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Awareness of Parents about Human Papillomavirus Vaccine

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ABSTRACT

Objectives: Cervical cancer is one of the leading preventable cancers and human papillomavirus (HPV) plays an important role in its etiology. Vaccination is recommended to prevent cervical cancer during adolescence. This study aimed to determine the awareness levels of parents about HPV vaccines recommended in adolescence and their attitudes towards vaccination.

Methods: Parents with children aged 9–18 years who applied to pediatric outpatient clinic between June 2019 and August 2019 were included in this cross-sectional study. The questionnaire examined about sociodemographic characteristics and information source regarding the HPV vaccine and attitude toward paid vaccine.

Results: A total of 299 parents were enrolled in the study. When parents' awareness of the vaccine was questioned, only 47 (15.7%) stated that they had heard of the vaccine before. After being provided with the information on the vaccine, 207 (69.2%) of the participants stated that they did not want their children to be vaccinated against HPV, 118 (57.0%) of them showed a negative approach due to the cost.

Conclusion: In our study, it is observed that the awareness level of the parents was low. The most common reason for not wanting their children to be vaccinated was the cost of the vaccine.

Keywords: Awareness, human papillomavirus, parent, vaccination



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INTRODUCTION

According to the Turkey Cancer Statistics 2015 report, 21.233 cases were reported between 2011 and 2015 as gynecological cancer, and 4.238 of these were diagnosed as cervical cancer.

^[1] In the GLOBOCAN 2018 cancer data, cervical cancer ranks fourth among the most common cancers in women.^[2] The relationship between cervical cancer and human papillomavirus (HPV) has been demonstrated by isolating HPV16 from cervical cancer tissue.^[3] The first HPV vaccine was approved by the Food and Drug Administration in 2006.^[4] As of April 2009, the World Health Organization (WHO) has recommended including HPV vaccination in national vaccination programs, considering that prevention of cervical cancer is a public health priority in each country.^[5] The vaccine is most effective when administered between the ages 11 and 13 years before starting sexual activity in both genders.^[6]

In the 90-70-90 global strategy draft for the elimination of cervical cancer published by the WHO, it has determined three main targets until 2030.^[7] First, 90% of girls were fully vaccinated with the HPV vaccine by the age of 15 years. Second, 70% of women were screened with a high-performance test by the age of 35 and again by the age of 45. Third, 90% of women

identified with cervical disease received treatment (90% of women with precancer were treated and 90% of women with invasive cancer were managed).

The first step in preventing cervical cancer is to increase the rates of HPV vaccination, and this is possible by raising awareness. In the study of Holman et al., parents cited advice of healthcare professionals as one of the most significant factors in their decision to vaccinate their children.^[8] In this study aimed to determine the awareness levels of the parents about the HPV vaccines recommended at adolescence and their attitudes toward vaccination.

METHOD

This study was conducted in Fatih Sultan Mehmet Training and Research Hospital Pediatrics Outpatient Clinic between June 2019 and August 2019. The universe of the study consists of parents who applied to the pediatric outpatient clinic and have children aged 9-18 years. The sample was calculated as 203 participants by taking the statistical power of 80% and $\alpha=0.05$, the prevalence of 20%, and using the sampling formula of known universe.^[9] The "HPV Vaccine Awareness Questionnaire for Parents Applying to Pediatrics Outpatient Clinic," which was prepared by researchers and consisted of 14 questions, was applied by doctors to parents who accepted to participate in the study.

The questionnaire asked about the age, gender and educational status of the parents, the age and gender of their child, whether they know the family physician they are registered with, and their previous knowledge of the HPV vaccine and where this information was learned. Moreover, it was asked whether they had paid vaccination for their child before. After informing the parents about the HPV vaccine, their current approach to the vaccine was asked. The parents who did not want to have their children vaccinated were asked about their reasons.

Statistical analysis was performed using IBM SPSS Statistics 22 Program. Normality was evaluated with the Shapiro-Wilk and Kolmogorov Smirnov test. In the descriptive statistics of the data, frequency, percentage, mean and standard deviation were used. Chi-square test was used to compare categorical variables. A p value <0.05 was considered statistically significant.

RESULTS

A total of 299 parents were enrolled in the study, and the mean age of the parents was 38.9±4.9 years and 273 (91.3%) were mothers. The socio-demographic characteristics of children and parents are summarized in Table 1.

