

## RESEARCH COMMUNICATION

# Perceptions and Opinions Regarding Human Papilloma Virus Vaccination Among Young Women in Malaysia

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### Abstract

**Objective:** The objective of this study is to explore the perceptions and opinions of young women about human papilloma virus (HPV) vaccination and associated barriers. **Methodology:** This qualitative in-depth interview study was conducted in January 2010 with 30 university students from different faculties, i.e.: International Medical School (IMS), Faculty of Health and Life Sciences (FHLS), Faculty of Business Management & Professional Studies (FBMP) and Faculty of Information Sciences and Engineering (FISE) of the Management and Science University (MSU), Shah Alam, Malaysia. After consent was obtained from all participants, the interviewer wrote down the conversations during the interview sessions. The data obtained were classified into various categories and analyzed manually. **Results:** The majority of participants 25 (83%) had heard about cervical cancer, while 16 (53.3%) have never heard of HPV. Only five participants (17%) mentioned that HPV is the cause of cervical cancer. Ten participants (33.3%) did not know any causes. The majority 16 (53.3%) did not know the mode of HPV transmission. The majority of participants 22 (73.3%) mentioned that they had not been vaccinated against HPV. Out of 22, 16 (53.3%) agreed to be vaccinated in the future to protect themselves from cervical cancer and five (17%) participants mentioned they are not willing because of the uncertain safety of the available vaccines and their side effects. **Conclusion:** This study showed relatively poor knowledge about HPV and its vaccines, pointing to urgency of educational campaigns aimed at students in the public and government universities to promote HPV vaccination among this highly eligible population.

**Keywords:** Perceptions - HPV vaccination - young women - Malaysia

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### Introduction

Cervical cancer is the second most common cancer among women worldwide. Approximately half a million will develop cervical cancer annually worldwide and more than 250,000 will die from it (Parkin et al., 2005; Cutts et al., 2007). The role of human papillomavirus (HPV) is well known as a cause of cervical cancer (Peckham et al., 1995; Walboomers et al., 1999; Lowndes CM, Gill 2005; Munoz et al., 2006). There are around twenty types of HPV that can cause cervical cancer in women; four of which are accountable for most the cases. Type 16 causes about 50% of cervical cancer; Type 18 causes another 20%, while Types 31 and 45 together causes another 15% of cervical cancer cases (Bosch et al., 1995; Peckham et al., 1995; Lowndes, Gill 2005).

HPV vaccine has been developed by two pharmaceutical companies: Glaxo-SmithKline which produces Cervarix and Merck which produces Gardasil (Walsh et al., 2008). Both vaccines have undergone phase III trials, and were approved for use in the United States of America in 2006. The Merck vaccine was also approved for use in the United Kingdom in 2006 (Koutsky et al., 2002; Poland et al.,

2005; Lehtinen et al., 2006; Food and Drug Administration FDA, 2006; Lo, 2006; Coombes, 2007). HPV vaccine is 100% effective in preventing cervical intraepithelial neoplasia (CIN) 2 and 3 development due to HPV-16 and 18 (Harper et al., 2004; Villa et al., 2005; Harper et al., 2006). This suggests that HPV vaccine would be of great value in preventing cervical cancer. In June 2006, the use of a quadrivalent HPV (types 6, 11, 16 and 18) vaccine for females aged 9 to 26 years to prevent cervical cancer was approved by the Food and Drug Administration of the United States.

A large number of European countries as well as the United States of America, Australia and New Zealand have recommended to include HPV vaccine in school vaccination programs for young adolescent girls, often coupled with a catch-up program for older teenage girls (Markowitz et al., 2007; The Norwegian Institute of Public Health). In Sweden, the vaccine for girls aged between 13-17 years is currently subsidized by around 50% by the Swedish pharmaceutical reimbursement system.

Although 50-80% of parents supported the HPV vaccination, many parents thought that the decision to be vaccinated should be made jointly with the child (Brabin et

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al., 2006; Chan et al., 2007). It is expected that adolescents would be involved in the decision of their vaccination. The Advisory Committee on Immunization Practices recommends HPV vaccination for females 11-12 years of age and may be administered as early as 9 years of age, with catch-up vaccinations for females of the ages 13-26 years old (Markowitz et al., 2007).

In Malaysia, cervical cancer is the second most common cancer in women. HPV-16 and 18 are estimated to account for 88% of cervical carcinomas in Malaysian women (Cheah, 1994). In Malaysia, prophylactic HPV vaccination is recommended for routine use in girls aged between 11-12 years of age, and permissive use for females between the ages 9-26 years. The first vaccine for cervical cancer was approved in Malaysia in November 2006 (Wong, 2010). The administration cost (actual cost of the HPV vaccine plus vaccine administration cost) is approximately RM 400 (US \$114) per dose. School-based immunization programs in Malaysia provide several free basic immunizations such as diphtheria-pertussis-tetanus (DPT), Bacille Calmette-Guérin (BCG), oral poliovirus vaccine (OPV), tetanus toxoid, and measles-mumps-rubella (MMR). Additionally the current programs have added the new HPV vaccines free for girls' age 13 years old only. However, there is no HPV immunization program to cover all the target ages of school children.

