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ORIGINAL ARTICLE

Assessment of Knowledge of Patients Regarding Human Papillomavirus in A Tertiary Hospital

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Abstract

Objective: Human Papillomavirus (HPV) is a risk factor for cervical, vulvar, and vaginal cancers. HPV vaccination is used for immunization against this virus. This study aims to determine the knowledge level of patients admitted to our outpatient clinic regarding HPV and the HPV vaccine.

Material and Methods: The sample of this cross-sectional study comprised 1,225 women admitted to our gynecology outpatient clinics between January 1, 2013, and June 31, 2013. We collected data on sociodemographic characteristics, level of HPV and cervical cancer knowledge, awareness of Pap smear testing, and self-reported previous Pap smear tests through a questionnaire.

Results: The mean age of participants was 37.79±13.19 (range 15–73). Of these participants, 31.8% had previously undergone a Pap smear, 62.4% had heard of cervical cancer, and 60.5% were aware of Pap smear testing. Television programs emerged as the leading source (24.7%) for HPV information. Notably, 65.7% of participants did not know that HPV can be sexually transmitted. Meanwhile, 60.5% had not heard of the HPV vaccine, and 70.5% were unaware that HPV vaccination can help prevent cervical cancer. Among participants who had received the vaccine, 63.3% stated they would encourage their daughters to get vaccinated.

Conclusion: Our findings suggest that women's knowledge about HPV infection and vaccination remains insufficient. Efforts focusing on improving awareness of HPV and the HPV vaccine among the female population, particularly via healthcare providers, are critically important to achieving healthier future generations.

Keywords: cervical cancer, human papillomavirus, HPV vaccine, women's health, pap smear

INTRODUCTION

HPV is considered the most significant risk factor for cervical cancer worldwide (1). Established risk factors for cervical carcinoma include the presence of HPV, early onset of sexual activity (<16), high parity, polygamy, smoking, and low socioeconomic status (2,3). HPV is the most common sexually transmitted infection, and half of sexually active young women are estimated to be infected by one of the 40 HPV subtypes within five years after their first sexual experience. Thirteen of these subtypes are considered primarily carcinogenic (4,5).

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More than half of sexually active women and men contract HPV at some point in their lifetime, and approximately 20 million people worldwide have an active HPV infection (6). Studies have indicated that over 70% of HPV cases involve adolescent girls aged 12–25 (6).

Recognition of the relationship between HPV and cervical cancer, along with the persistence of substantial cancer burden despite existing screening programs, has spurred major research into prophylactic HPV vaccines. These vaccines have shown promise in preventing HPV infection and potentially reducing the need for costly HPV screening programs (7).

HPV vaccines are broadly divided into prophylactic and therapeutic categories, with prophylactic vaccines being the most widely studied (7). The vaccine is often recommended for adolescents and young adults aged 9–26, and healthcare providers' advice is an important factor in families' decisions to vaccinate (8-11).

Perhaps it is expected that healthcare providers—who are typically well-informed about cancer prevention—would show a high level of awareness about HPV. In the present study, we evaluated the knowledge of HPV and the HPV vaccine among women admitted to our gynecology clinic.

MATERIAL AND METHODS

The current study was approved by Ethics Committee for Clinical Research of Bakirkoy Dr.Sadi Konuk Training and Research Hospital (Desicion No: 2012l16/10, Date: 2012/11/19). The current study has been performed in accordance with the ethical standards described in an appropriate version of the 1964 Declaration of Helsinki, as revised in 2013.

Patients

All persons gave their informed consent prior to their inclusion in the study. The sample of this study was composed of 1225 females who were admitted to our outpatient gynecology clinics at Health Science University, Bakirkoy Dr. Sadi Konuk Teaching and Research Hospital, between the dates of January 1, 2013, and June 31, 2013. We obtained data on sociodemographic characteristics, knowledge about HPV, and whether they gave a pap smear and had cervical cancer with a questionnaire.

Statistical Analysis

In descriptive statistics of data, mean, standard deviation, minimum, maximum, median, percentage, and frequency were used. The distribution of variables was controlled with the Kolmogorov Smirnov test. While Mann-Whitney u test was used for the analysis of continuous variables, the ki-square test was preferred for analysis of qualitative variable analysis. SPSS 25.0 packet program was used for all analyses.

