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Perceptions of Hong Kong Chinese women toward influenza vaccination during pregnancy

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ABSTRACT

Introduction: Pregnant women are the highest priority group for seasonal influenza vaccination. However, their vaccination uptake remains suboptimal. The purpose of this study is to explore Hong Kong women's perceptions of the threat of influenza infection during pregnancy, the risks and benefits of influenza vaccination, and their decision-making processes.
Methods: We used a qualitative descriptive design and recruited women who had just given births to a live infant from April to June 2011. Participants were recruited from a large teaching hospital in Hong Kong and were interviewed in the immediate postpartum period.
Results: A total of 32 postpartum women were interviewed, and two had been vaccinated during pregnancy. Following thematic analysis, three themes emerged: perceived risk of influenza infection, perceived risk of influenza vaccine, and decision-making cues. Overall, participants held negative impressions about influenza vaccination during pregnancy, and they underestimated the threat of influenza to themselves and their fetus. They were also confused about the safety and efficacy of the influenza vaccine and the differences between preventive strategies and treatment for influenza. Most participants reported that their health care providers (HCPs) did not offer or recommend vaccination. Because of negative media reports about vaccination, participants were hesitant to receive the vaccine. Motivating forces for vaccine acceptance were a perceived high prevalence of circulating influenza during their pregnancy and HCP recommendations and reassurances that the vaccination was safe, effective, and beneficial for the fetus.
Conclusion: Vaccination promotion strategies need to focus on encouraging HCPs to take the initiative to discuss vaccination with their pregnant clients and provide accurate and unbiased information about the risks of influenza and the benefits of vaccination.

1. Introduction

Influenza is a viral infection that can cause substantial morbidity, mortality, and economic disruption [1]. Pregnant women are especially vulnerable to influenza-related complications. When compared with their non-pregnant peers, pregnant women at all gestational ages have an increased risk of hospitalization and mortality due to influenza infection [2–4]. Influenza vaccine is safe and effective for pregnant women and vaccination during pregnancy also protects newborns in the first six months of life [5]. There is no evidence of pregnancy complications or adverse fetal outcomes from maternal influenza vaccination [6]. Influenza vaccination is essential to reduce the impact of influenza infection among pregnant women, and the World Health Organization (WHO) has identified pregnant women as the highest priority group for seasonal influenza vaccination [7].

Despite scientific evidence on the benefits and safety of influenza vaccination during pregnancy, uptake in this group remains low in most developed countries. A recent review of 45 studies has shown that seasonal influenza vaccination rates ranged from 1.7% to 88.4% and A/H1N1 pandemic vaccination rates ranged from 6.2% to 85.7% [8]. The lowest rates reported were in Hong Kong, where uptake of the A/H1N1 pandemic vaccine among pregnant women was 6.2% [9] and seasonal influenza vaccine was only 1.7% in 2010–2011 [10]. Furthermore, in Hong Kong, infants from 0 to 6 months of age have substantially higher hospital

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admission rates for influenza infection when compared with older children [11].

The issue of influenza vaccination during pregnancy has been investigated largely from a quantitative perspective, primarily through the use of cross-sectional surveys [8]. In comparison, we were able to locate only a small number of qualitative studies [12–19] that have explored pregnant women's perceptions of influenza vaccine during pregnancy. Four studies were conducted in the US [12–14], two in Australia [18,19] and one in Morocco [17], while the other was conducted in Scotland with Scottish and Polish mothers [15]. Furthermore, all but two studies [18,19] were conducted during the A/H1N1 pandemic, which presented different contextual challenges than incorporating routine influenza vaccination into antenatal care. Population-specific research (i.e., Hong Kong Chinese women) about why women chose not to receive the influenza vaccine is minimal, and therefore this study fills an important gap. To effectively target the antenatal Chinese population, a better understanding of the decision-making process in this population, is essential for public health planning. The purpose of this study was to explore pregnant Chinese women's perceptions of the perceived threat of influenza infection, the risks and benefits of influenza vaccination, and their decision-making processes.