The vaccine should be given prior to sexual debut so as to maximize the benefits derived from the vaccine. Even though HPV vaccination is recommended, there are challenges in implementing the vaccine and increasing the vaccine's uptake. Young women are the targeted group for HPV vaccination to prevent cervical cancer. Exploring the perceptions of young women towards HPV vaccine is therefore very important. This study aims to explore the perceptions and opinions of young women towards HPV vaccination. A better understanding of their perceptions and opinions regarding HPV infection and vaccination will assist in the development of more effective immunization strategies in Malaysia.

## Materials and Methods

This qualitative in-depth interview study was conducted in January 2010 among 30 female students from different faculties, i.e.: International Medical School (IMS), Faculty of Health and Life Sciences (FHLS), Faculty of Business Management & Professional Studies (FBMP) and Faculty of Information Sciences & Engineering (FISE) of the Management and Science

University (MSU), Shah Alam, Malaysia. A purpose sampling was used to conduct this study. Consent was obtained from all participants and the interviews were conducted in class rooms, at students' center hostel and at MSU's Student House. The interviewer wrote down the conversations during the interview sessions. The main issues discussed in the in-depth interviews were their knowledge about HPV, its mode of transmission, the causes of cervical cancer, whether participants have been vaccinated against HPV, and the reasons of not being vaccinated (Table 1). The data obtained were classified into various categories and analyzed manually.

## Results

The participants were 30 female university students, their ages ranged from 19 to 26 years old. The majority were 22 years or younger. Half of the students were Malays 15 (50%), followed by Indian 7 (23%), and then Chinese 6 (20%). Most students were single 24 (80%) and were from urban areas 18 (60%) (Table 2).

The majority of participants 25 (83%) have heard about cervical cancer, however five of them (17%) never had.

*"Yes I heard about it and it is one of the most common types of cancer among women."* (Malay, IMS, rural)

The majority of participants 22 (73%) mentioned that they do not have any family history of cervical cancer. Eight of them (27%) mentioned that they have a family history of cervical cancer. Some of them mentioned that their grandmother and cousins had cervical cancer.

*"I think the cause of cervical cancer is the kissing."* (Chinese, FBMP, rural) *"The main cause of cervical cancer is bacteria."* (Malay, FHLS, urban).

The majority of participants 16 (53.3%) have never heard about HPV. Fourteen of them (47%) have heard about HPV.

*"Yes, I heard about HPV; it is human papilloma virus which causes cervical cancer among women."* (Malay, BMS, rural)

Regarding HPV transmission, the majority of participants 16 (53.3%) did not know the modes of HPV transmission. Twelve of them (40%) mentioned that sexual intercourse is the mode of HPV transmission. One participant mentioned that kissing is the mode of HPV transmission and another participant mentioned that skin contact is the mode of HPV transmission.

**Table 1. Content of the In-Depth Interview**

| Issue                             | Questions  |
|-----------------------------------|--|
| Knowledge of cervical cancer      | Have you heard about cervical cancer?              |
| Family history of cervical cancer | Do you have any family history of cervical cancer? |
| Causes of cervical cancer         | What are the causes of cervical cancer?            |
| Knowledge about HPV               | Have you ever heard about HPV?                     |
| Mode of transmission              | How HPV can be transmitted?                        |
| Knowledge about HPV vaccine       | Have you heard about HPV vaccine?                  |
| Practice of HPV vaccine           | Have you been vaccinated before?                   |
| Attitude towards HPV vaccine      | Do you agree to be vaccinated in the future, Why?  |
| Prevention                        | In your opinion, how can we prevent HPV?           |

**Table 2. Socio-Demographic Characteristics of the Study Participants**

| Variable       | Number | Percentage (%) |
|----------------|--------|----------------|
| Age            |        |                |
| <=22           | 16     | 53             |
| >22            | 14     | 47             |
| Race           |        |                |
| Malay          | 15     | 50             |
| Chinese        | 6      | 20             |
| Indian         | 7      | 23             |
| Others         | 7      | 7              |
| Marital Status |        |                |
| Single         | 24     | 80             |
| Married        | 6      | 20             |
| Residency      |        |                |
| Rural          | 12     | 40             |
| Urban          | 18     | 60             |

*“The mode of transmission is by kissing” (Chinese, BMS, urban)*

The majority of participants 22 (73.3%) mentioned that they have not been vaccinated against HPV. Out of 22, 16 (53.3%) agreed to be vaccinated in the future to protect themselves from cervical cancer and five (17%) mentioned they are not willing to be vaccinated in the future because of the unknown safety of the vaccine and its side effects. Only eight participants (27%) mentioned that they have been vaccinated against HPV.

