazan University, Saudi Arabia

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High knowledge is not sufficient lonely for improve attitude and practices. It seems that traditional educational models are not efficient and governments should emphasize to advanced and motivational education methods including health belief model and motivational interview at postgraduate levels. Perhaps younger students. More than half (54.3%, 840/1548) of the participants showed high concern, 43.7%(677/1548) showed a low level of knowledge, and 60.8%(941/1548) had taken minimal or no precautionary measures. After adjusting for other variables, education level was the only significant predictor of the level of concern ($p < 0.001$), possibly due to the low level of knowledge about the disease among the public. Frequent communication between physicians and the public is recommended to help dispel myths about the disease and to spread better information about the role that the public can play in limiting the spread of the disease.

Key words: H1N1, Students, Jazan University, Saudi Arabia.

Influenza disease is affected approximately 5-15% of global population, annually. This changeable virus is responsible for several pandemic events such as 1947, 1976, 1977, and 2009 pandemics[5,6]. The novel H1N1 virus was detected in 2009 pandemic that was reported in Mexico first and then spreading around the world3,4. It has been known from previous experiences that anxiety and misconceptions of infectious outbreaks, whether natural or terrorist born, may lead to unnecessary worry and chaos in a situation where the public is threatened[2,1]. Further, misconceptions and worries have led to inappropriate behavior by the public such as; refusal to comply with precautionary measures, including wearing a mask or accepting a vaccination; avoidance of certain activities including visiting the hospital due to fear of healthcare facilities as a venue for acquiring the infection[8,10]. Understanding the perception of the public and their potential resources to infectious disease threats would assist public health agencies to pinpoint knowledge gaps which may be utilized in developing educational programs to increase the awareness of the public.

The Kingdom of Saudi Arabia (KSA) has been very transparent in its activities, announcing early cases of swine flu and setting in place a strict method for surveillance. The country hosts more than 3 million pilgrims and visitors to the two holy mosques every year, and it is therefore especially important to develop a clear plan for educating and preparing the public and pilgrims for a potential infectious crisis. The study started after the WHO raised its pandemic alert status to phase 6. At that time, mitigation measures in Saudi Arabia focused on identifying, treating, and isolating people who had the disease or were exposed to individuals who had the disease.

Two major resources on the developments of the H1N1 pandemic existed for the Saudi public. The media, including both televised and written media, and to a lesser extent the radio; the second was the internet, where free uncensored writing and

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U-tube postings take place. There was a large need for the dissemination of accurate information to overcome the misinformed dialogue taking place on TV, newspapers and internet. During the early days of the pandemic, and for the initial announcement of the first case of confirmed H1N1 within the Kingdom, there was clear communication from the MOH on the case and its developments. The Minister of Health, soon thereafter, developed a National Scientific Committee to deal with all rising concerns on the pandemic, including at the time: medication needs, vaccination needs, vaccination prioritization and defining high risk groups, school suspension policies and identifying clear routes for communication with the Ministry of Education. The scientific committee was able to provide educational material, such as brochures, pamphlets and stands, on the signs and symptoms of H1N1 for dissemination through shopping malls, mosques, airports and schools. The members of the scientific committee were also requested to provide scientific statements on the developments of the pandemic locally and internationally.

Methodology

This study was a cross-sectional survey conducted within Academic campus for Girls students, Jazan University, Saudi Arabia . An interview questionnaire was designed to collect the following data. Socio-demographic characteristics such as gender, age, education, and occupation. Knowledge about the disease, its nature, mode of transmission, symptoms and signs, incubation period, period of communicability, and preventive measures. This knowledge was assessed by 17 factual statements that participants responded to with "yes" or "no." A scoring system was applied to assess the level of knowledge of each subject: 1 point was given for each correct answer, and

Table 1. Knowledge about influenza (H1N1) among Academic campus for Girls students, Jazan University.