When the vaccination awareness of the parents was questioned, 47 (15.7%) of the parents were aware of the HPV

Table 1. The socio-demographic characteristics of children and parents

	Mean±SD
Age (years)	38.9±4.9
Age of child (years)	11.7±2.3
	n (%)
Parents of children	
Mother	273 (91.3)
Father	26 (8.7)
Education status	
Illiterate	4 (1.3)
Literate	6 (2.0)
Primary school	89 (29.8)
Middle school	85 (28.4)
High school	71 (23.8)
University	44 (14.7)
Gender of child	
Female	192 (64.2)
Male	107 (35.8)
Status of knowing the family doctor	
Yes	292 (97.7)
No	7 (2.3)

vaccine and 18 (100.0%) of the parents who were informed by the doctors were informed by the family physician. The knowledge of parents about vaccination is summarized in Table 2.

When 207 (69.2%) parents were asked why they did not want their children to be vaccinated, 118 (57.0%) of these parents answered because of the cost and 40 (19.3%) answered because of other reasons (not having enough information about the vaccine, no family history of cancer, being administered at an age the child can decide on, etc.) The reasons for parents' negative attitude to vaccination are shown in Figure 1.

Ninety-four (79.7%) parents, who did not want to have the HPV vaccine due to the cost, did not have their children vaccinated with other paid vaccines in the past. When 92 (30.8%) parents who were considering vaccinating their children were compared, 70 (76.0%) of them had female children.

A statistically significant difference was noted between the educational situations in terms of hearing about the HPV vaccine ($p<0.001$). As a result of the paired comparisons performed to detect the difference, the frequency of parents who heard about the HPV vaccine among primary

Table 2. The knowledge of parents about vaccination

	n (%)
Knowing about human papillomavirus vaccine (n=299)	
Yes	47 (15.7)
No	252 (84.3)
Source of information on the human papillomavirus vaccine (n=47)	
Doctor	18 (38.3)
Media	22 (46.8)
Social environment	7 (14.9)
Does the state finance the HPV vaccine? (n=299)	
Yes	122 (40.8)
No	113 (37.8)
No idea	64 (21.4)
Has your child had paid vaccinations before? (n=299)	
Yes	141 (47.2)
No	158 (52.8)
Which gender is HPV vaccine applied to? (n=299)	
Female	254 (84.9)
Male	5 (1.7)
Both	34 (11.4)
No idea	6 (2.0)
Would you like your child to have the HPV vaccine? (n=299)	
Yes	92 (30.8)
No	207 (69.2)

HPV: Human papillomavirus.

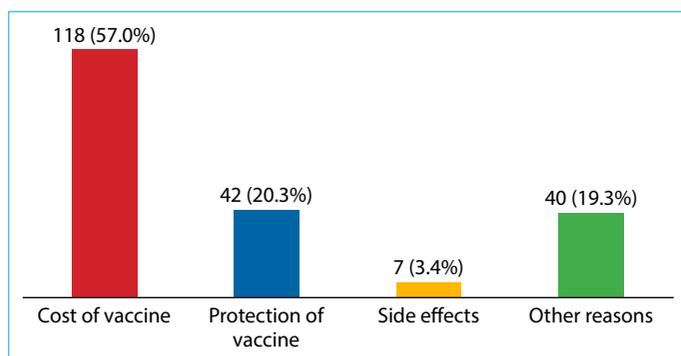


Figure 1. The reasons for parents' negative attitude to vaccination.

school graduates was found to be statistically significantly lower than those of high school graduates and university graduates ($p < 0.001$ and $p = 0.001$, respectively). Moreover, the frequency of parents who heard about the HPV vaccine in middle school graduates was statistically significantly lower than that of high school graduates ($p < 0.001$). Parents' awareness of human papillomavirus vaccine according to their education level is shown in Figure 2.

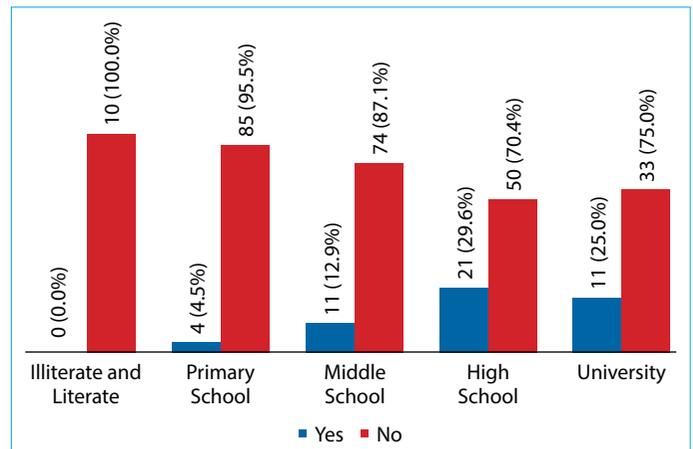


Figure 2. Parents' awareness of human papillomavirus vaccine according to their education level.

