RESEARCH ARTICLE / ARAŞTIRMA

DOI: 10.4274/mjima.galenos.2020.2020.10
Mediterr J Infect Microb Antimicrob 2020;9:10
Erişim: http://dx.doi.org/10.4274/mjima.galenos.2020.2020.10

The Attitudes of Parents Working in the Health Sector About Their Children to be Vaccinated for Human Papilloma Virus

Sağlık Sektöründe Çalışan Ebeveynlerin Çocuklarına İnsan Papilloma Virüs Aşısı Yaptırma Konusundaki Tutumları

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Abstract

Introduction: Human papilloma virus (HPV) is the most common viral infection of the urogenital system in men and women. Despite the high protection rate of HPV vaccine, vaccination rates in our country remain below the optimal level. The aim of this study is to determine the attitudes of parents working in the health sector towards having their children vaccinated against HPV.
Materials and Methods: The universe of the research was formed by all employees of İstanbul Koşuyolu High Specialization Training and Research Hospital. The questionnaire consisting of 21 questions was applied to a total of 151 people by face to face method.
Results: One hundred and fifty one employees working in Koşuyolu High Specialization Training and Research Hospital were included in the study. Of the employees, 68.9% of whom were women, 18 (11.9%) stated that they had HPV vaccine. Only two employees responded positively to the question of whether their children had HPV vaccine; 27 of them (17.9%) were found to be thinking of having their children vaccinated against HPV in the future. When employees were asked why they did not want ttheir children to be vaccinated against HPV, most (33.8%) stated that the vaccine was expensive, while 17.2% thought that the vaccine was not protective.
Conclusion: Diseases caused by HPV, especially cervical cancer, can be prevented by vaccination. It is thought that this disease can be prevented by vaccination as well as sexual health education and the use of condoms. However, there may be a negative attitude towards vaccination among healthcare professionals. In terms of public health, it is thought that increasing education on this issue will positively affect both employees and the public.
Keywords: Human papilloma virus, vaccination, healthcare workers

Öz

Giriş: İnsan papilloma virüsü (HPV), kadın ve erkeklerde ürogenital sistemin en yaygın viral enfeksiyonudur. İnsan papilloma virüsü aşısının yüksek koruma oranına karşın ülkemizde aşılama oranları optimal düzeyin altında kalmaktadır. Bu çalışmanın amacı, sağlık sektöründe çalışan ebeveynlerin çocuklarına HPV aşısını yaptırma konusundaki tutumlarını saptamaktır.
Gereç ve Yöntem: Araştırmanın evrenini İstanbul Koşuyolu Yüksek İhtisas Eğitim ve Araştırma Hastanesi'nin tüm çalışanları oluşturdu. Toplam 151 kişiye 21 sorudan oluşan anket yüzyüze yöntem ile uygulandı.
Bulgular: Koşuyolu Yüksek İhtisas Eğitim ve Araştırma Hastanesi'nde çalışan 151 kişi katıldı. Çalışanlardan %68,9'u kadın olan, 18'i (%11,9) kendine HPV aşısı yaptırdığını ifade etti. Çocuğunuza HPV aşısı yaptırdınız mı? sorusuna sadece iki kişinin olumlu yanıt verdiği; 27'sinin (%17,9) ise ilerde çocuğuna HPV aşısı yaptırmayı düşündüğü saptandı. Çocuğuna HPV aşısı yaptırmayan ve/veya yaptırmayı düşünmeyen ebeveynlere gerekçesi sorulduğunda büyük bir kısmı (%33,8) neden olarak aşısının pahalı olmasını gösterirken %17,2'si aşının koruyucu olmadığını düşündüklerini ifade ettiler.

Cite this article as: Işık ME, Taşdelen-Öğülmen D, Işık AC, Ateş S. The Attitudes of Parents Working in the Health Sector About Their Children to be Vaccinated for Human Papilloma Virus. Mediterr J Infect Microb Antimicrob. 2020;9:10.