RESULTS

At the end of the research, a series of demographic data of participants with knowledge about cervical smear or without were compared; accordingly, age, job, level of income, health insurance, smoking, marriage, marriage age, parturition, number of births, and number of people living at home have not indicated statistically difference between the groups ($p>0.05$). age of first sexual intercourse in a group that has knowledge about cervical smear was found to be statistically increased compared to a group that has no knowledge about cervical smear (Table 1).

In addition to the smear knowledge, age, job status, income level, health insurance, smoking, marriage age, the first age of sexual intercourse, and the number of people living at home were found to be increased ($p>0.05$), but this change was not statistically significant. On the other hand, it was seen that the number of births and marriage rates was found to be statistically increased in the group having knowledge about the HPV virus compared to the group who did not hear the HPV virus ($p <0.05$) (Table 2).

A statistically significant difference has not been recorded between groups having knowledge about the HPV vaccine, and those have not. The mean age, job status, income level, health insurance, smoking, marriage rate, age of first sexual intercourse, number of births, and number of people living at home were found similar between the groups ($p>0.05$). However, groups have heard cervical smear was found to have higher mean compared to groups that have not heard cervical smear ($p<0.05$) (Table 3).

DISCUSSION

Many screening program have been developed since the introduction of that smear test can be used in cervical cancer diagnosis. Thus, a significant decrease

Table 1. Demographic factors and knowledge level of the participants about cerical smear

			Have You Ever Heard Cervical Smear								p
			Yes				No				
Age		Mean±s.d.		37,9	±	12,9		37,6	±	13,6	0,492
		Med (Min-Max)	36	16	-	73	35	15	-	72	
Profession	Housewife	n-%		351		45,6%		201		41,5%	0,221
	Health care	n-%		103		13,4%		78		16,1%	
	Student	n-%		70		9,1%		36		7,4%	
	Civil servants	n-%		246		31,9%		169		34,9%	
İncome	<500	n-%		461		59,9%		279		57,6%	0,608
	500-1000	n-%		248		32,2%		169		34,9%	
	>1500	n-%		61		7,9%		36		7,4%	
Social security	No	n-%		119		15,5%		86		17,8%	0,231
	Yes	n-%		651		84,5%		398		82,2%	
Smoking	No	n-%		480		62,3%		326		67,4%	0,071
	Yes	n-%		290		37,7%		158		32,6%	
Mariage	No	n-%		38		4,9%		30		6,2%	0,336
	Yes	n-%		732		95,1%		454		93,8%	
Age at marriage		Mean±s.d.		20,4	±	2,8		20,6	±	2,6	0,064
		Med (Min-Max)	20	15	±	35	20	15	±	33	
Age at first coitus		Mean±s.d.		20,3	-	2,8		20,5	-	2,6	***0,031***
		Med (Min-Max)	20	12	±	35	20	11	±	30	
Parity	No	n-%		83		10,8%		51		10,5%	0,893
	Yes	n-%		687		89,2%		433		89,5%	
Number of Parity		Mean±s.d.		1,7	±	1,2		1,7	±	1,2	0,995
		Med (Min-Max)	1	0	-	9	1	0	-	10	
Number of people staying at home		Mean±s.d.		3,9	±	1,6		4,0	±	1,6	0,213
		Med (Min-Max)	4	0	±	11	4	0	±	11	

Ki-kare test / Mann-whitney u test

Table 2. Demographic factors and knowledge level of the participants about HPV virus

			Have You Ever Heard Hpv Virus								p
			Yes				No				
Age		Mean±s.d.		37,9	±	13,2		37,6	±	13,3	0,742
		Med(Min-Max)	36	17	-	70	35	15	-	73	
Profession	Housewife	n-%		361		43,5%		191		45,0%	0,657
	Health care	n-%		119		14,3%		62		14,6%	
	Student	n-%		76		9,2%		30		7,1%	
	Civil servants	n-%		274		33,0%		141		33,3%	
İncome	<500	n-%		489		58,9%		251		59,2%	0,984
	500-1000	n-%		276		33,3%		141		33,3%	
	>1500	n-%		65		7,8%		32		7,5%	
Social security	No	n-%		144		17,3%		61		14,4%	0,180
	Yes	n-%		686		82,7%		363		85,6%	
Smoking	No	n-%		532		64,1%		274		64,6%	0,854
	Yes	n-%		298		35,9%		150		35,4%	

