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HUMAN PAPİLLOMA VİRÜSÜ (HPV) VE HPV AŞISINA YÖNELİK BİLGİ DÜZEYLERİNİN BELİRLENMESİ: BİR İLÇE ÖRNEĞİ

DETERMINATION OF THE LEVEL OF KNOWLEDGE ABOUT THE HUMAN PAPİLLOMA VİRUS AND THE VACCİNE: A SAMPLE OF A DISTRICT

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Özet

Giriş: Bu araştırmada yetişkin bireylerin Human Papilloma Virüsü (HPV) ve HPV aşısına yönelik bilgi düzeylerinin belirlenmesi amaçlanmıştır.

Gereç- Yöntem: Tanımlayıcı ve kesitsel tipte yapılan araştırmanın örneklemini bir ilçe merkezinde yaşayan on sekiz yaş üzeri 1045 kadın ve erkek oluşturdu. Veriler "Kişisel Bilgi Formu" ve "Human Papilloma Virüsü Bilgi Ölçeği (HPV-BÖ)" kullanılarak toplandı. Araştırmada elde edilen veriler SPSS (Statistical Package for Social Sciences) for Windows 16.0 programı kullanılarak analiz edildi. Verilerin değerlendirilmesinde yüzdelik dağılım, Mann Whitney U testi, ve Kruskal Wallis analizi kullanıldı. İstatistiksel değerlendirmede $p<0.05$ düzeyi anlamlı kabul edildi.

Bulgular: Katılımcıların yaş ortalaması 32.29 olup tamamı HPV aşısı yaptırmamıştır. HPV-BÖ'den alınan toplam puan 12.61±9.52 iken katılımcıların %56.8'i HPV'yi, %64.9'u HPV testini, %23.2'si HPV aşısını duyduğu belirlenmiştir. Katılımcılardan kadınların, lisansüstü eğitimi olan, CYBE hakkında bilgisi olan ve ailesinde kanser öyküsü olanların HPV-BÖ toplam skorlarının yüksek olduğu belirlendi. Katılımcıların HPV Bilgi Ölçeği puanı ile HPV'yi duyma, HPV testini duyma ve HPV aşısını duyma durumu ile karşılaştırıldığında, ölçek alt boyutları ve toplam puan ortalamalarının istatistiksel olarak anlamlı düzeyde farklılaştığı tespit edildi.

Sonuç: Araştırma sonuçlarına göre katılımcıların HPV hakkında bilgi eksikliklerinin olduğu belirlenmiştir. Serviks kanserinin eliminasyonunda bireylerin farkındalıklarının artırılması önem arz etmektedir.

Anahtar Kelimeler: İnsan papilloma virüsü; HPV aşısı; servikal kanser

Abstract

Objective: This study aims to determine adult individuals' level of knowledge about the Human Papilloma Virus (HPV) and the HPV vaccine.

Material- Methods: The sample of this descriptive and cross-sectionalstudy was composed of 1045 men and women who were aged 18 and above and lived in a district in the center. Data were collected through the "Personal Information Form" and the "Human Papilloma Virus Knowledge Scale (HPV-KS)". Data collected from the study were analyzed using the SPSS for Windows 16.0 program. Data analysis included percentage distributions, Mann Whitney U test, and Kruskal Wallis analysis. Statistical significance was accepted as $p<0.05$.

Results: The average age of the participants was 32.29, and none of the participants were vaccinated against HPV. Total scores obtained from the HPV-KS was 12.61±9.52, and the results showed that 56.8% of the participants heard of HPV, 64.9% heard of the HPV test, and 23.2% heard of the HPV vaccine. When the participants' HPV Knowledge Scale score was compared with the status of hearing about HPV, hearing about HPV testing, and hearing about the HPV vaccine, it was determined that the scale sub-dimensions and total score averages differed at a statistically significant level.

Conclusion: The results of this study showed that the participants had a lack of knowledge about HPV. Increasing awareness of individuals is an important factor in the elimination of cervical cancer.

