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Research Article

Human papillomavirus: What we know and what we doing?

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Abstract

Aim: In this study, it was aimed to determine the thoughts and attitudes of young adults about HPV and HPV vaccines.

Methods: This study was planned as a cross-sectional study to determine the knowledge levels and attitudes of young people living in a settlement in the middle of Turkey about the HPV vaccine. The research was conducted with 870 young adults between 1-30 November 2022.

Results: The average age of the young people participating in the study was 20.49 ± 2.15 years, 60.9% of them were male. 61% have not heard of the PAP-Smear test before, 51.3% do not know what HPV is, only 17.7% have HPV by vaccination, 8% have HPV vaccine, 24.75% 37.9% of them stated that they wanted to have the HPV vaccine and that the HPV vaccine should be free of charge.

Conclusion: It was determined that the knowledge level of young adults about HPV and HPV vaccine, in general, was very low, only one out of four people wanted to be vaccinated against HPV, and the rate of vaccination was very low. Even if the vaccine is free in our country, it is thought that the vaccination rates will be low.

Introduction

Human papillomavirus is a DNA virus and belongs to a very large family. This virus is sexually transmitted and begins to form warts in the genital area. Some may heal on their own, while others may begin to form precancerous cervical cancer. Although the reason why it does not cause cancer is not fully explained, research continues [1-3].

Although there are screening programs in developed and developing countries, the efficiency of these screening programs in developing countries is questionable. It cannot be said that participation in routine screening programs is sufficient in Turkey. Because this disease is sexually transmitted and if you do not have a different sexual partner, it is thought that you do not need to go for a check-up routinely for this disease. This situation reduces participation in screening programs [4].

The fact that cancers are included in national or international screening programs does not prevent cervical cancer from being fatal. The importance of vaccination in primary health care is obvious in order to prevent the disease before it occurs. The HPV vaccine is in the national vaccination program of many European countries (such as America, and Australia). Although it has been approved in Turkey since 2007, it is not included in the national vaccination program and is not covered by the Social Security Institution (SGK is the name of the social security institution of the Republic of Turkey). However, it is stated that studies on inclusion in the scope of general health insurance have started in Turkey.

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At this stage, it is very important to determine the thoughts and attitudes of young people of childbearing age about vaccination. This study, it was aimed to determine the thoughts and attitudes of students about HPV and HPV vaccines and to raise awareness among students.

Materials and methods

Type of research and sample selection

This study was planned as a cross-sectional study in order to determine the knowledge levels and attitudes of young people living in a settlement in the middle of Turkey about HPV vaccine. The research was carried out between 1-30 November 2022. Students between the ages of 18-25, who did not have any chronic diseases, did not have a physical disability, who agreed to participate in the study, and who could speak Turkish were included in the study. All participants who agreed to participate in the study without sampling were included in the study. The research was completed with 870 participants, reaching 80% of the population.

Data collection

The data were collected University campus between 1-30 November 2022. Questionnaires were collected by the researchers by face-to-face interview method. The data were collected by the researchers using a questionnaire prepared in line with the literature. The questionnaire consists of 53 questions, including questions to determine the demographic characteristics of the participants (age, gender, economic status, etc.), knowledge, evaluation and thoughts about the HPV vaccine.

Ethical approval

An application was made to the local ethics committee in the place where the study was conducted and ethical approval was obtained (2022/37/04). Participants in the study were informed about the study and their written and verbal consents were obtained.

Statistical analysis

The data were evaluated with the SPPS 22 package program on the computer. Data were evaluated using numbers, percentages, means and standard deviations.

Results

The average age of the young people participating in the study is 20.49 ± 2.15 years. All of the participants have university education, 50.8% of them are working in the city center, 90.3% are not working, 51.7% have a medium income. 60.9% of the participants are male. In addition, 50.8% of the participants reside in the city, 45.3% of their mothers are primary school graduates, 90.3% are unemployed, 51.7% of them have income equal to their expenses and 98.2% are single Table 1.

Table 2 shows some suggestions for determining the knowledge level of the participants about HPV and the distribution of the answers given to these suggestions.

Table 3 shows the answers given to some suggestions about HPV. Here, it was determined that they did not have precise and accurate information about the coverage and protection of the HPV vaccine, and they had insufficient information.

Table 1: Distribution of some demographic data of the participants.