Mariage	No	n-%		36		4,3%		32		7,5%	***0,018***
	Yes	n-%		794		95,7%		392		92,5%	
Age at marriage		Mean±s.d.		20,5	±	2,7		20,4	±	2,9	0,374
		Med(Min-Max)	20	15	±	30		15	±	35	
Age at first coitus		Mean±s.d.		20,4	-	2,7		20,3	-	2,8	0,417
		Med(Min-Max)	20	15	±	30		11	±	35	
Parity	No	n-%		78		9,4%		56		13,2%	***0,039***
	Yes	n-%		752		90,6%		368		86,8%	
Number of Parity		Mean±s.d.		1,7	±	1,1		1,6	±	1,3	***0,044***
		Med(Min-Max)	1	0	-	8		0	-	10	
Number of people staying at home		Mean±s.d.		3,9	±	1,6		4,0	±	1,6	0,769
		Med(Min-Max)	4	0	±	11		0	±	11	

Ki-kare test / Mann-whitney u test

Table 3. Demographic factors and knowledge level of the participants about HPV vaccine

			Do You Know Hpv Vaccine Madden For 2 Six Month Period And Total Dosage İs Four								**p**
			Yes				**No**				
Age		Mean±s.d.		38,0	±	13,0		37,7	±	13,3	0,537
		Med(Min-Max)	36	16	-	73	36	15	-	72	
Profession	Housewife	n-%		211		42,8%		341		44,8%	0,579
	Health care	n-%		78		15,8%		103		13,5%	
	Student	n-%		45		9,1%		61		8,0%	
	Civil servants	n-%		159		32,3%		256		33,6%	
İncome	<500	n-%		286		58,0%		454		59,7%	0,331
	500-1000	n-%		162		32,9%		255		33,5%	
	>1500	n-%		45		9,1%		52		6,8%	
Social security	No	n-%		83		16,8%		122		16,0%	0,707
	Yes	n-%		410		83,2%		639		84,0%	
Smoking	No	n-%		301		61,1%		505		66,4%	0,055
	Yes	n-%		192		38,9%		256		33,6%	
Mariage	No	n-%		26		5,3%		42		5,5%	0,851
	Yes	n-%		467		94,7%		719		94,5%	
Age at marriage		Mean±s.d.		20,4	±	2,8		20,5	±	2,7	0,267
		Med (Min-Max)	20	15	-	35		15	-	35	
Age at first coitus		Mean±s.d.		20,3	±	2,8		20,5	±	2,6	0,114
		Med (Min-Max)	20	11	-	35		15	-	30	
Parity	No	n-%		49		9,9%		85		11,2%	0,491
	Yes	n-%		444		90,1%		676		88,8%	
Number of Parity		Mean±s.d.		1,6	±	1,2		1,7	±	1,2	0,441
		Med (Min-Max)	1	0	-	9		0	-	10	
Number of people staying at home		Mean±s.d.		3,9	±	1,5		4,0	±	1,6	0,898
		Med (Min-Max)	4	1	-	11		0	-	11	

Ki-kare test / Mann-whitney u test

has been recorded in cervical cancer incidence, but the most critical point in this regard is that without an active screening program, cervical cancer incidence is not decreased anywhere in the world. In our country, there is no pap smear screening program. A part of women learn pap smear test randomly or from second-hand. Therefore, health care providers need to get enough knowledge about the Pap smear test and inform of women (12).

A study by Gichangi et al. in Kenya determined that 82% of women get information about pap smear from health care providers, 7% from their friends, 3% from media (13).

Our participants were asked about their knowledge of cervical cancer. According to this, age, job status, income level, presence of social security insurances, smoking rate, marriage rate, age of marriage, whether they gave birth, number of births, and the number of people living at home did not show a statistically significant difference.

Tarwireyi et al. (2003) probed that 50% of health care providers know pap smear as one of the protection ways from cervical cancer (14). Dönmez et al. reported that in their study, 67.2% of women health care providers know pap smear as a cervical cancer screening test, the rest (32.8%) do not (12). Kalyoncu et al. defined that the test rate of women heard pap smear test is 72.9% (15). Wellensiek et al. documented that the test rate of women who have knowledge about cervix cancer and pap smear is increased (16). If all women participate in the cervical cancer screening program and all lesions are followed, it is accepted that pap smear triennially performed prevents cervical cancer at a rate of 90% (12).

Tarwireyi et al. found that 81.7% of health care providers did not perform pap smear and underlined that lack of knowledge is an efficient reason for why they do not take the test (14). According to the results of Zemheri, 67.2% of health care providers did not perform smear tests (12).

Güngör et al. determined that 58% of nurses, midwife, and women health care workers did not conduct pap smear tests (17). This finding is consistent with our results.

Oran et al. reported that 71.8% of women academicians did not perform pap smear (18).

