

PERCEPTION AND WILLINGNESS TO OBTAIN INFLUENZA VACCINATION AMONG HEALTHCARE STAFF AND ELDERLY GROUP : A CASE STUDY AT THE PUBLIC HOSPITAL, NAKHONCHAISRI DISTRICT, NAKHONPATHOM PROVINCE

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ABSTRACT: The first cases of influenza A (H1N1) infection was identified in Mexico and the United States, and spread rapidly on a worldwide. The World Health Organization recommended to reducing the chances of developing severe illness including vaccination strategies. The objectives of this study were to identify the major factor influences on willingness to obtain influenza vaccination among healthcare staff and in elderly group. To explore perception about safety and efficacy among health care staff and elderly and to compare the relationship between perceived severity and influenza vaccination among health care staff and elderly.

This study was a cross sectional study and the target populations were healthcare staff of the public hospital and elderly group, in Nakhonchaisri district, Nakhonpathom province. The study was conducted during the period of April – Aug 2011. The research instrument had 2 questionnaire sets, one for healthcare staffs and another for elderly group. The sample size was calculated by using Taro Yamane formula and by using simple random sampling technique study populations were selected. Chi square test was used to analyze for the categorical data and the relationship between demographic and other characteristics of healthcare staff and elderly group and their willingness to receive vaccination were further analyzed by SPSS. Statistical significance was set as $p < 0.05$. The research was approved by college of public health sciences, Chulalongkorn University.

Finding: Most of the respondents (72%) had high level of preventive behavior regarding to influenza. The elderly (44.6%) had moderate level of preventive behavior about influenza. Most of the elderly (58.1%) had low level of knowledge about influenza vaccination. Most of healthcare personal and health care worker had low level of knowledge about influenza vaccination with 63.6% and 41.3% respectively. There were significant between age (p -value = 0.007) and history of influenza vaccination (P -value 0.000) with intended to influenza vaccination.

Most of the subjects concerned about inadequate information about influenza vaccination while most of health care worker concerned about vaccine efficacy. There were significant between perceptions about an Influenza vaccination with intended to influenza vaccination (p -value = 0.003). Therefore, the knowledge about influenza vaccination and vaccine safety should be promoted.

Keywords: Perception, Willingness, Influenza Vaccination, Healthcare Staff, Elderly, Public Hospital

INTRODUCTION

The Ministry of Public Health announced the identifications of two laboratory confirmed cases of influenza A (H1N1) on 12 May, 2009 in Thailand. The two cases were infected in Mexico, they developed fever after arrival in Thailand and had mild symptoms. At the present time the outbreak of influenza A (H1N1) has been ongoing and spreading in worldwide [1]. Currently, Thai Bureau of emerging infectious diseases reported that Influenza like Illness Surveillance in 959 hospitals

of 75 provinces including Bangkok on November 2010. Survey of Influenza cases has been conducted by 789 hospitals (82.27 %). The Kanchanaburi province, Nakhon Pathom province and Nakhon Phanom province have the highest Influenza cases [2]. Department of Disease Control has reported that 2 million doses of influenza A H1N1 vaccine had been distributed in 1,154 public hospitals, 1,029,970 doses for 212 private hospitals and 35,880 doses for pregnant woman in 2009. 76% of participants received influenza vaccine (1.5 million dose). The first of influenza H1N1 vaccination campaign had a low percentage of Thai people intend to receive vaccine [3]. The influenza still

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spreads around the world including in healthcare workers. Vaccination is especially important for people. Centers for Disease Control and Prevention recommended that people at high risk of serious flu complications were young children, pregnant women, and people with chronic health conditions like asthma, diabetes or heart and lung disease and people 65 years and older should get influenza vaccine [4].

In summary, it is concluded that the relationship between perception about vaccine efficacy and vaccine safety refer to their willingness to obtain influenza vaccination among Health care workers.

The study was selected in one of public hospital in Nakhonchaisri district, Nakhonpathom province which was respond to vaccine strategies of the Ministry of Public Health to prevent and control influenza H1N1 and supported influenza vaccine from Ministry of Public Health. Elderly people age more than 55 years who were a one of target group for influenza vaccination in this project. The researcher was interested to compare between healthcare staff (healthcare worker and healthcare personal) and elderly age > 65 years who are living in Kok-Phra-chaedi subdistrict, Nakhonchaisri subdistrict, Nakhonchaisri district, Nakhonpathom province.