Characteristics		n	%
Age average	20,49 ± 2,15		
Gender	Woman	340	39,1
	Man	530	60,9
Place of residence	Village-district	158	18.2
	Town	270	31.1
	City Centre	442	50.8
Mother Education Status	Can't Read And Write	108	12.4
	Primary School	394	45.3
	Secondary School	220	25.3
	High Education	148	17.0
Working status	Employed	84	9,7
	Inoperative	786	90,3
Income status	Income lower than expenses	150	17.2
	Income equal to expenses	450	51.7
	Income more than expenses	270	31.0
Marital Status	Single	854	98,2
	Married	16	1,8

Table 2: Some propositions about HPV and the distribution of their answers.

Questions	Answer	n	%
Is there a history of cervical cancer?	Yes	62	7.1
	No	808	92.9
Do You Know What PAP Smear Is?	Yes	338	38.9
	No	532	61.1
(Gender Only Female) Do you know the PAP Smear test?	Yes	86	25.3
	No	254	74.7
Do You Know What HPV Is?	Yes	424	48.7
	No	446	51.3
Where Did You Learn About HPV?	Health Professional	154	36.3
	Internet and TV	101	23.9
	Newspapers and Journals	8	1.8
	Family and Relationship	24	5.7
	Other	137	32.2
Hearing of the HPV Vaccine	Yes	308	35.4
	No	562	64.6
Where Did You Learn About the HPV Vaccine?	Health Professional	104	34
	Internet and TV	140	45
	Newspapers and Journals	4	1
	Family and Relationship	24	8
	Other	36	12
Have You Had the HPV Vaccine?	Yes	70	8.0
	No	800	92.0
Do You Want To Get The HPV Vaccine?	Yes	192	24,75
	No	602	75,25
Should It Be HPV Free?	Yes	330	37.9
	No	540	62.1
Are You Afraid of HPV?	Yes	290	33.3
	No	580	66.7

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Table 4 contains some suggestions and answers regarding the situations that someone with HPV or who has had the HPV vaccine will encounter.

In Table 5, the opinions of the participants about the HPV vaccine were given.

Discussion

Genital warts caused by HPV viruses are evaluated within the scope of screening programs or upon the complaints of the patients, and a decision is made according to the positivity or negativity of the disease. Genital warts turn into cervical cancer when the necessary treatments are not done or during the suppression of the immune system, and serious life-threatening situations are created. But a vaccine that provides great protection against HPV has been found and made available according to different application procedures. In some countries, the HPV vaccine has not been included in the scope of routine vaccination yet and is available for a fee if requested. One of these countries is Turkey. There is no information in the literature that any vaccine provides 100% protection. But it is an undeniable fact that vaccines protect against diseases to a great extent.

What is the reason for not getting the vaccine that provides such great protection? The reason can be considered as high cost and vaccine rejection, the reason of which cannot be understood. We planned this research to determine what this vaccine rejection was based on. We will discuss the data we obtained as a result of the research.

The mean age of the participants in the study was 20.49 ± 2.15 years. The fact that the study was conducted in such a young age group shows that fertility and vaccination are at the healthiest time, which will provide statistically valuable data for future acquaintance with HPV and catching HPV-related diseases, and the opinions of individuals in this age group about vaccination are very important.

It was determined that 7.1% of the participants in the study had a family history of cervical cancer. If we consider that cancers are not only caused by lifestyle and environmental factors, there may also be a genetic predisposition to cervical cancer. 22.7% of the participants stated that they knew that genital warts cause cervical cancer. Gallaspy, et al. [2022]. reported that 24.1% of patients with cervical cancer had a

Table 3: Suggestions and answers about HPV vaccine.

Propositions	Answer	n	%
HPV infection can cause cervical cancer and genital warts.	Yes	454	52.2
	No	16	1.8
	No Idea	400	46.0
HPV infection is sexually transmitted.	Yes	458	52.6
	No	58	6.7
	No Idea	354	40.7
HPV infection does not occur in men.	Yes	140	16.1
	No	324	37.2
	No Idea	406	46.7
Having sexual intercourse with more than one person increases the risk of transmission of HPV	Yes	534	61.4
	No	32	3.7
	No Idea	304	34.9
Every sexually active woman should be regularly screened for HPV infection with the PAP-Smear test.	Yes	452	52.0
	No	50	5.7
	No Idea	368	42.3
PAP-Smear test is performed free of charge in primary care units in Turkey.	Yes	280	32.2
	No	66	7.6
	No Idea	524	60.2
Condom greatly protects against HPV	Yes	324	37.2
	No	106	12.2
	No Idea	440	50.6
Warts in the genital area are the beginning of cervical cancer	Yes	198	22.7
	No	138	15.9
	No Idea	534	61.4
Cervical cancer is a cancer that can be prevented by getting vaccinated and taking other precautions	Yes	154	17.7
	No	246	28.3
	No Idea	470	54.0
HPV vaccine included in the 0-2 age group vaccines	Yes	332	38.2
	No	78	9.0
	No Idea	460	52.9
You won't get cervical cancer if you get the HPV vaccine	Yes	196	22.5
	No	138	15.9
	No Idea	536	61.6
There is no gender difference in HPV vaccine	Yes	272	31.3
	No	88	10.1
	No Idea	510	58.6
HPV vaccine is paid in Turkey	Yes	120	13.8
	No	172	19.8
	No Idea	578	66.4

Table 4: Propositions regarding HPV vaccinated or HPV individuals and the distribution of their answers.

