



Short communication

Vaccinating against HPV: Physicians' and medical students' point of view

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ABSTRACT

The present survey was conducted among medical students and physicians affiliated to the Federal University of Paraná, Curitiba, Brazil, between August 2006 and December 2007. 252 individuals responded to a questionnaire composed of 13 items regarding their individual status and their personal knowledge of the HPV vaccine properties. The data analysis that was carried out using chi-square test showed that 79.7% of the interviewed population would indicate the vaccine, and mostly, to girls aged 10–15 years old. While vaccine effectiveness and prophylaxis appeared to have been adequately understood, some of its properties such as safety and immunity duration still need further elucidation.

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1. Introduction

Human papillomavirus (HPV) infection is one of the most prevalent sexually transmissible diseases (STD) [1–4] and is thought to affect 30–50% of the sexually active young women [5,6]. While HPV low risk types, including 6 and 11, can cause genital warts, the high-risk ones, as are types 16 and 18, answer for about 70% of cervical cancer cases [7–9].

Due to all expenses involved in treating cervical cancer, and the lack of access to Papanicolaou test in many localities, and also because the use of condom does not totally eliminate the risk of HPV transmission [10], the development of a prophylactic vaccine against HPV was of utmost clinical importance.

Two vaccines were developed and launched for primary prevention of HPV and both have shown a high degree of effectiveness: (a) Gardasil® [11–13] which focuses on the prevention of cervical cancer caused by HPV types 6, 11, 16, and 18 and of genital warts and (b) Cervarix® [14,15] exclusively directed to prevent cervical cancer induced by HPV types 16 and 18. These vaccines were developed from the major capsid protein, the L1 protein, formulating a virus-like particle (VLP) with immunogenic properties and

are not infectious because they do not contain genetic material [16].

Research has been carried out with the objective of verifying the level of vaccine acceptance among the receivers (adolescents), their legal responsible (parents) and the health professional who would recommend it. Studies demonstrated that cost, medical indication, security of vaccine and number of sexual partners were factors that greatly influenced the acceptance of vaccination among adolescents [17,18]. From the parents' point of view, knowledge on HPV vaccine benefits, history of two or more sexual partners [19], and recommendation by physicians [20] appeared as relevant factors. Results of these studies indicate that health professional recommendation can encourage participation in HPV vaccination programs.

It has to be highlighted that having Gardasil® (the quadrivalent vaccine against HPV types 6, 11, 16 and 18) initially been licensed in the United States and as Cervarix® had not yet been approved in that country by the time this survey was concluded, it is not surprising that all studies showed a high tendency for recommending the former. Recommendation unanimously targeted at female young adults [21,22].

The effectiveness of vaccination programs against HPV will essentially depend on how health professionals have been oriented. Moreover, determining the adequate age of application and recipients gender will substantially increase the effectiveness of the prophylaxis. This study has the primary objective of evaluating physicians' and medical students' acceptability and knowledge of the HPV vaccine.

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2. Materials and methods

We designed a questionnaire containing 13 questions regarding the vaccine, 5 of which assessed personal information of the interviewed individuals, with the objective of identifying cultural differences in the answers. The following items were approached in the other section: intention to prescribe the vaccine, to what age, gender, and common knowledge regarding HPV vaccination.

The questions were inspired from relevant issues on the vaccine described in other papers [16–22]. Questionnaires were completed between August 2006 and December 2007 after the approval of the Research Ethics Committee on Human Beings of the Clinics Hospital, Federal University of Paraná (UFPR), on June 29, 2006.

The questionnaire was handed out to doctors and medical students out of the internship at the Medical School from the UFPR, and students attending the internship. Copies were distributed during congresses, classes, and via Brazilian gynecology journals.

Results were classified so as to evaluate possible differences between students who had had more medical practice and those who were in an earlier phase of the course, and between the three categories of physicians: obstetrics/gynecologists (ObGyn), pediatricians, and doctors from other areas. The analysis was carried out using chi-square test after tabulating the results in Microsoft Office Excel.

