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Preventive behaviours towards influenza A(H1N1)pdm09 and factors associated with the intention to take influenza A(H1N1)pdm09 vaccination

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Summary
Purpose: (i) To determine knowledge of, and self-protecting preventive behaviours towards influenza A(H1N1)pdm09 and (ii) to identify the factors influencing intention to take influenza A(H1N1)pdm09 vaccination among the study population.
Materials and methods: This is a cross-sectional survey carried out in Mantin Town, a semi-urban area of Malaysia. A structured questionnaire consisted of sociodemographic characteristics, knowledge of pandemic influenza symptoms, mode of transmission, self-protecting preventive behaviours, and intention to receive the influenza A(H1N1)pdm09 vaccine was used for face-to-face interviews with the household members.
Results: Of 230 who heard about pandemic influenza A(H1N1), 86% had misconception about mode of transmission of influenza A(H1N1)pdm09, and 52% had sufficient self-protecting behaviours. A majority (58.3%; 134/230) had intended to receive the vaccine. In the multivariate analysis, the intention to get vaccinated was significantly higher among 'those who trusted in efficacy of vaccine for prevention of influenza A(H1N1)pdm09' ($p < 0.001$), 'those who were equipped with higher education level' ($p = 0.015$) and 'those who worry about themselves contracting illness' ($p = 0.008$).
Conclusions: Our findings highlight the need to scale up the community's knowledge regarding influenza A(H1N1)pdm09. Recognizing the factors affecting the

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acceptance of vaccination documented in this study will allow decision makers to devise effective and efficient vaccination strategies.

Introduction

The World Health Organization (WHO) declared an influenza pandemic (pandemic influenza A(H1N1) 2009) on 11 June 2009. Infection with the 2009 pandemic influenza A(H1N1) virus (hereafter influenza A(H1N1)pdm09) causes various clinical manifestations, ranging from a febrile upper respiratory illness to fulminant viral pneumonia [1]. As of 1 August 2010, more than 214 countries and overseas territories or communities have reported laboratory-confirmed cases of influenza A(H1N1)pdm09, including over 18,449 deaths [2]. In Malaysia, the first case was documented on 15 May 2009 [3]. Currently, sporadic cases are still being reported in some countries.

The U.S. Food and Drug Administration (FDA) has approved the use of one dose of vaccine against influenza A(H1N1)pdm09 for persons 10 years of age and older [4]. In Malaysia, at the time of this survey, the influenza A(H1N1)pdm09 vaccine was scheduled for availability at selected public clinics. The single most effective method for controlling a novel viral disease is broad vaccine coverage, but vaccine use is dependent on the perceived risk of infection, the disease severity and the risk from the vaccine itself [5]. According to the health belief model (HBM), the acceptance of an influenza vaccine depends on factors such as individuals' perceptions of their susceptibility to influenza and the severity of the influenza [6]; individuals weighing the costs, benefits, and barriers [7] to accepting a vaccine (i.e., inconvenience, expense, unpleasantness and pain); and cues received from other people's reactions and from recommendations to get vaccinated [6].

On 10 September 2010, the WHO stated that the world is now in the post-pandemic period. However, based on knowledge about past pandemics, influenza A(H1N1)pdm09 is expected to continue circulating as a seasonal virus for many years to come [2]. No one knows when another influenza pandemic will occur or what it will be like [8]. For any infectious disease, the target population's knowledge, perceptions and behaviours concerning the prevention of transmission are crucial factors affecting participation in community-based programs.

The objectives of the current study were (i) to determine the level of knowledge about influenza A(H1N1)pdm09 and self-protecting preventive behaviours for influenza A(H1N1)pdm09 and (ii) to identify the factors associated with the intention to receive the influenza A(H1N1)pdm09 vaccine among the study population.

Materials and methods

Study setting and study design

This study was a cross-sectional survey carried out in Mantin Town, which is a semi-urban area located in the Negeri Sembilan district of Malaysia. At the time of this study, 37,904 people lived in Mantin Town, and the majority was Malay (57.9%), followed by Chinese (25.6%) [9]. One government clinic (Klinik Kesihatan Mantin) serves this population. A sample of 280 households was selected for the present study.

Study tools

A structured questionnaire in English was prepared based on an extensive literature review and consultations with faculty members. The content of the questionnaire was validated through a series of consultations with content experts, including a clinical psychologist and an infectious disease epidemiologist. The questionnaire items were refined during pilot testing and translated from English into the local language. The questionnaire consisted of five domains: (i) sociodemographic characteristics, (ii) knowledge of pandemic influenza symptoms (eight items), (iii) mode of transmission (five items), (iv) self-protecting preventive behaviours (five items), and (v) intention to receive the influenza A(H1N1)pdm09 vaccine.

Face-to-face interviews were conducted using the interviewer-administered questionnaires in February 2010. The households interviewed were