Propositions	Answer	n	%
The person who gets HPV vaccination does not have the HPV test	Yes	138	15.9
	No	138	15.9
	No Idea	594	68.3
HPV carriers are not vaccinated	Yes	208	23.9
	No	130	14.9
	No Idea	532	61.1
The HPV vaccine is a once-in-a-lifetime vaccine.	Yes	94	10.8
	No	284	32.6
	No Idea	492	56.6
HPV vaccine cannot protect people with HPV	Yes	118	13.6
	No	186	21.4
	No Idea	566	65.1
I know the HPV Vaccines how it is make	Yes	134	15.4
	No	96	11.0
	No Idea	640	73.6
Pregnant is not vaccinated to HPV	Yes	200	23.0
	No	104	12.0
	No Idea	566	65.1

Table 5: Distribution of participants' thoughts about HPV vaccine.

Questions	Answer	n	%
I would like to receive information about HPV infections and vaccines.	Yes	422	48.5
	No	70	8.0
	No Idea	378	43.4
HPV screening should be added to routine controls.	Yes	282	32.4
	No	218	25.1
	No Idea	370	42.5
If the HPV vaccines are free, I will get the HPV vaccine.	Yes	340	39.1
	No	162	18.6
	No Idea	368	42.3
It should be made by taking the vaccine list by the Ministry of Health.	Yes	408	46.9
	No	94	10.8
	No Idea	368	42.3

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negative HPV test. In other words, we cannot say that all cervical cancer cases are related to (+) HPV. But it can be stated that 75.9% of (+) HPV is related [5].

The PAP-Smear test is a special test used to collect samples for cervical cancer screening. 61% of the participants stated that they had not heard of the PAP-Smear test before. Worse still, 74.7% of women do not know and have never heard of the PAP-Smear test. The PAP-Smear test is performed in cases where there is no structure called the hymen. In Turkey, premarital sexual intercourse is not considered appropriate by the society. The fact that almost all of the students were single suggests that they may not have been interested in this test. Fear of losing the hymen in order to have the test done may cause the test to be unknown among young people. We believe that students should have information about PAP-Smear between their student years and we consider this to be a lack of education.

51.3% of the respondents do not know what HPV is. 36.3% of those who know what HPV is, reported that they had this information by healthcare professionals. 35.4% of the participants reported that they had heard of the HPV vaccine before. 34% of those who heard about the HPV vaccine stated that they received this information from healthcare professionals.

Only 8% of participants are vaccinated with HPV. If we evaluate that HPV can be transmitted sexually, that all of the participants are of childbearing age and are vulnerable to risks, it will be decided that it is necessary to seriously consider this issue. Other countries have similar low HPV vaccination rates [6,7].

However, another result obtained from the study is that only 24.75% of the participants reported that they wanted to be vaccinated against HPV. Those who want it to be free make up 37.9%. Although it is known that HPV increases the prevalence of cervical cancer, we can say that 66.7% of the participants stated that they were not afraid of HPV. It is obvious that the reason for this is the lack of knowledge. In particular, healthcare professionals should inform their patients about the HPV vaccine [8-13].

The conclusions drawn from the propositions we directed to the participants are even more interesting. 52.2% of them know that HPV causes genital warts and cervical cancer. 52.6% think that HPV is only transmitted sexually. Tucker, et al. (2022) mentioned in their study that HPV can be transmitted iatrogenically. He reported that the equipment used was not sufficiently sterilized, or that the sterilization solutions used did not provide the necessary sterilization. Tucke, et al. [2022], on the other hand, reported that contact with people with HPV does not only need to be sexually, but can also be transmitted through body fluids such as saliva. Robins, et al. (2022) also reported in their study that the solutions used to provide sterile that are kept for a long time do not provide sufficient sterilization, the HPV entering the solution gains resistance after a while, and hypochlorous acid (HOCl) is extremely safe for HPV sterilization [14-16].