METHODS AND MATERIALS

A hospital and community based survey was performed between April to August, 2011 to find Perception and Willingness to Obtain Influenza Vaccination among Healthcare Staff and Elderly Group. The estimated population of this study area was 282 elderly people, 85 healthcare workers and 78 healthcare personal. Taro Yamane formula was used to calculate the sample size from the estimated population. Hence the sample size was found to be 164 (74 elderly, 46 Health care worker and 44 health care personnel). A simple random sampling technique was carried out to select the study populations from the total populations (i.e. 74 elderly out of 282, 46 health care workers out of 85 and 44 health care personnel out of 78). A total of 164 respondents were selected from Public Hospital and community of Nakhonchaisri district, Nakhonpathom province. The ethical approval was taken from College of Public Health Sciences, Chulalongkorn University. Informed and written consent were obtained from respondents. Respondent's autonomy, anonymity and confidentiality were assured and maintained. Health care workers/personnel who were employee in one of public hospital at Nakhonchaisri district and Elderly aged 55 – 70 years old and living in Kok-

Phra-chaedisubdistrict, Nakhonchaisri district, Nakhonprathom province more than 6 months were included in the study where as those works as the part time at respected hospitals and elderly with severe illness were excluded. The study area was selected purposively and study hospitals and participants were selected by using the simple random sampling methods. The data was collected by self administration questionnaire methods. Pretest was done among the 30 participants that gave the Cronbach's alpha If value as > 0.70. The questionnaires were modify from National 2009 H1N1 Flu Survey by The National Immunization Survey [4] adapted to the Thai healthcare workers and elderly on the basis of perception and intention for influenza vaccination. The questionnaire consisted 10 parts namely Demographic, Perception of severity of Influenza disease, Knowledge of influenza, Risk perception of influenza Infection, Perception of preventive behavior, perception of information about influenza disease, knowledge of influenza vaccine, Perception of influenza vaccination, Perception of information about influenza vaccine and Willingness to obtain influenza vaccination. Different cut off point for health care workers and elderly were set according to knowledge and perception.

STATISTICAL ANALYSIS

For the purpose of analysis, the individual scores were summed up to yield a total score. The data were analyzed using the statistical package for social sciences (SPSS version 17). Frequencies mean and standard deviation was calculated for the descriptive statistics. Categorical data (willingness for receiving influenza vaccine and its factors) were analyzed by chi-square test. Statistical significance was set as $p < 0.05$.

RESULTS

1. Demographic

There were 164 participants participated in this study. Most of the elderly (37/76=50%) were in age range from 60-69 year-old. Most of healthcare worker (24/46=52.2%) were in age range from 30-39 year-old; most of healthcare personal (15/44=34.1%) were in age range from 40-49 year-old (Figure 1). Based on marital status, the majority of the elderly (61/76=82.4%) were married. The majority of healthcare worker (23/46=50%) were single. The majority of healthcare personal (27/44=61.4%) were married. Based on education categories, most of the elderly (63/76=87.5%) were graduated primary school. Most of the healthcare worker (28/46=60.9%) obtained bachelor's degree. Most of

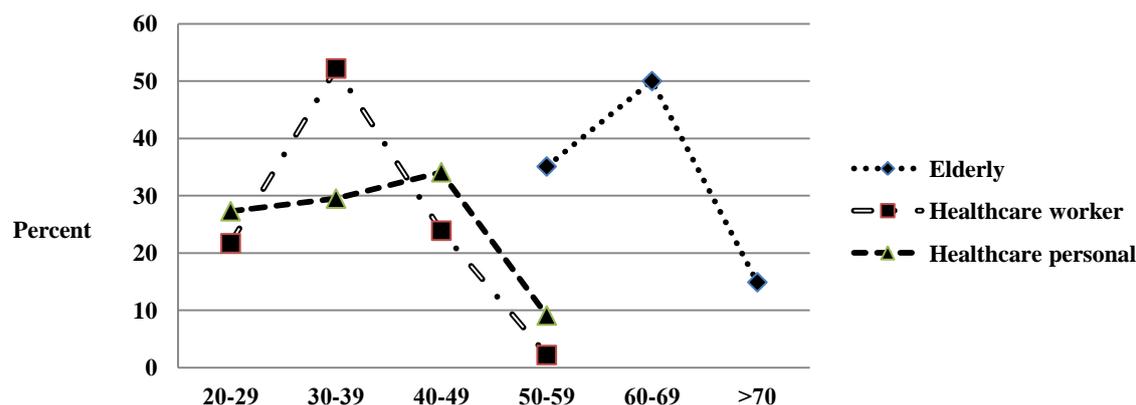


Figure 1 Percentage of the subjects by ages range

healthcare personal (14/44=31.8%) were graduated secondary school. Most of the elderly (34/76=45.9%) had income between 5,001-10,000 bath. Most of healthcare personal (36/44=81.8%) had income between 5,001-10,000 bath whereas most of healthcare workers (16/46=34.8%) had income between 20,001-30,000 bath. Most of the elderly (40/76 =54.1%) had health problems and just a few of healthcare staff faced with health problems. Most of healthcare worker 44/46(95.7%) had been received influenza vaccination. Most of healthcare personal 40/44(90.9%) had been vaccinated from influenza and just a few (16/76=21.9%) of elderly had been vaccinated from influenza. The majority of healthcare staff had work experience range between 1-5 years.