	Statement	Yes %	No %	Don't know %
	The cause of swine flu is ...			
1	Virus.	95.4	2.1	2.5
2	Immunodeficiency.	27.6	61.0	11.4
3	Inherited disease.	4.3	88.2	7.5
4	Swine flu is a communicable disease	92.3	3.5	4.2
	Swine flu is transmitted through ...			
5	Droplets after coughing or sneezing.	95.5	2.8	1.7
6	Touching the infected person.	61.0	31.9	7.0
7	The use of objects used by an infected person.	73.1	19.1	7.8
8	Sexual route.	42.8	37.2	20.0
	What are the symptoms and signs of swine flu?			
9	General Information (N1H1)	93.8	3.4	2.8
10	Personal information about the transmission of swine flu.	11.4	77.1	11.4
11	Personal information about the symptoms of swine flu.	2.3	87.7	10.0
12	Personal information about the groups most vulnerable to swine flu and its complications.	34.3	34.8	30.9
13	The methods to protect yourself and your family from swine flu.	21.3	41.7	37.1
14	Expectations towards the future development of the disease.	47.1	29	41.9
15	There is a vaccine for swine flu	29.5	28.7	41.9
16	Swine flu can affect people more than once in life	36.5	62.7	0.8
17	Satisfaction on government measures against (N1H1)	20.1	79.2	0.7

0 point was given for each incorrect answer. Participants were grouped into three categories according to their level of knowledge: low (<10 points), average (10-12 points), and high (13 or more points). Attitudes toward and perceptions of the disease, its severity, governmental efforts to combat it, and disease outcomes were assessed by six attitudinal statements that participants responded to with "strongly agree," "agree," "neutral," "disagree," or "strongly disagree." A scoring system was applied using the Likert 5-point scale; 5 points were assigned to "strongly agree," and 1 point was assigned to "strongly disagree." Negative attitude statements were scored from 1 (for those who strongly agreed) to 5 (for those who strongly disagreed). Thus, the total attitude score ranged from 6 to 30 points. For each statement, the participant was considered extremely concerned if he/she agreed or strongly agreed. Subjects were grouped into three categories according to their level of concern: extremely concerned (if agreement was evident for 5-6 statements), quite concerned (if agreement was evident for 3-4 statements), and little concerned (if agreement was evident for 2 or fewer statements). Each participant was asked to report the precautionary measures that s/he has been using during the epidemic to prevent infection. Participants' responses were assessed in accordance with the six precautionary measures recommended by the U.S. Center for Disease Control (CDC). A scoring system was applied in which each participant was given 1 point for each precautionary measure taken. Thus, the total precaution score ranged from 0 to 6 points. A high level of precaution was considered to be 5-6 points, a moderate level was 3-4 points, and a poor level was 2 points or less.

Table 2. Demographic Characteristics of the Study sample

Characteristics	Female (n = 250) No.	%
Age group		
18-22 yr.	91	36.3
23-26 yr.	128	51.1
27-35 yr.	30	12.1
36 yr. or more	2	0.6
$X^2 = 8.759$, $p = 0.033$		
Marital Status		
Single	101	40.5
Married	138	55.1
Widow	4	1.5
Divorced	7	2.9
$X^2 = 17.343$, $p < 0.001$		
Education		
Non-educated	6	2.4
Less than secondary	24	9.7
Secondary	69	27.6
University	144	57.5
Higher	7	2.8
$X^2 = 21.916$, $p < 0.001$		
Employment status		
At work	98	39.2
Non-working	152	60.8
$X^2 = 292.832$, $p < 0.001$		

Statistical analysis

We used version 16 of SPSS software to analysis the study results. Independent sample T-test was used to determine the significant differences in the means of knowledge, attitudes, and practices according to demographic factors. To compute the correlation between knowledge and attitudes, knowledge and practices, attitudes and practice, as well as age with knowledge, attitudes, and practices we analyzed data using Spearman correlation coefficient statistic method. Finally to determine the significant predictor factors of the level of knowledge, attitudes, and practices we used Multivariate linear regression and Multiple multivariate analyses. P value < 0.05 was considered as statistical significance for all analysis.

RESULTS AND DISCSSION

Two hundred and twenty five selected individuals completed the questionnaires. The response rate of this survey was very high; about 98%.The mean age of the overall responders was 22.62(±5.17) years. Approximately, 40.8% of participants were female and54% of participants were married. Among responders. Ninety five percent of them believed that educational course about influenza is necessary and they should pass it to improve their information. The mean score of knowledge, attitude and practices did not differ

significantly among males and females.