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ORCID ID: orcid.org/0000-0002-0699-8890 **Received/Geliş Tarihi:** 01.10.2020 **Accepted/Kabul Tarihi:** 15.12.2020

Published: 18 December 2020

Sonuç: İnsan papilloma virüsünün neden olduğu başta serviks kanseri olmak üzere hastalıklar aşı ile önlenebilir. Cinsel sağlık eğitimi ve kondom kullanımının yanı sıra aşı olunması ile bu hastalığın engellenebileceği düşünülmektedir. Ancak sağlık çalışanları arasında da aşıya karşı olumsuz bakış olabilmektedir. Toplum sağlığı açısından özellikle bu konu hakkında hem çalışanlara hem halka eğitimin arttırılması olumlu olarak yansıyacağı düşünülmektedir.
Anahtar Kelimeler: İnsan papilloma virüs, aşı, sağlık çalışanı

Introduction

Human papilloma virus (HPV) is the most common viral infection of the urinary system in men and women. The virus is transmitted through sexual intercourse and contact with infected genital skin, mucous membranes or body fluids. The vast majority of HPV infections are asymptomatic and resolve spontaneously within 6-18 months. Patients with treatment-resistant HPV pose a risk for urinary system cancers. In the light of the data the Center for Diseases Control and Prevention, it is reported that sexually active women and men have a 50% risk of being infected with HPV during their lifetime[1]. It has been reported that HPV 16 is responsible for approximately 55% of cervical cancer, and HPV 18 for 16%. Human papilloma virus 16 and 18 are rarely associated with vulva and vagina cancers in women, penile cancer in men, and oropharynx, larynx and anal cancers in both men and women[2].

There are bivalent, quadrivalent and 9-valent vaccines approved by the American Food and Drug Administration. Vaccines that do not contain virus DNA create a humoral immune response because recombinant virus-like particles cannot be morphologically distinguished from true virions[3]. The reason HPV vaccine creates an immune response more than the infection itself is HPV infection is limited to the epithelium without causing viremia, but the vaccine causes immune response systemically[4].

Despite the high protection rate, vaccination rates remain below the optimal level in our country. Despite the advantages of HPV vaccination in recommended age ranges, the rate of HPV vaccination falls behind other routine adolescent vaccines. In a report published on the vaccination rates in 2018, it is seen that the rate of HPV vaccination is still well below the tetanus, meningitis, measles, rubella, mumps and hepatitis B vaccination rates in children[1]. The Turkish Society of Gynecological Oncology recommends these two vaccines to girls and boys aged 11-12 before sexual intercourse, and to girls and women aged 9-26 although there is sexual intercourse, in three doses without HPV testing. In addition, it is stated that boys as well as young girls should be vaccinated and vaccination will have significant benefits for men in preventing anal and penile cancers and genital warts. In this way, it is thought that this will have positive effects on public health as community immunity will increase[5]. The vaccine prevents HPV from entering the cervical epithelial cell even at very low antibody levels[6]. It was also observed that antibody concentrations declined over the next 12-18 months, but then stabilized at an average plateau level 10 times more than the placebo groups[7]. However, despite this protection, there has been a serious decrease in childhood and adult vaccinations due to the increasing vaccination hesitancy in recent years. The aim of this study is to determine the attitudes of parents working in the health sector towards having their children vaccinated against HPV.

Materials and Methods

Universe and Sampling

The universe of the research was formed by all employees of İstanbul Koşuyolu High Specialization Training and Research Hospital. The study was administered to the employees after the questionnaire was explained and verbal consent was obtained. In the study, no sampling method was used and the whole population was tried to be reached by adhering to the voluntary principle. The sample of the study included 151 healthcare workers over the age of 18 who agreed to participate in the study and had children.

Data Collection Method

In this study, the researchers collected data through face-to-face interviews with the employees of the İstanbul Koşuyolu High Specialization Training and Research Hospital and through the information form they prepared in line with the literature.

Data Analysis

The entry and evaluation of the data were done in digital environment and using the statistical package program. While evaluating the study data, besides descriptive statistical methods (average, standard deviation, median, frequency, ratio, minimum, maximum), chi-square test was used to compare qualitative data and significance was evaluated at $p<0.01$ and $p<0.05$ levels.

Ethical Aspect of the Research

Ethical approval was obtained from İstanbul Kartal Koşuyolu High Specialization Training and Research Hospital Ethics Committee and institutional permission was obtained from the relevant hospital (protocol number: 2018.6/12-119, date: 25.09.2018).