DISCUSSION

The parents' awareness of the HPV vaccine and acceptability of HPV vaccination for children was assessed in this study. It was observed that the parents had a low level of awareness on HPV vaccination. In a study conducted by Lee et al. with 74 Korean–American parents, they reported that they had no knowledge of HPV and that this was a major problem for parents who wanted to make a decision with information about the HPV vaccine.^[10] A similar result was observed in a study by Wang et al. regarding the low awareness of the HPV vaccine; the results showed that parental acceptability of HPV vaccination for their children was low.^[11] In another study conducted by Açoğlu et al., it was reported that 70% of the participants did not hear about the HPV vaccine, and in the same study, the rate of participants who wanted to have their children vaccinated after being informed was 62%.^[12] In the study of Cipriano et al. with 75 parents in New Jersey in 2018, the “HPV information questionnaire” showed that the post-intervention scores were significantly higher than the “HPV knowledge questionnaire” pre-intervention scores.^[13] In our study, 84.3% parents stated that they had not heard of the HPV vaccine. When these parents, who did not have information about vaccination, were asked if they would like to have their children vaccinated after being informed, 27.7% of them thought about vaccination. The results of both this study and some other studies show that the rates of vaccination increase with informing.

Information and awareness studies should be carried out not only for parents but also for adolescents. In the survey study conducted by Icardi et al. on preadolescents and their parents before and after the HPV session in Italy, a significant increase in HPV vaccine awareness was observed after the training sessions, especially in preadolescents.^[14]

With this study, it was concluded that there is a need for health education programs aiming to increase knowledge, attitude, and awareness about HPV. When it was asked those, who had information about the vaccine, the most significant sources of information were the doctors and the media. All the parents, whose source of information was a doctor, stated that they were informed by the family physicians. It is a thought-provoking result that all physicians who provided the information were family physicians and there were no other physicians such as gynecologists and pediatricians. It points out that the lack of knowledge is not only among families but also among physicians. This is an issue that should be considered in efforts to increase vaccination rates.

Parents of female children were more willing to accept HPV vaccination than those of male children. Hussain et al. and Oldach et al. reported in their studies, these differences in views about HPV vaccination among parents.^[15,16] In our study, among the 30.8% parents who were considering vaccinating their children, 76% had female children.

In Morocco, where the HPV vaccine is not included in the national vaccination calendar, as in our country, in the survey-based cervical cancer and HPV vaccine awareness study conducted by Mouallif et al. with 852 parents in 2014, cost was stated as a significant obstacle among the reasons why parents could not vaccinate their children.^[9] As an instance of this study, with the government financing of rotavirus vaccine in Morocco, the vaccination rate increased from 2% to 88% within 2 years. In the study of Abbou El-Ola et al. in Lebanon in 2018, 14.4% of mothers reported that due to the high cost, they could not have their daughters vaccinated.^[17] In our study, when the parents who did not want their children to be vaccinated were asked why, 57% of them reported economic problems. In addition, 79.7% of those who did not intend to have the HPV vaccine because of the paid vaccine have not had any paid vaccines for their children before. Considering these results, it can be said that the HPV vaccine is not included in the national vaccination calendar and the cost is one of the significant obstacles to vaccination.

This study has some limitations. The sampled parents may not reflect the most parents in Turkey, but they could reflect the population with similar demographic characteristics to some degree. Another limitation is the lack of socioeconomic status in the study population, which is significant for evaluating attitude toward paid vaccines.

CONCLUSION

It has been determined that a significant number of parents did not have enough information about HPV vac-

cine and the rate of vaccination could be increased with information. Every parent and adolescent applying to any health institution should be informed about vaccination to increase the vaccination rate. It is not enough to inform the public about increasing the vaccination rates. The knowledge of physicians on this subject should be constantly updated and government support should be provided by taking the vaccines to the calendar.

Disclosures

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Conflict of Interest: None declared.

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Ethics Committee Approval: The approval for the research was obtained from Fatih Sultan Mehmet Training and Research Hospital Clinical Research Ethics Committee (Approval date: May 13, 2019, and Approval number: FSMEAH-KAEK 2019/59). Verbal consent was obtained from the participants.

Authorship Contributions: Concept – C.L.; Design – C.L.; Supervision – A.Ö., B.T.; Materials – C.L., A.Ö., B.T.; Data collection &/or processing – C.L., A.Ö., B.T.; Analysis and/or interpretation – C.L., A.Ö., B.T.; Literature search – C.L.; Writing – C.L., B.T.; Critical review – C.L., A.Ö., B.T.

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