Understandings of influenza and influenza vaccination among high-risk urban dwelling Thai adults: a qualitative study

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ABSTRACT

Background The 2004 outbreak of influenza A H5N1 and the WHO's recommendation for national pandemic plans has led the Thai Ministry of Public Health to develop an influenza vaccination programme for high-risk adults. To date there is no available information to guide this intervention, and how to maximize the uptake of the vaccine by the Thai population. To address this knowledge gap, this study explored factors influencing urban-dwelling Thai adults' decisions whether or not to have the vaccine. It explored their beliefs about influenza and influenza vaccination, and other influences on their decisions.

Methods In-depth interviews were conducted among 20 high-risk individuals who were aged 65 and over or under 65 years with chronic diseases requiring influenza vaccination. Interviews were tape recorded and analysed following using grounded theory.

Results Most participants had insufficient knowledge about influenza and influenza vaccination. Their decisions in relation to vaccination were based on a number of factors, including salience of risk, influence of others, perception of the need for preventive health care and the availability of influenza vaccine.

Conclusion These findings underscore the need to consider and understand factors underlying people's vaccination decisions to create an effective influenza vaccination programme.

Keywords health promotion, influenza immunization

Introduction

In response to the WHO1 recommendation that all countries develop influenza preparedness plans and a recent outbreak of influenza resulting in 17 deaths, the Thai government is planning an influenza prevention programme targeting people aged over 65 years with chronic diseases,2 and extending to those under 65 years in the next following years. Data from studies conducted in western countries indicate that decisions whether or not to receive influenza vaccination are complex, and influenced by several medical and psychosocial factors, including its salience and perceived severity,3 the influence of healthcare providers, family members and friends4–6 and the costs and convenience of obtaining the vaccination.7–9 By contrast, factors influencing vaccine uptake in tropical countries such as Thailand, Vietnam and Indonesia have not been studied. Yet, understanding these issues is critical to the development of effective interventions. In order to begin this process, the present study explored beliefs about influenza and influenza vaccination.
vaccination, and other factors likely to influence decisions whether or not to accept the influenza vaccination in a sample of urban-dwelling Thai individuals aged 65 years and over or under 65 years with serious chronic health problems. The findings will inform the development of interventions to encourage uptake of influenza vaccination by such individuals.

**Methods**

**Setting and participants**

This study was approved by the research ethics committee, Chiang Rai province, Thailand. It was conducted in the Muang district, an urban community of Chiang Rai province with a population of 223,936. Chiang Rai is the northern most province of Thailand and has an adult literacy rate of 93%. It, and the northeast province of Thailand, has similar levels of income (around US$1396 per capita per year, compared to Thailand average income of US$3720) and constitutes about 53% of the total Thai population.10 As such, the population of Muang district may be considered representative of the poorer half of the Thai population, and they had typical education. The study population were adults who were either aged 65 and over, or under 65 years with chronic diseases, which indicated that they would benefit from the influenza vaccination (e.g. coronary heart or chronic obstructive pulmonary disease). Potential participants were randomly selected from one health centre’s database. Their medical records were scrutinized to confirm the suitability of participants for interview. Those with severe chronic conditions (i.e. bed bound or acutely ill), severe mental health problems, or communication difficulties were excluded. Letters of introduction were sent to 30 potential participants: 15 letters in each group.

**Interviews**

In-depth interviews were conducted between February and March 2008 in participants’ homes or at a health centre. Written consent was obtained before the interview. A semi-structured schedule guided the interviews. It explored participants’ understandings of influenza and influenza vaccination and factors that may influence their decision whether to accept or decline the influenza vaccination in the forthcoming vaccination period. Interviews lasted between 30 and 60 min, and were tape recorded.

**Data analysis**

The interviews were transcribed in Thai and analysed following grounded theory tradition.11 All transcripts were coded by two researchers to increase reliability, with discrepancies resolved through discussion. After extensive data analysis, the transcripts were translated into English and back translated into Thai by an independent translator. The English version of the transcripts is reported here.

**Findings**

Twenty individuals agreed to participate and were interviewed: 11 aged ≥65 years and 9 aged <65 years with chronic diseases. Their mean age was 64.9 years, with the oldest participant being 75 years old. Participants were predominantly female and most of them had completed primary school, and were therefore typical of old people in Thailand. All participants lived with others. Five participants reported having had influenza diagnosed by a doctor in the past; there were no laboratory-confirmed cases of influenza. Additionally, six participants reported having had one influenza vaccination: four had been offered the vaccine by their physicians and two reported that their daughters, who were nurses, had advised them to be immunized. All paid for the vaccine and its administration (Table 1). In view of these different vaccine histories, the analysis examined any differences between the transcripts of those who had or had not previously sought or received flu vaccination. They only differed in their perception of the salience of risk for influenza and its severity.