Keywords: Human Papilloma Virus; Human Papilloma Virus vaccine; cervical cancer

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INTRODUCTION

Human Papilloma Virus (HPV) is a common virus group all over the world (1,2). At least 40% of HPV types among more than 200 affect genital system epithelium (1). HPV, which is commonly seen in adults and is sexually transmitted, is the most important cause of cervical cancer. Therefore, it has become a widespread public health problem today (3). Although the prevalence of HPV varies depending on the geographical region and population, it is reported to be between 12,9% and 86,0% in the United States of America (USA), and the prevalence of HPV type 16 and 18 is reported to range between 4,2% and 67,6% in Turkey. HPV accounts for around 91% of anal cancers, 75% of vaginal cancers, 70% of oropharyngeal cancers, 69% of vulvar cancers, 63% of penis cancers, and almost all of the cervical cancers (1,4).

When the increase in HPV prevalence and the health problems it causes are taken into consideration, the importance of primary prevention becomes evident for the prevention of HPV-related diseases. Administration of the HPV vaccine is one of the primary prevention phases (1,4). There are three prophylactic HPV vaccines available (Cervarix, Gardasil 4, and Gardasil 9) (1). Cervarix and Gardasil 4 vaccines are available in Turkey. Administering the HPV vaccine before encountering HPV and starting sexual activity is important to enhance its efficiency. Therefore, it is recommended to administer the HPV vaccine at the age of 11 or 12 (starting from the age of 9) before becoming sexually active (5).

Within the scope of the fight against cervical cancer, the World Health Assembly aims to fully vaccinate 90% of girls by the age of 15 between the years 2020 and 2030. While international studies report the HPV vaccination rates between 40,5% and 92,4%, HPV vaccination rates in Turkey range between 0,9% and 3,9% (6,7). One of the reasons for the low HPV vaccination rates in Turkey is that the vaccine is not provided for free as it is not included in the national vaccine calendar. Another reason is that the target group for vaccination includes children, which brings parents' attitudes toward vaccines as an important factor (1). Studies show that the reasons for not administering vaccines include fear of parents about the HPV vaccine, distrust about the efficiency and side effects of the HPV vaccine, notion indicating that children are not at risk, and beliefs about increasing the probability of having sexual intercourse by being vaccinated at an early age (8,9). There is a need for high awareness about HPV, HPV tests, and HPV vaccines to achieve the HPV elimination goal of the WHO. In light of this information, adult individuals are of great importance in research for the elimination of HPV. This study aims to determine the level of knowledge about HPV and the HPV vaccine in individuals aged 18 and above.

MATERIAL- METHODS

Study Design

This study used a descriptive and cross-sectional design.

Target Population and the Sample

This study was conducted in a Family Health Center (FHC) located in a district center. The target population of the study was 11400 men and women aged 18 and over and registered in the FHC. Accordingly, in order to determine the sample size in groups with known universe, the formula n=N.t2.p.q/d2.(N-1)+t2.p.q; when t=1.96; p=0.50, q=0.50; d=0.05 is taken, the number of women to be included in the sample group is determined as at least 370. The study was completed with 1045 individuals who sought treatment in the FHC for any reason between December 2022 and February 2023 and agreed to participate in the study.

Criteria for inclusion in the study;

Being over 18 years old,
Not having any communication barriers,
Being willing to participate in the study.

Data Collection Tools

Data were collected through the “Personal Information Form” and the “Human Papilloma Virus (HPV) Knowledge Scale”.

Personal Information Form: This form was composed of 18 questions that aimed to determine individuals' socio-demographic and HPV-related characteristics (1,2,10,11).

Human Papilloma Virus (HPV) Knowledge Scale: The HPV Knowledge Scale, which was developed by Waller et al., includes 35 items that assess the level of knowledge about HPV, HPV vaccine, and screening tests. Turkish validity and reliability of the scale were performed by Demir (12), which was composed of 33 items and four sub-scales. Permission was obtained for the scale before starting the research. Participants are expected to mark each item of the HPV-BS as "Yes", "No" or "I don't know". During the evaluation phase, each correct answer is scored as "1", while incorrect answers and "I don't know" statements are scored as "0". The total score obtained from the HPV-BS is between 0-35, and a high score indicates a high level of knowledge about HPV screening tests and the HPV vaccine. Cronbach's alpha value of the scale was reported to be 0.96, and it was found 0.91 in this study.

Data Collection

The data collection tools were administered in the FHC to the individuals who gave their written consent for participating in the study and were asked to fill in the forms individually. The forms were collected back by the researchers.