Yetimalar et al. observed that 45.1% of health care workers and 47.3% of patients did pap smear test at least once in their study. In light of these findings, it can be speculated that most of the women health workers do not have the behavior of having regular smear tests. Many studies in this field indicated that the pap smear test rate is parallelly increased with the knowledge level (19).

Akyüz et al. documented that the pap smear rate of women is statistically changed in the number of births (19). Having knowledge about cervical cancer and its risk factor will put protection methods from cervical cancer on the map and make a gain of avoiding risky behaviors for cancer (12). Health workers should be able to provide community pieces of training informing cervical cancer risks for all women, especially risky groups (20).

In the current study, whether women heard the HPV vaccine were asked. At the end of the questioning; age, job status, income level, social insurance, smoking, marriage age, age of first sexual intercourse, number of people living at home did not show a significant difference between groups have heard the HPV virus and those have not (21). On the other hand, the number of birth and marriage rate was found to be higher in the group heard HPV virus than the group has not heard the HPV virus (22).

Esposito et al. investigated the HPV knowledge level of the community and found that the knowledge level is low (23). Güner and Taşkıran reviewed the studies in this field and concluded that cervical cancer remains up to date in underdeveloped or developing countries (24).

Much as there are promising developments in the HPV vaccine, it should be noted that based on the current studies, there are shortcomings and limitations in our vaccination information.

39.3% (n=493) of our participants have reported knowing the HPV vaccine, while 60.7% have reported not to know it. Therefore, while most of the participants are aware of the vaccine, some health workers are not

aware of the vaccine. Having knowledge of the HPV vaccine is investigated in variables of gender, marital status, job, and clinic time.

When we investigated knowing the status of HPV vaccine according to the job groups, it was found as 42.8% in housewives, 15.8% in health care providers, 9.1% in students, and 32.3% in civil servants and the difference between the groups (knowing status of HPV) was found to be insignificant.

69.9% of participants in the study of Zemheri stated that they know how to protect from cervical cancer and HPV vaccine. This finding is higher than the knowledge level of our participants in this study (12). Kurtipek et al. stated that 24.8% of their 1808 participants know HPV infection and 24.3% know HPV vaccine (25). Esposito et al. reported that only 16.7% of medical doctors know how much vaccine types are used in Europe (23). Daley et al. remarked that 43% of doctors stated do not know the HPV vaccine developed (26).

According to the study of Yetimalar et al., 8.8% of health care providers stated not to know the HPV vaccine (27). After starting vaccine applications, intense discussions about the HPV vaccine has been started in the medical world, and written and visual media (28).

In our study, 181 workers, who stated to hear the HPV vaccine, were asked whether they know the HPV vaccine, and 103 health care providers were found that they do not have knowledge about the vaccine.

In a survey study performed with 433 women and 262 medical doctors from Adana, Ankara, Istanbul, and Izmir and aged 16-50 years, sexual health, HPV, and protection way from cervical cancer were discussed. 57.0% of the survey participants have stated that they learned HPV from television and newspapers (29). Raley et al. ark. reported that 79.0% of gynecologists suggested the vaccine. The doctors noted that the reasons for the suggestion of the vaccine are institution approval, vaccine type, and its benefits (30).

Esposito et al. investigated the vaccine suggestion rate of doctors and found that the suggestion rate is 84.8%. 70.7% of the participants suggest that the vaccine is beneficial for cervical cancer, and 73.3% suggest that the vaccine should be done before sexual intercourse. Doctors think that 90.0% of practicians are insufficient for giving detailed enough information (31).

Multiple test results indicated that the age of the proposer (especially over 45), becoming a pediatrician, and thinking the vaccine is beneficial for cervical cancer statistically significant difference (23).

CONCLUSION

In conclusion, although many women attending our clinic had some awareness of cervical cancer or Pap smear testing, most did not fully understand the link between HPV and cervical cancer or the protective role of HPV vaccination. Improving access to and knowledge about HPV vaccination via both public campaigns and one-on-one clinical education could meaningfully reduce the burden of cervical cancer.

We recommend that HPV education during routine gynecological and primary care visits, especially when counseling pregnant or postpartum women. Encouraging healthcare professionals to refresh their HPV and cervical cancer knowledge, so they can effectively inform patients. Advocating for policy-level support of organized screening programs and accessible HPV vaccination, particularly targeting younger age groups before sexual debut.

By implementing educational interventions and strengthening vaccination initiatives, we can potentially lower cervical cancer rates and foster healthier future generations.

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