2. Knowledge of Influenza and vaccination

Most of the respondents responded that Influenza vaccine should be receiving every year. Most of healthcare staff responded that person who have egg allergy cannot receive influenza vaccine on the other hand most of the elderly (40/76=90.9%) were not sure about this.

Most of the respondents responded that influenza vaccination may cause fever and aching muscle but it would get well within 1-2 day. None of healthcare workers answered disagree with that. Most of the respondents known that influenza vaccine should be vaccinated annually.

The level of knowledge about Influenza vaccination was generally low among all groups of respondents. The level of perception about influenza situation and knowledge about influenza were generally good among all groups of respondents.

3. Perceptions and awareness about an influenza pandemic and vaccine safety/efficacy

Most of the healthcare staff perceived information about Influenza vaccination. Most of the subjects

agreed with vaccine efficacy. Over half of the subjects perceived about influenza vaccine safety. Most of the elderly (29/76=39.2%) agreed that Influenza vaccine is expensive. Most of the elderly stated that they were not sure to receive influenza vaccine, however they stated that it was comfortable to go to receive vaccine.

The level of perception about influenza situation and knowledge about influenza were generally good among all groups of respondents. The level of perception of preventive behavior regarding to influenza was generally good among all groups of respondents. The level of perception about influenza vaccination was generally good among all groups of respondent.

3.1 Source of information about influenza

Most of the subjects received information about influenza from more than one sources, mostly through television. A few of elderly (2/76=2.7%) didn't receive information about influenza. Source of information about influenza vaccine, most of the healthcare staff received information about influenza vaccine from hospital while over half of elderly received information from television and family/friend.

4. Willingness to obtain influenza vaccination

Most of the healthcare staff was willing to obtain influenza vaccination, rather than elderly with 84% and 63.5% respectively (Figure 2).

4.1 Concerned about influenza vaccination

Reasons for non-uptake were varied; Most of the elderly (13/76=36.1%) had inadequate information about influenza vaccination and believed that they are not high-risk group which should receive Influenza vaccine. However, many of healthcare personal (4/44=9%) had inadequate information about influenza vaccination as well. Most of healthcare worker (3/46=6.5%) concerned about vaccine efficacy (Figure 3).