Statistical Analysis

Data collected from the study were analyzed in SPSS package software. Descriptive data were presented as means and standard deviations for continuous variables, and numbers and percentages were used for categorical variables. The normality distribution of the variables was analyzed using the Kolmogorov-Smirnov/Shapiro-Wilk tests, and the homogeneity of the variances was analyzed using the Levene test. Analyses included logistic regression modeling. Mann Whitney U and Kruskal Wallis tests were used for the analysis of the nonnormally distributed data. Statistical significance was accepted $p<0.05$.

Ethical Issues

Before starting the study, ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee (Decision number: 2022-11/18) and the study permit was obtained from the Provincial Health Directorate. The study was conducted in accordance with the ethical standards of the Helsinki Declaration. Before starting the study, the informed consent form was read to all participants and their verbal and written consent was obtained. Permission was obtained from the authors before using the data collection tools.

Limitations of the study

The most important limitation of the study is that it was conducted in a single center. Therefore, the results cannot be generalized.

RESULT

The average age of the participants was 32.29. Of all the participants, 57.6% were females, 44% graduated from high school, 50.5% were married, 58.8% had children, and 64.3% had a middle economic level. Besides, 38.8% of the participants had a cancer history in the family, 61.1% received information about STIs, the internet was the source of knowledge for 95.9%, 45.5% received information about cervical cancer, and health personnel was the source of knowledge for 77.4%. None of the participants were found to have been vaccinated against HPV (Table 1).

Tablo 1. Distribution of the Participants according to some Individual Characteristics (n=1045)

The average age of the Participants: 32.29 (lowest: 18, highest:47)		
	Number	**%**
Gender		
Female	602	57.6
Male	443	42.4
Education Level		
Primary school	164	15.7
High school	460	44.0
Associate degree	219	21.0
Undergraduate	169	16.2
Postgraduate	33	3.2
Economic condition		
Income less than expenses	326	31.2
Income equal to expenses	672	64.3
Income more than expenses	47	4.5
Marital status		
Single	517	49.5
Married	528	50.5
Having children		
Yes	614	58.8
No	431	41.2
History of cancer in the family		
Yes	322	30.8
No	723	69.2
Knowledge about Sexually Transmitted Infections (STI)		
Yes	638	61.1
No	407	38.9
Source of knowledge about STI *		
Health personnel	237	37.1
Internet	612	95.9
Visual and written media	567	88.8
Family, relatives	348	54.5
Friends	579	90.7
Knowledge about cervical cancer		
Yes	475	45.5
No	570	54.5
Sources of knowledge about cervical cancer*		
Health personnel	368	77.4
Internet	125	26.3
Visual and written media	10	2.1
Family, relatives	47	9.9
Friends	68	14.3
Having been vaccinated against HPV		
Yes	0	0.0
No	1045	100.0

*More than one option was selected.

The participants were found to receive 12.61±9.52 points in the HPV-KS. The sub-scale scores were 6.88 ±5.65 for the General HPV Knowledge, 2.83±2.90 for the HPV Screening Test Knowledge, 2.14±2.30 for the General HPV Vaccine Knowledge, and 1.24±1.17 for the Knowledge about the HPV vaccine program available. Besides, 56.8% of the participants heard of HPV, 64.9% heard of the HPV test, and 23.2% heard of the HPV vaccine (Table 2).

Tablo 2. HPV-KS Score Distribution of the Participants (n=1045)

Scale	**Number of Items**		**X ± SD**	**Min-Max**
General HPV Knowledge	16		6.88 ±5.65	0-16
HPV Screening Test Knowledge	6		2.83±2.90	0-6
General HPV Vaccine Knowledge	5		2.14±2.30	0-5
Knowledge about the HPV Vaccine Program Available	6		1.24±1.17	0-6
HPV-KS Total	33		12.61±9.52	0-33
	Yes		**No**	
	n	**%**	**n**	**%**
Have you ever heard of HPV?	594	%56.8	451	%43.2
Have you ever heard of the HPV test?	678	%64.9	367	%35.1
Have you ever heard of the HPV vaccine?	242	%23.2	803	%76.8

Female participants, participants who had a postgraduate degree, who knew about STIs, and who had a cancer history in the family were found to receive significantly higher “General HPV Knowledge”, “HPV Test Knowledge”, “HPV Vaccine Knowledge”, “Knowledge about the HPV Vaccine Program available” and HPV-KS total scores ($p<0.05$) (Table 3).