Forty five percent of participants used conferences and pamphlets for improving their knowledge about influenza infection, 7.1% used specialized internet resources, and 12.4% unspecialized internet resources. Approximately,16.8%, 31.9%, 27.4% used scholarly journals, public journals, and books, respectively. Media and other resources were allocated 54.9% and 8.9% of answers to themselves.

The majority of the participants (95.4%) were aware that the disease was a viral illness; however, a large number also mistakenly believed that the disease was an immunodeficiency disease (27.6%). Most reported accurate information about the mode of transmission, although 43% stated that sexual contact was a mode of transmission. Most participants (94%) agreed that the symptoms were the same as those of seasonal flu, although 11% of participants assumed that this illness could cause immediate death. The majority of participants were not knowledgeable about the incubation period or the period of communicability (63.5% and 80%, respectively). Nearly one-half (47%) of participants thought that there was a vaccine available for the disease at the time of the survey, though it was not yet available.

Only 38.3% of the participants believed that the government was reporting the real number of cases, while 55.6% believed that there was underreporting of the actual number of deaths. Fig. 1 shows that 44% of all participants had low knowledge about the disease; only 5.2% showed a high level of knowledge, and there was no difference between men and women (X^2= 1.33, p = 0.52).

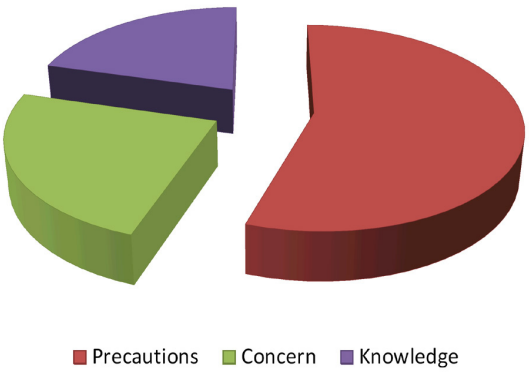

Fig. 1. Levels of knowledge, concern and precautions on swine flu among Academic campus for Girls students, Jazan University

Two public secondary schools for two districts in Kelantan, Malaysia were randomly selected. Data were collected using a self-administered questionnaire. The questionnaire consisted of five constructs: sociodemographic, risk factors of containing influenza A (H1N1) infection, knowledge, attitudes, and practices. The questionnaire had been tested for its construct validity and reliability. General linear regression was applied in the data analysis. A sample of 436 secondary school students were recruited in this study involved Malay students aged 16 years old. The total knowledge, attitudes and practices scores for the overall respondents were 69.4, 82.2, and 73.8%, respectively. Influenza disease is affected approximately 5-15% of global population, annually. This changeable virus is responsible for several pandemic events such as 1947, 1976, 1977, and 2009 pandemics[9,7]. The novel H1N1 virus was detected in 2009 pandemic that was reported in Mexico first and then spreading around the world[2,1]. Formal statistics reports explained that 3,672 known cases of influenza were confirmed from June to December 30, 20091,10. Most of patients presented mild symptoms and their disease was self-limited but some of them presented with severe complications including deaths.

During the epidemic distribution of infection diseases such as influenza, health care workers are responsible for delivering good quality management and treatment. Their knowledge and correct behavior can play an important role in disease spreading among individuals, and also protecting them from illness. Thus, medical and dental students especially residents education about preventive strategies, effective treatment and follow-up is critical, as well as their actions and behaviors in these fields[9,11]. Medical and dental residents and fellowships usually do not have any longtime experiences and therefore they may have a greater risk comparison to other health care workers. Proper knowledge, attitude, and practices are crucial to prevent and control the disease, particularly among residents who has a greater risk of infection[8].

CONCLUSION

The significant influencing factors for the practices of preventive behavior were attended talk on H1N1 and attitudes score. This study suggested that health education is important for promoting the health of adolescents and contributing to the overall health of the public so that they will take precautions against the H1N1 infection. Assessment of students knowledge, attitudes, and practices towards influenza A (H1N1) is crucial as schools play a major role in spreading the infection. The aims of this study were to determine the level of knowledge, attitudes, and practices on influenza A (H1N1) and the factors associated with practices of preventive behavior.A cross sectional study was conducted within Academic campus for Girls students, Jazan University, Saudi Arabia

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