We asked the participants whether HPV is present in men. In other words, we wanted men to report whether they carry this virus to make them sick, or whether it is the patient himself, and 62.8% of the participants reported that HPV is not in men or they do not have knowledge about this issue. In addition, 37.2% of the participants reported that using condoms protected them from HPV. Whereas, Rezaee, et al. (2022), Bettampadi, et al. (2020), Giuliano, et al. (2008), Donà, et al. (2022), Taumberger, et al. (2022) and Rosen, et al. (2016) reported in their study that men also carry a high risk of disease, and this prevalence is much higher in male sex workers [17-21].

It was also stated that using a condom does not have a direct effect. Of course, this rate can vary across cultures and societies. Extramarital affairs and polygamous partnerships are not welcomed in Turkey. This prevalence may be slightly lower. But that doesn't mean they don't exist. 61.4% confirmed our proposition that polygamy increases the risk, and only 3.7% did not directly agree with this proposition. This situation causes the disease to occur in other body fluids such as saliva and iotrogenic factors. When we asked whether every sexually active woman should have regular PAP Smear, 52% of the participants agreed. The rate of those who reject this proposition is 5.7% [22-25].

Only 17.7% of the participants reported that HPV can be prevented by vaccination. It has been stated in many studies that the HPV vaccine greatly reduces the risk against cervical cancer. In the study of the Center for Disease Prevention and Control, Brandt and Stubbs (2022) and Palmer, et al. (2019), it was reported that the HPV vaccine reduces the risk of cervical cancer and provides protection against the disease to a large extent. It can be said that students have a serious lack of knowledge on this subject [26-28].

In our recommendation regarding the application of HPV in infancy, 38.2% reported that HPV vaccine can be applied. In general, this practice is wrong. Because the immune system weakens during pregnancy, infancy and childhood. At this stage, it is more appropriate to do it during adolescence. It is not foreseen that the vaccine is not a live vaccine, and that it is administered together with other vaccines but with a different injector. However, if all adults are vaccinated, the prolongation of the vaccination period in children can be tolerated, but the sooner it is vaccinated, the stronger the immune response and the longer the disease is defined. In addition, the vaccine dose amount in childhood is less than in adults [29-34].

At the same time, it was determined that 22.5% of the participants knew that they would not have cervical cancer even if they had the HPV vaccine, but the vast majority (61.6%) had no idea about this issue. Other data obtained from the study are 13.8% of the participants in Turkey that the HPV vaccine is paid, 15.9% of the people who have the HPV vaccine do not need to have a PAP Smear test, 23.9% of them are that those with HPV should not be vaccinated. 32.6% of them reported that the HPV vaccine did not provide lifelong protection, 13.6% of them thought that the HPV vaccine protected from HPV, 15.4% of them thought that the HPV vaccine was a non-living

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vaccine, and 23% of them thought that the pregnant women could be vaccinated against HPV [35-42].

When these data are analyzed specifically, it is seen that the participants are generally not informed about HPV and HPV vaccine when it is evaluated that they are the most educated and youngest (millennial children) group in the society. Because only 32.4% of the participants wanted HPV screenings to be added to routine controls. In addition, 39.1% wanted HPV to be free and 46.9% wanted it to be included in the vaccine list by the Ministry of Health.

Conclusion

When our study is evaluated in general, no other study with such a young age group and such a high sample size has been found in the literature. Although societies in general have knowledge about cervical cancer, the cause was not known in our study group in particular. There is a deep uncertainty about what HPV is or what the vaccine actually does. Because family physicians do not provide enough information about HPV or other diseases. In studies, it protects at least 75% of cervical cancer in people of childbearing age. We can easily say that cervical cancer is among the third most common cancer types among women. It is necessary to be more sensitive to HPV, which is one of the biggest causes of not only cervical cancer, but also anal cancers, oral and mucous cancers [43-48].

There is also information that HPV will be included in the general vaccine list by the Turkish Ministry of Health. The current price of the vaccine is high for private use. When we consider that 3 doses are almost equal to 1 minimum wage and the family is at least 4 people, we can understand that the price is very high. But why stay away from a vaccine that has been scientifically proven to provide such great protection against cervical and head and neck cancers? There can be only one explanation. The explanation is that there is not enough information. In public broadcasting tools. While advertising vitamins and mineral supplements on social media, it is necessary to question why the HPV vaccine remains in the background. We have to increase HPV vaccination rates [49,50].

In conclusion, all research on HPV should be supported. The results of this research should be published and the society should be informed. When it is considered that health literacy is not in a real sense, informing health professionals through various conferences and seminars can be effective in preventing head and neck and cervical cancers and reducing the prevalence.

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