Table 3. Comparison of the Participants' Socio-demographic Features and HPV Knowledge Scale and Sub-scale scores (n=1045)

	HPV-KS-HPV General Knowledge	HPV-KS-HPV test	HPV-KS-HPV vaccines	HPV-KS-HPV vaccine program	HPVKS Total
Gender					
Female	8,12±5.42	4.07±2.72	2.61±2.36	1.74±2.57	16.55±8.56
Male	4.01±5.06	2.23±1.16	1.51±2.04	0.56±1.72	7.25± 6.29
[a]Test/p	12.43 / **0.00**	18.40 / **0.00**	7.92 / **0.00**	8.43 / **0.00**	17.82 / **0.00**
Education Level					
Primary school	4.55±5.62	1.82±2.56	1.88±2.43	0.68±1.78	8.94±9.84
High school	5.43±5.36	1.76±2.60	1.48±2.01	0.65±1.77	9.34± 8.72
Associate degree	6.14±4.98	3.97±2.82	3.28±2.23	0.84±1.85	14.25±7.87
Undergraduate	8.93±6.05	4.20±2.72	2.37±2.39	2.75±2.88	18.25±8.16
Postgraduate	10.15±5.17	4.58±2.49	2.66±2.26	3.56±2.75	20.96±8.39
[b]Test/p	26.21 / **0.00**	52.80 / **0.00**	28.50 / **0.00**	61.19 / **0.00**	61.55 / **0.00**
Marital Status					
Single	6.87±5.78	2.79±2.89	2.12±2.27	1.63±2.52	13.43±9.70
Married	5.89±5.48	2.87±2.92	2.17±2.33	0.85±1.99	11.80±9.27
[a]Test/p	-2.75 / **0.006**	-0.13 / 0.20	-0.11 / 0.91	-5.36 / **0.00**	-2.91 / **0.004**
Economic Level					
Income less than expenses	6.16±5.82	2.33±2.78	2.33±2.37	1.03±2.15	11.87±9.56
Income equal to expenses	6.54±5.60	3.04±2.14	2.02±2.25	1.32±2.35	12.94±9.56
Income more than expenses	5.48±5.04	3.40±2.93	2.59±2.28	1.48±2.40	12.97±8.37
[b]Test/p	1.95 / 0.37	8.30 / **0.01**	3.13 / 0.20	4.75 / 0.93	3.92 / 0.14
Having children					
Yes	6.45±5.61	3.03±2.92	2.28±2.34	1.42±2.45	13.19±9.56
No	6.28±5.71	2.56±2.86	1.94±2.22	0.98±2.03	11.77±9.39
[a]Test/p	-0.56 / 0.50	-1.72 / 0.08	-2.02 / **0.04**	-2.08 / **0.03**	-2.16 / **0.03**
Knowledge about STI					
Yes	6.98±5.68	3.34±2.91	2.38±2.32	1.57±2.52	14.29±9.32
No	5.44±5.47	2.03±2.71	1.77±2.21	0.71±1.77	9.96±9.22
[a]Test/p	-4.31 / **0.00**	-6.49 / **0.00**	-4.19 / **0.00**	-5.04 / **0.00**	-7.39 / **0.00**
Knowledge about cervical cancer	8.07±5.47	3.35±2.88	2.10±2.31	1.56±2.44	15.09±9.45
Yes	4.97±5.40	2.40±2.86	2.18±2.29	0.97±2.14	10.53±9.07
No					
[a]Test/p	-8.91 / **0.00**	-5.81 / **0.00**	-0.64 / 0.518	-5.92 / **0.00**	-7.97 / **0.00**
History of cancer in the family	8.38±5.15	3.53±2.91	1.89±2.27	1.72±2.50	15.53±9.06
Yes	5.49±5.63	2.52±2.85	2.26±2.30	1.02±2.16	11.30±9.43
No					
[a]Test/p	-8.03 / **0.00**	-4.38 / **0.00**	-2.64 / **0.00**	-6.04 / **0.00**	-6.92 / **0.00**

[a]Mann-Whitney U test, [b]Kruskal Wallis test

When the participants' HPV Knowledge Scale scores and the scores about hearing of HPV, HPV test, and HPV vaccine were compared, it was found that sub-scale and total mean scores differed statistically significantly ($p<0.05$) (Table 4).