Results

Of the 151 healthcare workers participating in the study, 68.9% were women, 43.7% were between the ages of 40-49, 26.5% were secondary school graduates, 35.8% were cleaning personnel. Expenses were equal to incomes in 43.7% of the participants. It was determined that 47.7% of them had been working for 5-10 years, 48 (31.8%) had girls over the age of nine, and 80 (53.0%) had boys over nine years old (Table 1). Eighteen (11.9%) of the employees stated that they had HPV vaccine and 65.6% of those who were not vaccinated, stated that they were not vaccinated because they did not have information. Only two participants responded positively to the question of whether their child had HPV vaccine; 27 of them (17.9%) were found to be thinking of having their children vaccinated against HPV in the future. In addition, while there were no vaccination-related problems in their children before; 39.1% stated that only girls should be vaccinated, and 37.1% stated that they had no idea (Table 2).

There was difference in terms of knowledge about the HPV vaccine according to professions; while most of the physicians (n=12) stated that they had knowledge about the vaccine, it was determined that most of the nurses did not. Statistically, it was found that this distribution differed significantly (x^2: 21.294; p=0.000). Although almost all of the physicians stated that they had information, they were not vaccinated, and that they thought the vaccine was not protective. While only 29.8% of the participants stated that they had information about the HPV vaccine, it was determined that they obtained this information generally via the internet. While the majority of the participants stated that only girls should be vaccinated, 23.2% stated that all children should be vaccinated regardless of gender (Table 2, 3).

When the parents who did not have their children vaccinated against HPV and/or did not intend to have it were asked for the reason, most (33.8%) stated that the vaccine was expensive, while 17% thought that the vaccine was not protective (Table 4).

It was determined that most of the employees other than doctors (n=51) did not have their children vaccinated and/or did not think of having them vaccinated; because they thought that the vaccine was expensive. According to the answers of the employees regarding the HPV vaccine; while most of them (n=59) stated that only girls should be vaccinated, 35 employees emphasized that they should be vaccinated regardless of gender. While six participants (37.5%) in the physician group stated that only girls should be vaccinated, four physicians (25%) stated that they did not have any knowledge about the subject. Fifty six employees stated that they had no idea about the questions asked about the vaccine (Table 5).

Table 1. Distribution of parents by sociodemographic characteristics

Sociodemographic characteristics	n	%
Gender		
Female	104	68.9
Male	47	31.1
Age		
20-29 years	5	3.3
30-39 years	59	39.1
40-49 years	66	43.7
50-59 years	21	13.9
Education status		
Illiterate	1	0.7
Literate	5	3.3
Primary school	27	17.9
Middle school	40	26.5
High school	30	19.9
University	39	25.8
Postgraduate	9	6.8
Education status of spouse		
Illiterate	6	4.0
Literate	1	0.7
Primary school	23	15.2
Middle school	28	18.5
High school	49	32.5
University	37	24.5
Postgraduate	7	4.6
Occupation		
Nurse	44	29.1
Physician	16	10.6
Cleaning staff	54	35.8
Health technician	19	12.6
Other (security, secretary, administrative officer)	18	11.9
Income status		
Income is more than expenses	30	19.9
Income is equal to expenses	66	43.7
Income is less than expenses	55	36.4
Working year		
0-1 year	5	3.3
1-3 years	5	3.3
3-5 years	11	7.3
5-10 years	72	47.7
Over 10 years	58	38.4
Number of children		
1	74	49.0
2	61	40.4
3	13	8.6
4 or more	3	2.0
Boy age		
<9 years	43	28.5
>9 years	80	53.0
Daughter age		
<9 years	31	20.5
>9 years	48	31.8

