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Research Article

Awareness and Attitude of Pediatricians towards Human Papilloma Virus Vaccinations in Poland

Sypień P[1], Marek W[2] and Zielonka TM[3]*

[1]Department of Cardiology, Medical University of Warsaw, Poland

[2]Department of Cardiology, Medical University of Warsaw, Poland

[3]Department of Family Medicine, Medical University of Warsaw, Poland

***Corresponding author:** Tadeusz M Zielonka, Department of Family Medicine, Warsaw Medical University, Lindleya Street 4, 02-005 Warsaw, Poland

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Abstract

Aim: The HPV vaccination ratio is lower in Poland in comparison to other European countries, although the prevalence of cervical cancers is higher. Reasons for this are not clear, especially concerning pediatricians' attitude towards HPV vaccinations. The study objective was to evaluate Polish pediatricians' awareness, knowledge and attitude to HPV vaccinations.

Methods: An anonymous and voluntary survey study was performed among 442 Polish pediatricians to check attitude and knowledge about HPV vaccinations.

Results: About 70% of participants declared to recommend HPV vaccine, however the majority of them advise it only a few times a year. The main reasons for non-recommendation were high vaccination costs and shortage of time at work. Frequency of providing information correlates with accessibility to educational materials in the work place ($p<0.001$), working experience of more than 5 years ($p<0.001$) and performing influenza self-vaccination regularly ($p<0.001$). Pediatricians with evaluated good knowledge about HPV vaccines eagerly consider vaccination status as compulsory ($p=0.005$). The majority of participants claim that vaccination should be recommended and reimbursed, according to 33% it should be compulsory.

Conclusions: Attitude regarding HPV vaccination is positive among pediatricians in Poland, particularly among who perform their own vaccination against flu. Educational materials play essential role in promotion of vaccinations. Pediatricians are for recommend financial support but not necessarily changing the vaccination status to compulsory.

Keywords: Attitudes; Human papillomavirus; Knowledge; Pediatricians; Prophylaxis

Introduction

Human Papilloma Virus (HPV) is the most frequently sexually transmitted infection with around 660 million infected people [1]. This infection is a crucial factor for pre-invasive and invasive genital cancer development [2]. Introduction of HPV vaccines allowed to decrease the rate of virus infections and HPV related diseases [3]. Since 2012 around 40 countries have approved and initiated HPV vaccination as a part of an obligatory national immunization program [4]. The vaccination against HPV in Poland is also recommended but not financed by the Ministry of Health, while the prevalence of cervical cancer in Poland is 15% higher than the average for European Union countries [5].

According to UNICEF statistics, in 2015 only 30 511 people were vaccinated against HPV in Poland [6]. High costs of vaccine and low public awareness about HPV related diseases are perceived as a first barrier in the popularization of HPV vaccination [7]. The negative aspect concerning youth sexuality and sex education are particularly highlighted in public discussions about HPV vaccines. Essential role in health promotion play medical care representatives.

The study objective was to evaluate Polish pediatricians' awareness, knowledge and attitude to HPV vaccinations.

Materials and Methods

A cross sectional, voluntary and anonymous study was performed between February 2018 and September 2018 among pediatricians and doctors during residency in Pediatrics. The study was carried out among 442 doctors at selected hospitals and outpatient clinics in Warsaw, Tarnow and participants in national medical conferences for Polish pediatricians (Table 1).

A structured one and multi choice questionnaire was used as the main tool for data collection. Questions referred to socio-demographic and professional experience data, doctors knowledges, attitudes and personal experiences with vaccination.

The results were presented categorical data as frequencies with percentages. The chi square test was used to compare two groups of categorical variables; p values < 0.05 were considered as statistically significant.

Results

Frequency of recommendation

Over two-thirds of pediatricians (69.7%) declared that they recommend HPV vaccine to their patients. Recommendations varied from a few times per year (30.2%), to less than once per

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Table 1: Population characteristic of participants.

Characteristics	Category	Number	(%)
Gender	Female	376	(85.1)
	Male	66	(14.9)
Origin	rural area	28	(6.3)
	town less than 100 000 habitants	171	(38.7)
	city 100 000–500 000 habitants	94	(21.3)
	city over 500 000 habitants	139	(31.5)
	lack of answer	10	(2.3)
Working place	rural area	18	(4.1)
	rural area and town	13	(2.9)
	town less than 100 000 habitants	121	(27.4)
	city 100 000–500 000 habitants	94	(21.2)
	city over 500 000 habitants	189	(42.8)
	lack of answer	7	(1.6)
Working experience	less than 5 years	81	(18.3)
	5(20 years	108	(24.3)
	20(35 years	184	(41.6)
	over 35 years	65	(14.8)
	lack of answer	4	(1)
Working place	only outpatient clinic	214	(48.4)
	only hospital	134	(30.3)
	both hospital and outpatient clinic	91	(20.6)
	lack of answer	3	(0.7)
	clinical hospital	113	(25.6)
	district hospital	65	(14.7)
	city hospital	50	(11.3)
	specialist outpatient clinic	60	(13.6)
	general practitioners	240	(54.3)
	private services	79	(17.9)
	lack of answer	3	(0.7)

year (21%), a few times per month (10.9%) and a few times weekly (2.9%). Pediatricians differed with the reasons for HPV vaccine recommendation (Figure 1).

