



Short communication

Increasing seasonal influenza vaccination among high risk groups in China: Do community healthcare workers have a role to play?



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ABSTRACT

Background: Seasonal influenza vaccine uptake in China is low. This study aims to assess the role of community healthcare workers (HCWs) in increasing vaccination among high risk groups in China.

Methods: We analyzed data from four knowledge, attitude and practice (KAP) studies on seasonal influenza vaccination in China targeting guardians of young children, pregnant women, adults aged ≥ 60 years, and HCWs from 2012 to 2014.

Results: Thirty-one percent of pregnant women and 78% adults aged ≥ 60 years reported willingness to follow HCWs' recommendations for influenza vaccination. Guardians were more likely to vaccinate their children if they received HCWs' recommendations (35% vs. 17%, $p < 0.001$). Community HCWs were more likely to recommend seasonal influenza vaccination than hospital HCWs (58% vs. 28%, $p < 0.001$).

Conclusion: Study results suggest the value of incorporating community HCWs' recommendation for seasonal influenza vaccination into existing primary public health programs to increase vaccination coverage among high risk groups in China.

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1. Introduction

The World Health Organization and the Chinese Center for Disease Prevention and Control recommend seasonal influenza vaccine for groups at high risk for severe illness and complications from influenza infection, including pregnant women, young children, older adults and adults with chronic diseases [1,2]. In China, vaccine uptake within these groups remains low [3–5]. Numerous factors contribute to low coverage. First, the seasonal influenza vaccine is not included in the national Expanded Program on Immunization (EPI) [6], but is available upon request, most often at cost (10–15 USD). Second, misconceptions about influenza risk and vaccine safety and efficacy are common [7–9]. While inadequate supply may contribute to low vaccine uptake in other countries, in China, from 2004 to 2009, an average of 25% of influenza vaccine was returned to manufacturers unused [10].

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While studies in developed countries have shown that HCWs' recommendations promote seasonal influenza vaccination [11–13], few studies have addressed the HCW's role with respect to vaccination in China [14]. HCWs' willingness to recommend vaccination in China may be influenced by reports of patient mistrust, and patient-on-doctor violence [15,16]. Within this context, our study assessed whether community HCWs, who provide primary public health services [17], have a role in increasing influenza vaccine coverage among high risk groups in China.

2. Methods

From 2012 to 2014, the United States (US) Centers for Disease Control and Prevention supported four knowledge, attitude and practice (KAP) studies on influenza infection and vaccination in China. We analyzed vaccination coverage, factors influencing influenza vaccination, preferred sources for information, whether HCWs recommended vaccination, and willingness to follow HCWs' recommendations.

From October 2012 to January 2013, we conducted two cross-sectional surveys in Suzhou among guardians of children aged

6 months to 3 years at three vaccination clinics, and pregnant women at four prenatal clinics. Trained staff conducted face-to-face interviews using structured questionnaires.

In December 2014, we conducted a cross-sectional survey among adults aged ≥ 60 years at three senior centers in Ningbo. Participants completed self-administered questionnaires, with support from trained study staff.

In November 2013 and May 2014, we conducted two cross-sectional surveys among HCWs in Qingdao, recruiting all HCWs providing direct patient care on investigation days at 10 healthcare institutions. We defined two groups: community HCWs were those who worked at community health centers providing primary health services. Hospital HCWs were those who worked at secondary and tertiary hospitals and focused on curative medicine. Enrolled HCWs completed self-administered questionnaires.

3. Ethics statement

Fudan University, Suzhou CDC, Ningbo CDC and the Health Development Research Center received local IRB approval for their site's survey. All survey participants provided verbal consent.

4. Results

4.1. KAP among guardians of children aged 6 months to 3 years

Among responding guardians, 86/323 (27%) reported receiving a HCW's recommendation for influenza vaccination and 70/317 (22%) reported that their child was vaccinated in the prior year. Guardians who reported receiving a HCW recommendation were more likely to vaccinate their child than those who did not (35% vs. 17%, $p < 0.001$). The main reported reasons for not vaccinating their child were concerns for vaccine safety (62%), not receiving a HCW's recommendation (37%); believing vaccination was unnecessary (25%), and limited vaccine effectiveness (23%). Reported preferences for information about vaccines included television (64%), internet (57%) and educational leaflets (51%).