Table 2. Parents' features regarding human papilloma virus

Features regarding human papilloma virus	n	%
Being vaccinated against HPV		
Yes	18	11.9
No	133	88.1
Why not vaccinated		
Lack of information	99	65.6
Because I don't need	34	23.2
Information status on HPV vaccine*		
Having information	45	29.8
Not having information	104	68.9
How the information is obtained		
Via Internet / TV	18	11.9
From trainings at my workplace and friends at work	14	9.3
I know because I am a physician	12	7.9
I learned from my physician	2	1.3
Having trouble with previous vaccinations for children		
Yes	0	
No	151	100
Please choose the correct statement		
HPV vaccine should be performed in all children regardless of gender.	35	23.2
Only girls should be vaccinated againts HPV	59	39.1
Only boys should be vaccinated againts HPV	1	0.7
No idea	56	37.1
Having children vaccinated aganist HPV		
Yes	2	1.3
No	149	98.7
Thinking about vaccinating your child against HPV		
Yes	27	17.9
No	28	18.5
Maybe later	2	1.3
No idea	94	62.3
Reason not to vaccinate your child against HPV		
HPV vaccine is very expensive and therefore not cost effective	51	33.8
Thinking that HPV vaccine promotes unprotected, risky sexual intercourse	8	5.3
Thinking that the HPV vaccine might have unwanted effects	19	12.6
Thinking that the HPV vaccine is not protective	26	17.2
Thinking that HPV infection will not lead to serious consequences that require vaccination	10	6.6
No idea	35	23.2

*Two participants did not answer the question.
HPV: Human papilloma virus

Discussion

Diseases caused by HPV, especially cervical cancer, can be prevented by vaccination. It is thought that the diseases caused by HPV can be prevented by vaccination as well as sexual health education and the use of condoms[8]. However, due to the increasing vaccine hesitancy recently, there are problems in the implementation of this very important and preventive health procedure. The most important reason for this is the lack of information about vaccines. The findings of the study by Yüksel et al.[9] are compatible with the findings of this study. It was reported that the biggest obstacle of the participants regarding the HPV vaccine was their lack of sufficient knowledge in the study, in which physicians, nurses and healthcare personnel made up the sample. In the study conducted on nurses with daughters by Satılmışoğlu et al.[10]; it was found that 86% had heard of HPV and 82% had heard of HPV vaccine, but they stated that they did not have enough information. Again, in the same study, 72% of the participants stated that they did not want to have the HPV vaccine, nor did they think of having their daughters vaccinated. Since our study was among healthcare professionals, it had similar results. However, in the study conducted on parents of daughters by Altınel Açoğlu et al.[11]; 70% stated that they did not hear of the HPV vaccine. It is seen that the society does not have enough information about vaccines yet.

In the study conducted on pediatricians by Adıgüzel et al.[12], the rate of physicians who stated that they did not have sufficient knowledge about the vaccine was found to be 53.3%. Although our study was a mixed study, 25% (n=4) of 16 physicians who were interviewed stated that they did not have sufficient knowledge about vaccines. In the evaluation of the second portion of the same work; causes of low HPV vaccination rates in Turkey were as follows: The vaccine was not included in the national vaccination calendar, it was expensive and there were social problems related to vaccines. An important result of the study was that 40% of physicians thought that HPV infection would not lead to serious consequences that required vaccination. In the study conducted on 263 family physicians by Revanlı et al.[13]; it was observed that 59.5% of the participants recommended the HPV vaccine to their patients. In the study performed by Ozsurekci et al.[14] to determine the level of knowledge and attitude of pediatricians about HPV infection and HPV vaccination; it was found that although it was known to be administered to women, only 10% of them knew that HPV vaccine could be administered to men. One of the social difficulties is the fear that the vaccine may lead children to early and unprotected sex. In the study conducted by Hansen et al.[15], the parents thought that HPV vaccination should be performed after sexual life started. However, when the information that HPV could cause genital warts and cervical cancer was shared with their parents, it was observed that they were more willing to get the vaccine. In order for the vaccine to be fully effective and achieve the expected target, it is recommended to vaccinate at an early age and before sexual intercourse[6].

In our study, the reasons for not having the vaccine were as follows: The vaccine was expensive and not cost effective. In addition, the idea that the vaccine was not protective occupied

Table 3. Distribution of human papilloma virus vaccine characteristics according to the occupation of the employees