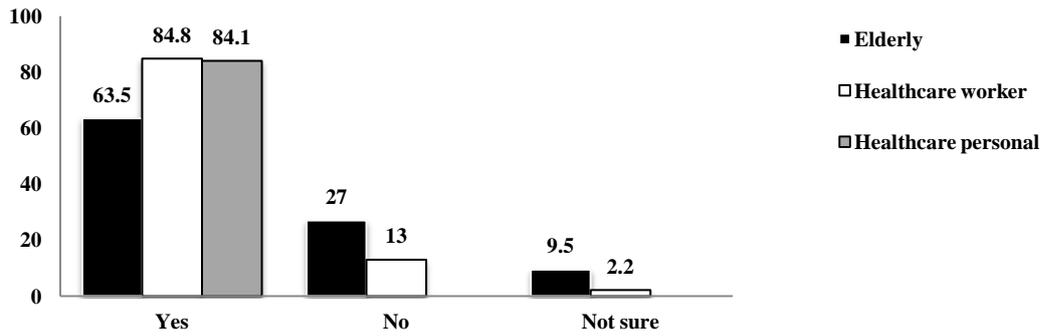


Figure 2 Willingness to obtain influenza vaccination

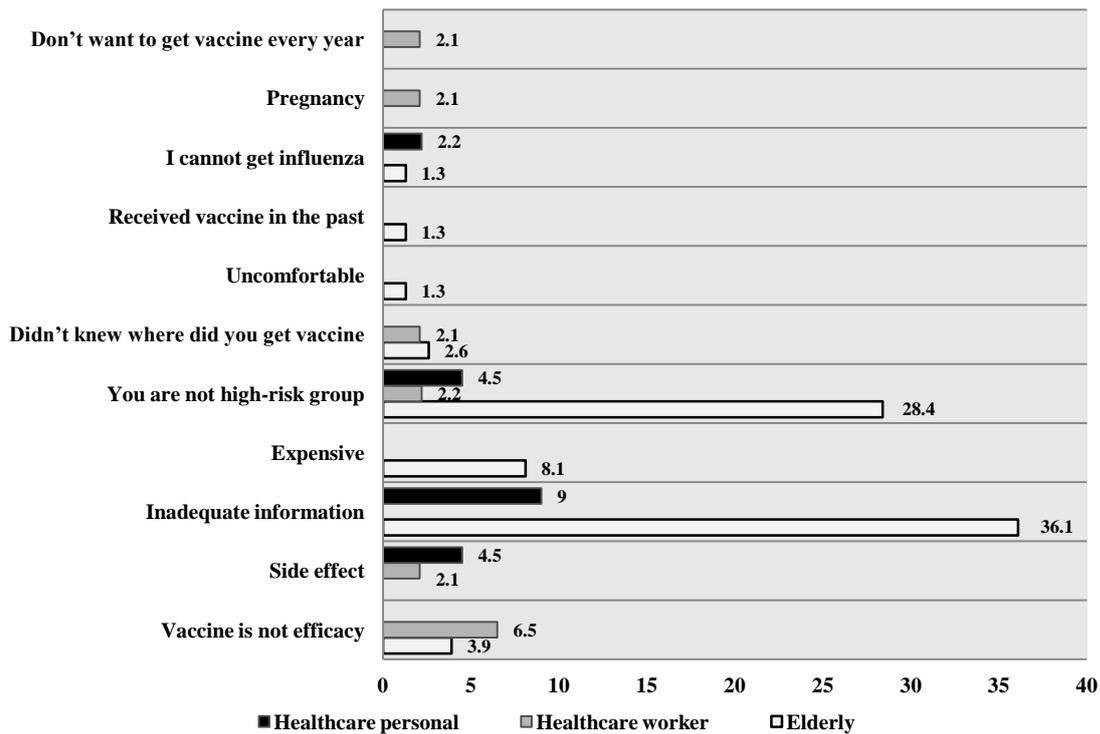


Figure 3 Concerned about influenza vaccination

Table 1 Association between demographic characteristics with willingness to influenza vaccination

Demographic characteristics	Chi square	df	p-value
Age	16.018	5	0.007
Gender	2.173	2	0.337
Marital status	0.929	4	0.920
Work position	65.01	58	0.24
Work experience	23.844	16	0.93
Work department	65.017	58	0.246
Level of education	11.21	14	0.66
Health condition	4.848	2	0.089
Monthly income	6.531	14	0.951
Influenza vaccine (In the past)	22.031	2	<0.001
Influenza vaccine allergy	6.954	4	0.138
Ability to read and write	6.579	6	0.362

Table 2 Association between age with willingness to obtain influenza vaccination

Age (years)	Willingness to obtain influenza vaccination		Total
	Yes	No /Not sure	
< 30	22(84.6%)	4(15.4%)	26(100%)
30-39	26(78.8%)	7(21.2%)	33(100%)
40-49	25(96.1%)	1(0.6%)	26(100%)
50-59	17(54.8%)	14(8.5%)	31(100%)
60-69	25(67.6%)	12(32.4%)	37(100%)
>70	7(63.6%)	4(36.4%)	11(100%)
Total	122(74.4%)	42(25.6%)	164(100%)

Note: n=164, p-value = 0.007, Pearson chi-square = 16.018

Table 3 Association between Influenza vaccination in the past with willingness to obtain influenza vaccination

Influenza vaccination in the past	Willingness to obtain influenza vaccination			Chi square	p-value
	Yes	No	No. (%)		
Yes	86(86)	7(7)	7(7)	22.031	<0.001
No	37(57.8)	23(35.9)	4(6.3)		
Total	123(75)	30(18.3)	11(6.7)		

Table 4 Association between level of perceptions about an Influenza pandemic and Influenza vaccination and preventive behavior with willingness to obtain influenza vaccination

Level of perception	Chi square	df	P- value
Influenza pandemic	6.346	4	0.175
Influenza vaccination	8.683	1	0.003
Preventive behavior	6.203	4	0.184

Table 5 Association between levels of perceptions about Influenza vaccination with willingness to obtain influenza vaccination

Willingness to obtain influenza vaccination	Level of perceptions about Influenza vaccine safety/ efficacy			Total
	Low	Moderate	High	
Yes		22(13.4%)	100(61%)	122(74.4%)
No		17(10.4%)	25(15.2%)	42(25.6%)
Total		39(23.8%)	125(76.2%)	164(100%)