2. Methods

2.1. Study design

This study was conducted as a part of a larger multi-center, cross-sectional study aimed at identifying the predictors of influenza vaccine uptake among Hong Kong Chinese pregnant women [10]. Data collection was conducted from April to June 2011. For this component, a qualitative descriptive design was used to provide an in-depth exploration not possible with quantitative research. Interview data were collected by one member of the research team (CY), enhancing the reliability of the data and stability of the process [20]. The focus of the interviews was to encourage the expression of participants' personal views and therefore, we used an emic perspective throughout the data collection process [21].

2.2. Sample

Participants were recruited from a large teaching hospital in Hong Kong. The study hospital was one of eight public hospitals in Hong Kong that provide obstetric services. The hospital has more than 300 births per month. A purposeful sampling strategy was used to obtain a broad selection of participants with a variety of socioeconomic and educational levels in the larger study sample. Participants were recruited using the following criteria: (1) 18 years of age or older, (2) Cantonese speaking, (3) Hong Kong residents, and (4) and recent birth of a live newborn. All participants were pregnant throughout the winter influenza season; thus, vaccination had been recommended. Participants were recruited using a face-to-face invitation and no compensation was provided for their participation. Recruitment continued until saturation was achieved [21].

2.3. Data collection

An author-created semi-structured interview guide with open-ended questions based on the components of the Health Belief Model (HBM) was used to collect the data [22]. Researchers have used the HBM to identify predictors of vaccination in various populations and ethnic groups [23,24] and to qualitatively explore perceptions toward vaccination in various populations [14,25]. A native Cantonese-speaker (CY) conducted the interviews during the participants' postpartum hospitalization. After the completion of each interview, the audio recording was reviewed several times to enable the researcher to fine-tune the interview guide for subsequent interviews. In this way, we were able to expand the depth of the data as the study progressed. Each interview lasted approximately 45 min and was audio-recorded with the participants' written permission.

2.4. Data analysis

To facilitate data analysis, the audio recordings were transcribed verbatim into English and crosschecked for accuracy. We used a 2-step thematic analysis process. First, the research team repeatedly reviewed each transcribed interview and then developed an open code list derived directly from the data to provide a greater opportunity for the participants' voices to drive the analysis [26]. All relevant textual data were coded [20,26,27]. The second level of the analysis grouped the codes thematically using a process of contextualizing codes into conceptually similar and overarching themes [26]. We used a manual data management strategy as this is sufficient when the data set is not overly large and the aim is to 'map out broad categories of information' [28].

Ethical approval was obtained from the Institutional Review Board of the University of Hong Kong/Hong Kong West Cluster and informed written consent was obtained from all participants.

3. Results

A total of 40 new mothers were invited to participate and 32 agreed to be interviewed. Five women refused to participate and three were ineligible because they could not communicate in Cantonese. The characteristics of the participants are presented in Table 1. Most participants were over 30 years of age, and approximately one-third had a university degree. The majority was multiparous and worked full-time during pregnancy. Two (6.3%) participants had received the influenza vaccine during pregnancy. Following data analysis, three overarching themes emerged that captured the perceptions of the participants toward maternal influenza vaccination: perceived risks of influenza infection;

Table 1
Characteristics of the participants.

Demographic variable	Total *N* (%) *N* = 32
Age of mother	
25–29 years	9 (28.1)
30–34 years	11 (34.4)
≥35 years	12 (37.5)
Parity	
Primiparous	19 (59.4)
Multiparous	13 (40.6)
University degree	
No	21 (65.6)
Yes	11 (34.4)
Family income[a]	
Less than median income	6 (18.8)
Median income or greater	26 (81.2)
Worked full-time during pregnancy	
No	11 (34.4)
Yes	21 (65.6)
Received influenza vaccine	
No	30 (93.8)
Yes	2 (6.3)

[a] Median income of sample was $20,000–$24,999 HKD per month (1 USD = 7.78 HKD).