Characteristics of participants regarding HPV vaccine		Occupation					x^2
		Nurse	Physician	Cleaning staff	Health technician	Other (security, secretary, administrative officer)	p
Having information on HPV vaccine	Yes	7	12	13	6	7	21,294 0.000
	No	37	4	40	13	10	
Total		44	16	53	19	17	
Being vaccinated against HPV	Yes	5	0	10	2	1	x^2 was not measured because more than 20% of the cells had a value below 5.
	No	39	16	44	17	17	
Total		44	16	54	19	18	
Having children vaccinated aganist HPV	Yes	1	0	1	0	0	x^2 was not measured because more than 20% of the cells had a value below 5.
	No	43	16	53	19	17	
Total		0	0	0	0	1	
Thinking about vaccinating your child against HPV	Yes	3	0	14	4	6	x^2 was not measured because more than 20% of the cells had a value below 5.
	No	7	1	10	9	1	
	Maybe in the future	1	0	1	0	0	
	No idea	33	15	29	6	11	
Total		**44**	**16**	**54**	**19**	**18**	

HPV: Human papilloma virus

Table 4. Distribution of reasons for not having their children vaccinated by occupation of employees

What is your reason for not being vaccinated?	Occupation				
	Nurse	Physician	Cleaning staff	Health technician	Other (security, secretary, administrative officer)
HPV vaccine is very expensive and therefore not cost effective	21	0	13	9	8
Thinking that HPV vaccine promotes unprotected, risky sexual intercourse	2	0	2	1	3
Thinking that the HPV vaccine might have unwanted effects	5	2	8	4	0
Thinking that the HPV vaccine is not protective	10	9	3	2	2
Thinking that HPV infection will not lead to serious consequences that require vaccination	4	0	2	0	4
No idea	1	5	25	3	1
Total	**43**	**16**	**53**	**19**	**18**

HPV: Human papilloma virus

Table 5. Distribution of responses of employees regarding human papilloma virus vaccine according to their professions

Distribution of the responses given to the questions about the HPV vaccine	Occupation				
	Nurse	Physician	Cleaning staff	Health technician	Other (security, secretary, administrative officer)
HPV vaccine should be performed in all children regardless of gender.	6	6	12	4	7
Only girls should be vaccinated againts HPV.	26	6	13	9	4
Only boys should be vaccinated againts HPV.	0	0	1	0	0
No idea	12	4	28	6	7
Total	**44**	**16**	**54**	**19**	**18**

HPV: Human papilloma virus

an important place among healthcare professionals. Altınel Açoğlu et al.[11] showed that the rate of people who stated that they would get the vaccine if the vaccine was repaid by the state was 51.7%, but the rate of parents who stated that they would not have it under any circumstances was 24%. In addition to the decrease in vaccination rates due to the increasing vaccination hesitancy in our country and in the world; it is reported that some diseases which are rare before, have started to occur increasingly[16]. It is thought that diseases that are reduced or eradicated may be seen more frequently in the future as a result of the increasing vaccine hesitancy[17]. It was also reported in a study that examined the attitudes of adolescent girls and their mothers about HPV vaccines in Turkey that they had insufficient information about the vaccine and that the majority did not want to be vaccinated[18]. In two studies from Indonesia and the United States, it was observed that a higher proportion of parents viewed vaccination positively compared to our society[19,20].

Our study had some limitations. First, our study was conducted in a single center. Second, the questionnaire was applied to an inhomogeneous group. Although conducting the study only with those working in the health sector prevented it from giving a clear finding about the general public; we tried to overcome this limitation by including the cleaning personnel, who were an important part of the health sector, in our study. Another limitation was that the HPV vaccine was still paid and that its promotion was not enough.

Conclusion

These findings show that parents who have a decision-making role in matters related to their children's health have a lack of knowledge about HPV infection and its prevention, even though they are individuals working in the health sector. The Ministry of Health's scheduling of HPV vaccine will increase its coverage rate. In the upcoming periods, starting education especially on sexual issues at an early stage will provide primary prevention against these diseases.

Ethics

Ethics Committee Approval: Ethical approval was obtained from İstanbul Kartal Koşuyolu High Specialization Training and Research Hospital Ethics Committee and institutional permission was obtained from the relevant hospital alındı (protocol number: 2018.6/12-119, date: 25.09.2018).

Informed Consent: The study was administered to the employees after the questionnaire was explained and verbal consent was obtained.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.E.I., D.T.Ö., S.A., Concept: M.E.I., D.T.Ö., S.A., Design: M.E.I., D.T.Ö., S.A., Data Collection or Processing: M.E.I., D.T.Ö., Analysis or Interpretation: M.E.I., S.A., Literature Search: M.E.I., D.T.Ö., Writing: M.E.I., S.A.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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