Note: n=164, p-value=0.003, Pearson chi-square = 8.683

5. Association between demographic characteristics with willingness to obtain influenza vaccination

There were highly significant between age and history of influenza vaccine with willingness to obtain influenza vaccination (p -value = 0.007) (Table 1) Their willingness to obtain influenza vaccination had highly significant association with age group <49 year-old (84.6%-96.1%) whereas 67.6% for respondents 50 years of age and older (p -value = 0.007) (Table 2) Their willingness to obtain influenza vaccination had high significant association with experience of Influenza vaccination (p -value = <0.001) (Table 3).

6. Association between level of perceptions about an Influenza pandemic and Influenza vaccination and preventive behavior with willingness to obtain Influenza vaccination

From the distribution in Table 4, there were high significant between perceptions about an Influenza vaccination with willingness to obtain influenza vaccination (p -value = 0.003). Table 5 showed the association between level of perceptions about Influenza vaccination with willingness to obtain influenza vaccination, There was also significant association between high level of perceptions about an Influenza vaccine safety/ efficacy (p -value = 0.003).

DISCUSSION

In this study, most of healthcare worker (24/46=52.2%) ranged from 30-39 years of old whereas elderly (37/76=50%) ranged from 60-69 years old. Most of healthcare personal (15/44=34.1%) were in age range from 40-49 year-old. Their willingness to obtain influenza vaccination

had highly significant association with age group <49 year-old (84.6%-96.1%) whereas 67.6% for respondents 50 years of age and older (p -value = 0.007). Some of them don't want to receive influenza vaccine. The majority of reason for non-uptake was concerned about vaccine efficacy among healthcare worker. Our finding was similar to the study done by Chor [5] which conducted their investigation in Hong Kong and found that the major barriers of healthcare workers were feared of side effects and doubted about efficacy association with willingness to accept pre-pandemic H1N1 vaccine [5]. Most respondents knew that they were eligible for annually influenza vaccine. Almost all of healthcare staff knew that there are side effects of influenza vaccine. Most respondents perceived about vaccine efficacy. Some of them perceived that they not sure about efficacy of vaccine.

There were high significant between perceptions about an Influenza vaccination with willingness to obtain influenza vaccination. Their willingness to obtain influenza vaccination had significant association with perceptions about an Influenza vaccine safety/ efficacy (p -value = 0.003). Most of the respondents believed that Influenza vaccine is efficacy, however, some were not sure. There were significant association between age and history of influenza vaccine. There were significant between age and history of influenza vaccine with intended to influenza vaccination (p -value = 0.007). Their willingness to obtain influenza vaccination had high significant association with Influenza vaccination in the past (p -value= <0.001). The study done among community nurses by Wong [6] found that they have been vaccinated for seasonable influenza in the previous 12 months, and were significant independently associated with their willingness to accept influenza vaccination [6]. This finding was consistent with Maltezou [7], who found that healthcare workers were intended to get vaccine which increased with age, sex, history of vaccination against [7]. Similar result was found in a Spanish University Hospital by Virseda [8], she reported that healthcare workers received of seasonal influenza vaccine was significantly with history of previous seasonal vaccination [8].

CONCLUSION

Among healthcare staff, their working atmosphere always opens up for them to contact to influenza patients. Usually, most of healthcare staff received information about influenza vaccine from hospital while elderly group received information from television and family or friend. Some of them were declined to receive influenza vaccine. The reasons

for not-taking it were varied. Most of healthcare worker concerned about vaccine efficacy. Most of elderly and healthcare personal concerned about inadequate information. Most respondents knew a little information about influenza vaccination. Most of the elderly perceived uncomfortable to obtain influenza vaccination at hospital. Some of elderly concerned about vaccine is expensive. The results of this study suggested that perception and willingness to obtain Influenza vaccination should be preceded and accompanied by public educational program that vaccine efficacy. Available of free vaccination and easiness to access would accelerate the influenza vaccination campaign among elderly and healthcare staff.

This study was done only in the public hospital therefore the findings cannot be generalized to all the healthcare staff and elderly in Thailand. The main reason may be of the fact that people who accepted vaccination were more likely to reply. Also, this may have biased on selection processes, even though the results conceded with some previous investigations.

RECOMMENDATIONS

Healthcare worker should be promoted in preparation for future disease outbreaks as responses to a pandemic are subject to change in its stages. Healthcare worker should be visited and given information with older people at home. People should be encouraging to obtain Influenza vaccination wherever available.

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