The authors excluded the question “would you rather prescribe the bivalent HPV vaccine against types 16 and 18 or the quadrivalent against types 6, 11, 16 and 18?” because, as mentioned above, until the end of questionnaire distribution (in December of 2007) only the quadrivalent vaccine had been approved for commercialization in Brazil.

3. Results

Four hundred questionnaires were distributed and 252 answers were obtained from medical students (49.2%) and medical doctors (50.8%). In order to maintain homogeneity in the sample, an equivalent number of questionnaires answered by males and females between 20 and 30 years old were analyzed. Table 1 shows the characteristics of the interviewed individuals and Table 2 details the percentages of answers given to each of the topics on acceptability and knowledge regarding the vaccine.

3.1. Prescription, age, gender

79.7% of the interviewed subjects declared they would prescribe the vaccine against 20.3% who stated they would not or did not know if they would. The comparison between groups was not statistically significant.

While the majority (55.1%) would indicate the vaccine between 10 and 15 years, 20.5% would prescribe it between 15 and 18 years, 14.1% to minors younger than 10 years of age, and 10.3% to adolescents older than 18. Comparing groups, there was significant difference ($p < 0.05$) between the opinion of gynecologists and other physicians, with a higher indication of gynecologists to adolescents between 15 and 18 years compared to other doctors. Males showed a higher tendency to prescribe the vaccine to pre-adolescents, younger than 10 years of age ($p < 0.01$) compared to females.

After considering costs and benefits, opinions seemed evenly divided as regards receivers gender and 51.2% answered that girls should be vaccinated, followed by individuals of both genders (47.95%), without significant difference between the evaluated groups.

Table 1

Characteristics of the interviewed subjects (results in percentages).

	%
Gender	
Female	51.8
Male	48.2
Age (in years)	
20–30	68.9
31–40	11.2
>40	19.5
Profession	
Students	49.2
Physicians	
Gynecologists/obstetrics (GO)	21.8
Pediatricians	17.5
Other doctors	11.5
Years after graduation from medical school (for doctors)	
1–10 years	47.9
11–20 years	19.8
>20 years	31.4
Marital status	
Single	69
Married	26.1
Others	4
Religion	
Catholic	63.3
Others	36.7

Should parents be involved in the decision of vaccinating their children? 42.9% of our interviewed would consult with the parents before administering the vaccine to children younger than 18 years old, 28.6% would not consult them, and 25.3% would always consult the parents, regardless of the children's age. We also observed a higher tendency among the students not to consider the parents' opinion compared to the doctors ($p < 0.005$) with a significant predominance of students at a later stage of the medical course compared to other groups ($p < 0.025$). Furthermore, males stated more frequently they would seek parents opinion regarding the decision of vaccinating against HPV compared to the interviewed females ($p < 0.005$).

3.2. Lasting immunity and side effects

Even if no statistical difference was recorded between groups, most of the interviewed (64.6%) believe that the HPV vaccine provides lasting immunity while 12.2% remain skeptical.

Opposing views were reported regarding possible adverse effects related to the vaccine. While almost 30% of the interviewed seemed not to have any opinion formed, doctors were more willing to believe that the vaccine will not cause undesired adverse effects than students ($p < 0.05$), with a predominance of pediatricians in the first group ($p < 0.025$).

3.3. STDs and undesired pregnancies

Almost 80% of the interviewed subjects believe that adolescents could receive other vaccines at the same medical consultation and the great majority (93.9%) agreed that it would offer a good opportunity to discuss STD/AIDS and undesired pregnancies, without significant difference between groups.

Among our survey population, physicians were more inclined to believe that the use of condom will not diminish after vaccination and that annual cervical cancer screenings will be maintained compared with students ($p < 0.05$).

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