**Understanding of influenza and influenza vaccination**

**Knowledge of influenza and influenza vaccination**

Most participants stated they knew little about influenza and did not know how to describe it. A number thought it was associated with the changes of weather, particularly from the rainy to winter season, while only one person stated that influenza was caused by ‘germs’. A few participants with chronic diseases thought that these placed them at increased risk of infection.

> It’s easy for me to catch the flu because my resistance is down. I have lung disease also the changing the weather is a contributing factor. (ID 10)

Most participants confused the symptoms with those of the common cold and other respiratory illnesses.

> When you have flu, you have a fever, sneezing, runny nose with watery secretions during the first few days, then these become thick and dark mucus, and you also feel a headache... flu is more serious than a cold. (ID 20)
Although they considered influenza to be a serious health problem, only a few participants felt that it could cause death.

*It’s possible that Influenza can make elderly people very ill and even cause death because they have weak immune systems.* (ID 4)

*If you are not cured in time, you may die of influenza. However, I haven’t heard of people dying of it.* (ID 8)

Most participants reported that they knew little or nothing about the flu vaccine. A typical comment was:

*I had heard about the vaccine for children. Is there the influenza vaccine for elderly people? Well, I have not heard of it.* (ID 13)

Additionally, some participants had misconceptions about influenza vaccination, believing that it could either prevent them from catching a cold or may weaken their immune system.

*After receiving it [Influenza vaccine], I have not been ill. Previously, if a person who got cold sneezed or coughed toward me, I would certainly catch a cold.* (ID 10)

*In the elderly, immune systems are not as strong as in younger. If I get a flu shot, it may weaken my immune system.* (ID 1)

Most participants were not particularly concerned about any vaccine side effects. They thought that these would be the same as for other vaccines. However, a few felt the need to be reassured that the vaccine was safe.

*A few people may have [concerns about side effects of vaccine]. However, if the vaccine comes from the public health staff, and the information is provided on vaccine safety, these should help lessen the people’s concerns.* (ID 11)

### Source of information

A number of participants reported they had developed influenza at some time in the past. A few others had heard about influenza from others. However, most participants had not been informed about the vaccination by healthcare workers, and only four participants had learned about the vaccine from the mass media,

*[I’ve heard] from elderly people. Now, less people catch it [influenza]. I have rarely heard of someone catching it.* (ID 7)

*They’ve probably heard of influenza for a long time, but they don’t understand it. And I think no one in this community remembers what the disease is.* (ID 9)

**Interviewer:** Have you ever heard about Influenza vaccine from TV?
Mr. Y: No, just influenza
Interviewer: Do you think you've received enough influenza information from TV?
Mr. Y: No, I did not receive any details from it, just got rough information. (ID 4)

The public health staff... gives us a health check-up, but they never mention the influenza vaccine. (ID 13)

**Decision-making in influenza vaccination**

**Salience of risk**

Though most participants held generally positive views on influenza vaccination, decisions about the influenza vaccination were based on their perceived risk of contracting influenza. Some reported they would only seek influenza vaccine if there was a local outbreak of influenza.

Even it is free. If we do not have this kind of epidemic [influenza epidemic] in our community, there is no need to receive the injection. (ID 7)

Yes, I can wait till there actually is [an influenza epidemic]. I can have the injection immediately after the outbreak. (ID 9)

By contrast, those who had previously been vaccinated considered themselves to be at risk of developing influenza and that it would affect them seriously:

I have the underlying disease which is lung disease. ... I should get a flu shot because I could get the flu easily. (ID 4)

I’m afraid of catching the flu at old age. People my age, once get sick, will get worse and need medical treatment at the hospital. I have to protect myself. (ID 14)

**Influence of others**

A number of participants stated that they would ask their children or other people in the community about whether to have the vaccination.

I have to ask my children before that. If they say I should, I’ll receive this injection. If they say no, I will not receive it. ... I’ve to ask them whether or not to have a flu shot, it is necessary. (ID 13)

I will talk with my friends... people of the same age and with the same health condition could help us decide whether to get the flu shot or not. If they decide against it, I do not want to do it either. (ID 7)

In addition, a number of participants with chronic medical conditions reported that their decision would rely heavily on their healthcare providers, regardless of their own views.

I've been healthy for about the last 2–3 years, and I've never caught a cold once. So I think it is not necessary to get the flu shot. But if the doctor advised me to have the vaccine, I’ll do it. (ID 2)

**Availability**

Most participants would consider having the vaccination if it was provided free of charge, and preferred to receive it locally.

No, I do not have any money for a vaccine. I will only do it, if it is free. (ID 17)

They should... [get vaccination]. But what would they do? Elderly people without any income support can only live day by day. (ID 11)

The health centre is fine. It’s near our houses, and it’s not crowded. If it’s the hospital, you have to spend one day because the hospital service is very slow, and my children have to take me there. (ID 18)

**Perception of the need for preventive healthcare**

Some participants with chronic medical conditions reported they would consider getting vaccinated because they were concerned that influenza might exacerbate any illness and would make them feel a burden on other people.