Four participants (13.3%) did not know how to prevent getting HPV infection. Twenty six (87%) participants mentioned a variety of prevention methods; Only 6 (20%) participants mentioned that vaccination is the preventive method against HPV, 5 (17%) mentioned that sex with husband only is the preventive method against HPV, 6 (20%) mentioned that lifestyle changes is the preventive method, Six (20%) participants mentioned that improved knowledge, awareness and educational campaigns are preventive methods against HPV. One participant mentioned that not smoking is a preventive method against HPV, and one participant mentioned that avoiding kissing is the preventive method against HPV.

## Discussion

In this study, in spite of the majority of participants have never heard about HPV, they showed a good attitude where 53.3% of them agreed to be vaccinated in the future to protect themselves from cervical cancer. Similar findings from Vietnam reported that over 90% of mothers in Vietnam were in favor of their daughters receiving the vaccine although only 1% had previous awareness of the possibility of vaccination (Dinh et al., 2007).

In this study, the majority of participants has never heard about HPV and did not know that HPV might lead to cervical cancer. Similar findings reported showed that adolescent girls often lack the knowledge on HPV and HPV vaccine and only a minority acknowledged that HPV might lead to cervical cancer (Hoover et al., 2000; Moreira et al., 2006). The result of this study supported previous studies that showed that knowledge of HPV was generally low among women in the general public

(Waller et al., 2004; Marlow et al., 2007; Marshall et al., 2007). This study also indicated that young women need more information to be aware of the importance of HPV vaccination and its preventive benefits. Educational campaigns about HPV vaccine among university students are definitely warranted. Similar findings reported that awareness of HPV infection and the HPV vaccine was low among young women (Giles and Garland, 2006; Moreira et al., 2006; Donders et al., 2008; Vanslyke et al., 2008). Our results are similar to previous studies that have suggested knowledge deficits about HPV among university students (Vail-Smith White 1992; Ramirez et al., 1997). Other studies also found a low knowledge of HPV among women in United States of America (Horn et al., 1996; Najem et al. 1996; Biro et al., 1997; Burak and Meyer, 1997; Masad et al., 1997; Ramirez et al., 1997). Universities need to play a major role in this education.

In this study, participants mentioned that they are not willing to be vaccinated in the future because of the uncertain safety of the vaccine and its side effects. Similar findings from other studies (Zimet et al., 2000; Mays et al., 2004; Dempsey et al., 2006) reported that parents were less likely to favor vaccinating children of a younger age. Their major concern for child vaccination was the safety, efficacy, and possible long-term side effects of the vaccine considering that it is a relatively new vaccine and the recommendations for children at a vulnerable young age. Similar studies showed that the common barriers to the uptake of the HPV vaccine were concerns about its safety and efficacy of the vaccine and the lack of information about the disease and the role of the vaccine (Hoover et al. 2000; Zimet et al. 2000; Kahn et al., 2003; McClelland and Liamputtong 2006; Hopenhayn et al., 2007; Lee et al., 2007). Similar findings reported among Malaysian women that the majority refused HPV vaccination due to worry about the safety and efficacy of the vaccine. This suggests the need for strong promotion of HPV vaccine and should focus on the vaccine safety and efficacy during these campaigns.

In terms of prevention, participants mentioned that improved knowledge, awareness and educational campaigns are preventive methods against HPV. Similar studies showed that simple information pamphlets improved the knowledge of the study population, and their intention to receive HPV vaccination rose to 69% after reading the pamphlet. The use of a one-page information pamphlet has led to an increase in parental acceptance of HPV vaccine (Davis et al., 2004; Chan et al., 2007). Chan and others reported that distribution of leaflets has been shown to significantly increase the acceptance of HPV vaccination (Chan et al., 2007).

The current study reported that 53.3% of female university students are interested in receiving the HPV vaccine. The intention to receive the vaccine in this study was relatively low compared to other studies in different countries which ranged between 61% and 81.7% (Di Giuseppe et al., 2008; Gerend and Magloire, 2008; Lenselink et al., 2008). This may be due to fact that the vaccine is relatively new, is still quite expensive at RM 400 per dose, especially since it needs a three-dose injection schedule at zero, two and six months and the

public still worries about its safety and its side effects. In the coming decades, acceptance of the vaccine hopefully will be higher among the university students and general population. Caution must be exercised when drawing conclusions based on the small sample assessed in this study. Owing to the qualitative nature of the study, causal inference cannot be established. Although the sample size is relatively small, this qualitative study provides preliminary information on young Malaysian women's views on and towards their acceptance of the HPV vaccine. In conclusion this study showed poor knowledge about HPV, its mode of the transmission, the effectiveness of the vaccine and the safety of HPV vaccine. This study also showed that the majority of participants mentioned that they have not been vaccinated against HPV. These point to the urgency for more widespread educational campaigns among university students and possibly the wider population to promote the benefits and safety of the HPV vaccine, as well as a significant reduction in the per dose price, to make it much more affordable to the general population.

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