Table 4. Comparison of the Participants' HPV-KS mean scores according to hearing of HPV, HPV test, and the HPV vaccine

	HPV-KS-HPV General Knowledge	HPV-KS-HPV test	HPV-KS-HPV vaccines	HPV-KS - HPV vaccine program	HPV-KS Total
Have you heard of HPV?					
Yes	8,18±5.34	4.12±2.71	2.55±2.26	1.73±2.54	16.60±8.16
No	3.99±5.14	1.13±2.18	1.61±2.10	0.59±1.73	8.57± 7.33
[a]Test/p	-12.25 / **0.00**	-14.88 / **0.00**	-5.57 / **0.00**	-10.0 / **0.00**	-16.37 / **0.00**
Have you heard of the HPV test?					
Yes	7.67±5.52	3.81±2.83	2.43±2.37	1.57±2.48	15.49±8.84
No	3.97±5.06	1.03±2.05	1.61±2.06	0.63±1.67	7.25± 8.33
[a]Test/p	-10.40 / **0.00**	-12.93 / **0.00**	-4.22 / **0.00**	-8.04 / **0.00**	-13.73 / **0.00**
Have you heard of the HPV vaccine?					
Yes	9.14±5.81	4.39±2.60	2.61±2.34	3.08±2.85	19.24±8.09
No	5.54±5.32	2.36±2.83	2.00±2.27	0.68±1.76	10.60±8.99
[a]Test/p	-8.78 / **0.00**	-9.01 / **0.00**	-3.23/ **0.00**	-13.39 / **0.00**	-12.49 / **0.00**

[a]*Mann-Whitney U test*

DISCUSSION

This study aimed to determine adult individuals' level of knowledge about HPV and the HPV vaccine and found that the participants had a lack of knowledge about General HPV, HPV Screening, HPV Vaccine, and HPV Vaccine Program. HPV infection accounts for almost all cervical cancers (99%) (1).

With a 13,3/100.000 incidence rate, cervical cancer is ranked first among gynecological cancers and fourth among female cancers (13). As for Turkey, with a 4,3/100.000 incidence rate, it is ranked third among gynecological cancers and ninth among female cancers (14). This study found that 45.5% of the participants knew about cervical cancer, and 77.4% reportedly received this information from health personnel. A study conducted with university students in Turkey reported that 90,1% of students in the study conducted by Aksoy et al. (2021) (15) and 78.3% of students in the study conducted by Borlu et al. (2016) (16) heard of cervical cancer. Very low levels of knowledge about cervical cancer in this study are considered to be caused by the fact that more than half of the sample had an education level of high school and below.

HPV vaccine is one of the most effective ways for protecting against cervical cancer (17). In this study, none of the participants had been vaccinated against HPV. Similarly, İneli et al. (2019) (18) investigated vaccination in adults and found that while no men were vaccinated, the rate of vaccination was 2,5% among women.

Various studies conducted with university students in Turkey reported the HPV vaccination rates as 1.5% in 275 university students in the study conducted by Güneysu Tunaman et al. (2022) (5), 2,1% in 1129 university students in the study conducted by Emre et al. (2020) (2) and 25,82% in 3153 university students in the study conducted by Aslan et al. (2020) (7). When studies in other countries were analyzed in terms of vaccination rates, it was found that the study including students who received health education in Switzerland reported women's vaccination rates as 72,6% and men's vaccination rates as 31,4% (19). In their study conducted with 98 pediatrists, Taşar et al. (2021) (20) found that 15,3% of doctors had been vaccinated against HPV, and 60,2% had recommended the HPV vaccine before. In their

study that included 121 doctors, Lubeya et al. (2022) (21) found that 54,6% of doctors recommended everyone suitable for the vaccine to get vaccinated against HPV. Study results show that HPV vaccine rates are not at an adequate level even among health professionals and students who are educated to protect community health in Turkey and other countries. Besides, health professionals' level of recommending HPV vaccines was found to be low. The most important reason for the lack of vaccination in this study is considered to be a lack of knowledge about the vaccine.