I'm afraid of getting sick. I have asthma. I think that my breathing may become difficult. So I have to protect myself. (ID 16)

I have lung disease. I feel tired when I breathe, my children bring me to the hospital and they lose their income for one day. I think I will get it [influenza vaccine] (ID 3)

By contrast, several participants who considered themselves to be healthy stated that they would not consider getting vaccinated even though they could afford to pay for it.

I’ve never caught it, so I am not afraid of it. I’m healthy because I exercise every day. I’ve a strong immune system. (ID 5)

**Discussion**

**Main findings**

Overall, the study revealed that high-risk Thai adults had low levels of knowledge about influenza and influenza vaccination. Many were unsure about its cause and symptoms,
mode of transmission, seriousness and complications. Few correctly described the symptoms of influenza, while others confused them with the symptoms of the common cold or other respiratory illnesses. These findings may not be specific to this population: only 44% of a US sample was able to describe typical influenza symptoms.12 Consistent with previous findings,13,14 most participants regarded influenza as a relatively serious disease. However, some considered it to be no worse than a ‘bad cold, while very few thought that it could cause death. These beliefs appear to have contributed to a reluctance to seek the vaccine among some individuals.

Most participants knew little or nothing about the influenza vaccination, perhaps because the use of influenza vaccine in Thailand has, until recently, been limited to a restricted group of people such as healthcare workers, pilgrims who attend the Hajj and those who are able to afford for it.15–16 Of note was that side effects following vaccination were not a major concern among our participants, in contrast to some studies that have reported fear of side effects as a significant contributor to decisions not to receive the vaccination.6,8 By contrast, salience of risk did appear to play an important role in decision-making. Many considered were reluctant to be vaccinated as they considered themselves to be healthy and the risk of developing influenza to be low; or stated they would only seek vaccination if there was a local outbreak of influenza. However, most individuals with pre-existing health conditions were likely to seek vaccination to prevent further health complications. Participants’ decisions were also strongly influenced by family members, peers and healthcare providers. This strong social influence is likely to be the result of the close intergenerational ties within Thai families17 and participants’ willingness to accede health decisions to doctors regardless of their own views. Financial barriers also appeared to be an important influence on healthy individuals’ immunization decisions, although participants in poor health were more willing to purchase the vaccine.

Our study clearly demonstrated the complexity of personal decision-making in influenza vaccination, particularly in a culture in which there are significant intergenerational influences on such decisions. The results of this study suggest that national and local flu vaccination programmes should be preceded and accompanied by public educational programmes that emphasize the seriousness of influenza, its complications and the specific merits of vaccination for key target groups (such as high-risk individuals). In Thailand such programmes need to be targeted at both potential recipients and significant others, including younger family members, as these individuals appear to be key social facilitators in encouraging high-risk older people to accept vaccination. Finally, the free provision of vaccination is likely to have a marked impact on uptake.

**What is already known on this topic**

Previous research6,8,9,13 has shown uptake of influenza vaccine to be influenced by factors including its salience and perceived severity,3 the influence of healthcare providers, family members and friends,4–6 and the costs and convenience of obtaining the vaccination.7,5 However, these findings are restricted to western countries, and data is lacking from tropical countries such as Thailand.

**What this study adds**

Our data clearly indicate that providing information on influenza and influenza vaccination to the public will be necessary before and during any vaccination programme. Such a programme should both emphasize the symptoms and the severity of influenza as well as explain why the vaccine should be applied to all high-risk groups. It should also be targeted at younger people who will not have the vaccination themselves, but who may influence the vaccination decisions of their parents and others. Maximizing uptake also appears to be predicated on the vaccine being free and available in local healthcare centres or community organizations as well as more centralized hospitals. Doctors and other healthcare workers should also be prepared and encouraged to discuss vaccination with their patients. Although these suggestions are made in application to high-risk urban-dwelling Thai adults, they could be applied to other countries with tropical climates where large-scale influenza vaccination programmes have yet to be undertaken, with further adjustment for differences among countries.

**Limitations of this study**

The main limitation of this study is its specificity to the population under study. It was conducted in one selected urban community; potentially restricting its implications to high-risk Thai adults living in the Muang district, Chiang Rai, Thailand. Another limitation is that there were 10 potential participants who refused to participate in this study: four felt generally unwell, four did not have enough time for interview and two were not interested. Accordingly, while a good response rate for qualitative research was obtained, it is possible these individuals might have different views on influenza and influenza vaccination from those who participated in the study. Larger, quantitative, studies on representative populations are still necessary to ensure the generalizability of these findings. Despite these cautionary notes, however, our findings provide information relevant to
the development of public health interventions to promote the use of influenza vaccine among high-risk Thai adults.

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