Thirty percent of participants do not recommend HPV vaccine. Among suggested reasons, the high cost of HPV vaccine was the most common (24.7%) followed by the vaccine's side effects (8.1%), lack of confirmation of vaccine effectiveness (7.2%), this vaccine is against my own belief (2.2%), and this vaccine could increase sexual activity among youth (1.8%). There was only one participant who declared being against vaccinations in general. Half of respondents gave additional answers, indicating a lack of time at work and not working with relevant group of patients to recommend this vaccination.

Providing information

The vast majority of doctors (80%) provide information about HPV vaccination to the patients and parents. The correlation between providing information and work experience of more than 5 years (87.7% *vs.* 46.9%, p<0.001) and also working in out-patients clinics

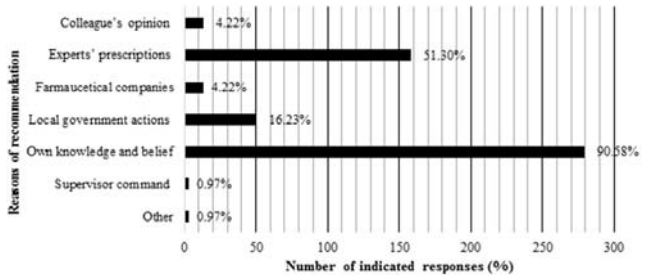

Figure 1: Reasons of HPV vaccines recommendation (n=308).

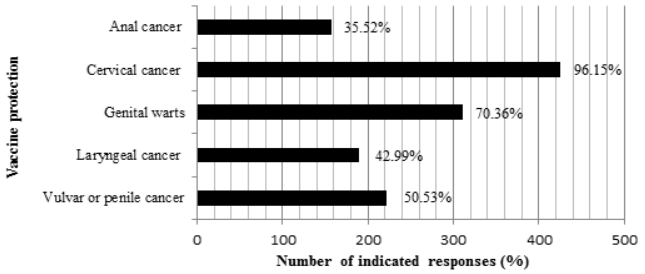

Figure 2: Participants' knowledge about HPV vaccine protection.

(94.8 *vs.* 47.5%, p<0.001) was demonstrated. The majority of them (61%) declared their own initiative, 30% followed by parental and 10% by adolescents' interest in HPV vaccination. Over half of respondents (58.6%) declared acquaintance with the single dose vaccination price. This knowledge correlated with doctors willingness to recommend HPV vaccine (82.6% *vs* 51.4%; p<0.001). Half of responders indicated availability of educational materials about HPV vaccination in the work place. These doctors more often inform about HPV vaccinations (57.6% *vs.* 13.6%, p<0.001) and know the price of vaccination (73.2% *vs.* 44.7%, p<0.001).

HPV vaccine status

In the opinion of 58% of pediatricians, HPV vaccine should be recommended and refunded, 33% support the idea of compulsory and charge free status of vaccine and 9% support current status as recommended and non-reimbursed. Compulsory vaccine status suggest responders with smaller working experience (less than 5 years; 43% *vs.* 30%, p=0.02). Financial support for HPV vaccines is proposed more often by females (93% *vs.* 83%, p=0.01), respondents who work in small towns (95% *vs.* 87%, p=0.008).

Doctor's attitude

Doctors' individual approach towards HPV vaccination was checked through their willingness to their own children. Most participants (83%) confirmed their positive attitude towards HPV vaccination (Table 2). The vast majority of doctors with a positive attitude towards own child vaccination recommend HPV vaccination to their patients (90.9% *vs.* 65.7%, p<0.001) and provide patient's information about HPV vaccine (87% *vs.* 68.2%, p=0.00002).

In order to check the general attitude towards HPV vaccination we have also compared the frequency and willingness to seasonal influenza vaccine self-administration with assessment towards HPV vaccine and 56% of participants regularly vaccinate themselves. These doctors are more often for compulsory vaccine status (39% *vs.* 25%,

Table 2: Doctors' individual approach towards HPV through its implementation to their own child.

Statement	Number of answers	% of participants
I did not vaccinate or I will not vaccine	29	6.6
I vaccinated daughter(s)	137	31.0
I vaccinated son(s)	19	4.3
I will vaccinate daughter(s)	131	29.6
I will vaccinate son(s)	77	17.4
I would vaccinate daughter but this vaccine was unavailable	48	10.9
I would vaccinate son but this vaccine was unavailable	42	9.5
Lack of answer	45	10.0

p=0.002), support financial help (95% *vs.* 82%, p<0.001), inform about HPV vaccines (62.43% *vs.* 30.68%, p<0.001) and its recommendation (64% *vs.* 38.1%, p<0.001).