4.2. KAP among pregnant women

Among 1673 pregnant women interviewed, 4% reported receiving a HCW recommendation for influenza vaccination in the prior year. None reported receiving the vaccine during pregnancy, and

none planned to get vaccinated in the current year. The most common reasons reported for not getting vaccinated included fear of harm to the fetus (83%), vaccine safety for the pregnant woman herself (28%), and believing vaccination was unnecessary (22%). Preferred sources for vaccine information included television (56%), internet (39%), and doctors (34%). Nearly one third (31%) stated they would get vaccinated if they received a HCW's recommendation.

4.3. KAP among adults aged >60 years

Among 379 adults aged ≥ 60 years interviewed, 0.8% reported receiving the influenza vaccine in the prior year. The most common reasons for not getting vaccinated among those who responded ($n = 268$) were vaccination was unnecessary (33%), medical insurance did not pay for influenza vaccination (24%), and HCWs had not recommended vaccination (23%). Among all interviewed, 78% (296/379) reported willingness to get vaccinated if they received a HCW's recommendation. Most (280/379, 74%) reported a preference for receiving health information from HCWs.

4.4. KAP among HCWs

Among 1852 HCWs approached, 1301 (70%) completed both surveys; among these, 17% were community HCWs.

Post-influenza season, 5% HCWs reported receiving influenza vaccination during the prior season. Main reasons for not getting vaccinated included concerns about vaccine safety (43%), perceiving vaccination as unnecessary (27%), having insufficient time for vaccination (24%), and believing the vaccine was ineffective (20%).

HCWs wanted to learn more about influenza disease severity (68%), populations most susceptible to influenza illness (52%), vaccine contraindications (72%), safety (72%) and effectiveness (71%). Preferred sources of information on vaccines included internet (76%), television/radio (75%), newspapers/books (55%), and colleagues (50%).

Among all 1301 HCWs, 8% reported always recommending influenza vaccination to patients during the prior influenza season. Community HCWs were more likely to be vaccinated than hospital HCWs ($P < 0.01$) (Fig. 1), and were also more likely to recommend vaccination to patients at least once in the prior season (58% vs. 28%, $P < 0.001$).

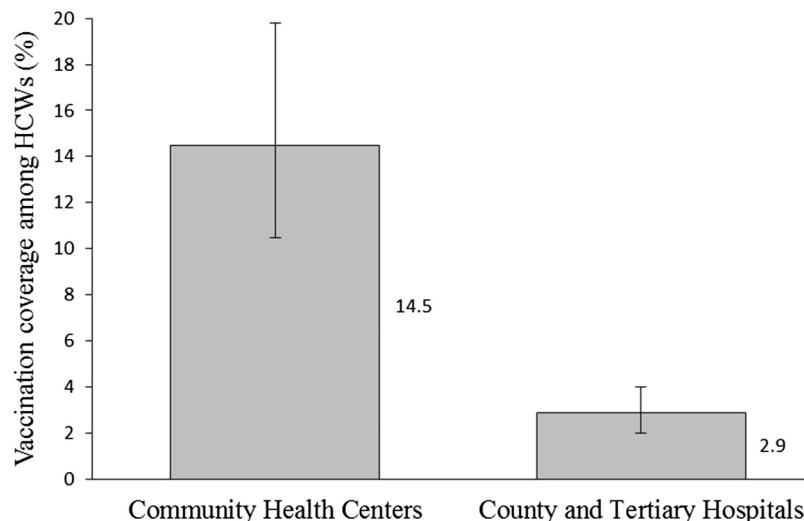


Fig. 1. Proportion of healthcare workers vaccinated for seasonal influenza by hospital level, Qingdao, 2013–14 influenza season.

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