Knowledge about vaccines

Almost two-thirds of participants declared their knowledge about HPV vaccination sufficient. The most common sources of gaining knowledge were scientific press (71%) medical conferences (67%), pharmaceutical companies (38%), internet (34%), medical studies (23.5%), other doctors (13.6%), public media (5.4%) and product data sheets (1.5%).

Only 11% of respondents correctly answered all questions. The vast majority (88.7%) of pediatricians were familiar with number of full HPV vaccination dose data. The majority of respondents properly indicated both gender as target population (70%) and preferably, before sexual initiation (84%), 70% of doctors correctly answered questions concerning HPV contagion population as both sex and each age. However, they vary between knowledge about potential HPV vaccines protection and only 20% indicated proper combination of variants (Figure 2). Pediatricians which correct responded to questions regarding knowledge about HPV vaccines eagerly provide information (50.3% vs. 38.6%, p=0.05) and consider vaccination status as compulsory (57.6% vs. 43.3%, p=0.005).

Discussion

In our study pediatricians highlighted payment for vaccination as a crucial as a barrier when talking about vaccine and point that must be improved in order to increase vaccination index. In Poland there is occasional local government support in large cities which strong positive reception of city dwellers. Lack of government support have had conflicts with other data proving incremental cost-effectiveness for the country economy by quality-adjusted life years and individuals actively working in comparison to the general costs of treatment in HPV related diseases.8 Furthermore, the other studies indicate high cost of vaccination as a main disadvantage from parental perspectives in order to perform the vaccination for a child [9]. Surprisingly, many examined pediatricians have certain concerns regarding HPV vaccine efficacy and safety despite numerous supportive proving studies [3,10].

In the literature, there are studies regarding parental willingness to vaccinate their own child against HPV that is usually favorable [7,11]. In our study, pediatrician's, being at the position of a parent simultaneously, enthusiasm for HPV vaccine is compatible with parental eagerness for own child vaccination in general. One of the study among health care professionals showed the intention for having own child vaccinated against HPV with the result of 86% and indicated higher willingness than among the general parental population not related with medical health system [12]. In our study 71% of participants were in favor of performing HPV vaccination to daughters and 31% to sons what is comparable to another studies [13]. Doctors own attitude towards their child vaccination influenced the rate and willingness of HPV vaccine recommendation to their patients.

Our study also revealed a very strong correlation between providing information by doctors about HPV, related diseases, prevention and accessibility of educational materials at their work place. Four times less often patients receive the information about HPV if physician has no supporting handout. Another study showed that parents receiving information about HPV are much more willing to vaccinate their child [7]. Sharing the knowledge about HPV among parents with the use of physical educational materials has been proven to increase parental willingness when making a decision on child's the immunization.

Another aspect that could be improved to increase HPV vaccination ratio is good knowledge about HPV itself, contagion, related diseases and vaccination. We found a correlation between level of knowledge about HPV and frequency of providing information. Although two-thirds of pediatricians rated their knowledge about HPV as adequate, the real cognizance remains unsatisfactory. The same problem was pointed out in other studies [13,14]. Moreover doctors are eager to develop their medical knowledge because most of them use professional sources of information. Two aspects that cannot be ignored when speaking about HPV vaccine are religious and cultural. Many doctors find difficulties when talking about HPV since this issue is connected with sexual behavior in adolescents. Participants of our study did not highlight this aspects at all. This result is very surprising since in a Polish public debate and discussions concerning HPV vaccinations the fear of earlier sexual activity or taking more risks are factors against HPV vaccination.

Our study has certain limitations since it was a multiple choice survey with already formulated optional answers which could not fully cover the need of other desirable answers. Respondents could answer in a socially desirable way even though the questionnaire was anonymous. Since the study was a multiple answer question the data presented and statistically analyzed proof in the statistical correlation between variables and different points of interest and it is challenging to indicate the current relationship. Our study has value since it was performed among doctors attending national pediatrics conference with representatives from a cross Poland. On the other hand, simultaneously our study group contains pediatricians who are more eager to improve their knowledge by attending medical conferences and as a result are more familiar with latest expert recommendations.

Pediatricians play a crucial role in parental education about HPV, since the decision to vaccinate lies with the parent. That is why parental education should become a priority for pediatricians.

Conclusions

Pediatricians in Poland present positive attitudes towards HPV

vaccinations, especially those who vaccine themselves against flu and perform vaccinations on their own children. However, they rarely recommend this vaccination to parents and patients. The situation may be improved by increasing the education of pediatricians in this area, providing them with educational materials and increasing the percentage of pediatric population vaccinating against influenza. Definitely most participants recommend financial support but not necessarily changing the vaccination status to compulsory.

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