The participants were found to receive 12.61±9.52 points in the HPV-KS. The sub-scale scores were 6.88 ±5.65 for the General HPV Knowledge, 2.83±2.90 for the HPV Screening Test Knowledge, 2.14±2.30 for the General HPV Vaccine Knowledge, and 1.24±1.17 for the Knowledge about the HPV Vaccine Program available. When other studies conducted using the same assessment scale were analyzed; it was found that Aslan and Bakan (2020) (6) reported students' total mean score as 5.86 while sub-scale mean scores as 3.66 for General HPV Knowledge, 0.82 for HPV Screening Test Knowledge, and 0.94 for General HPV Vaccine Knowledge in their study including 312 students enrolled in university. In their study conducted with 326 midwifery students, Genç Koyuncu (2022) (22) found that the HPV total score was 21,21, the General HPV Knowledge score was 11,48, the HPV Test Knowledge Score was 3,86, the HPV Vaccine Knowledge score was 4,98, and the Knowledge about the HPV Vaccine Program score was 0,87. In their study that included 643 health professionals from different branches, Sherman et al. (2020) (23) found that the "General HPV knowledge" sub-scale median value was 14, the prevalence of the participants with the full total score was 32%, "HPV screening and triage" sub-scale median value was 12, the prevalence of participants who received the full total score was 12,8%, "HPV vaccine" sub-scale median value was 6, and the prevalence of the participants who received the full total score was 32,3%. An analysis of the study results shows that the HPV-KS total score was higher in two studies than in our study. This result is considered to be caused by students and professionals in the field of health in the other two study samples.

Of all the participants in this study, 56.8% heard of HPV, 64.9% heard of the HPV test, and 23.2% heard of the HPV vaccine. Other studies conducted in different sample groups indicated the following results: 91% of 780 medical students heard of HPV and 85,6% heard of HPV vaccine in the study conducted by Emre et al. (2020) (2); 28% of 50 individuals heard of HPV and 26% heard of HPV vaccine in the study conducted by Wilson et al. (2021) (24); 42,3% of 9855 women heard of HPV and 21,0% heard of HPV vaccine in the study conducted by Lin et al. (2019) (25); 78.6% of 350 women heard of HPV in the study conducted by Bolormaa et al. (2023) (26); 63,4% of mothers who had daughters heard of HPV in the study conducted by Sinshaw et al. (2022) (27); 58,6% of 1007 university students heard of HPV vaccine in the study conducted by Dönmez and Gümüşsoy (2020) (28) and 97.2% of 250 women did not hear of HPV in the study conducted by Erdogan et al. (2021) (29).

An analysis of the study results indicates that although the rates of knowing about HPV and HPV vaccines were higher among individuals who were students or worked in the field of health, it is not at the desired level. In this regard, providing health professionals and students and all other groups with community-based education on knowledge bout HPV, HPV test, and HPV vaccines is of great importance in terms of helping them to take protective measures for protecting against HPV infections, and cervical cancer in the long term. Hence, studies on this issue indicate an increase in HPV, HPV test, and HPV vaccine knowledge after the education provided to the participants (30-32).

"General HPV Knowledge", "HPV Test Knowledge", "HPV Vaccine Knowledge", "Knowledge about the HPV vaccine program"

and HPV-KS total scores were significantly higher in women, in those who received postgraduate education, had knowledge about STI, and had cancer history in their family. Female students' knowledge about HPV (6) and women's knowledge about HPV-related diseases and the HPV vaccine (19) were found to be significantly higher compared to men. Genç Koyuncu (2022) (22) found that "General HPV Knowledge" and "HPV Test Knowledge" sub-scale scores and HPV-KS total scores were significantly higher in students who had a history of cancer in the family compared to those who did not. Another study similarly reported that HPV knowledge and awareness level was higher in participants who knew about sexually transmitted diseases. This study reported higher HPV-KS scores in women who had high education levels and a cancer history in their family, which could be factors contributing to the increase in the knowledge, sensitivity, and awareness of these groups (33). When the participants' HPV Knowledge Scale scores and scores about hearing of HPV, HPV test, and HPV vaccine were compared, sub-scale and total mean scores were found to differ significantly. Turan et al. found that not having heard of HPV and HPV vaccines before caused a negative effect on knowledge scores (34).

CONCLUSION

In conclusion, this study found that adult individuals who participated in this study had low levels of HPV knowledge and awareness. Besides, more than half of the participants were found to know about HPV and HPV test. However, the level of knowledge about vaccines was low, and vaccination rates were zero. HPV causes many diseases including various anogenital and oropharynx cancers and cervical cancer, which is a preventable cancer type. Therefore, HPV infections are one of the important health problems that concern the whole world. There is a need for strategies that increase knowledge and awareness of society for eliminating HPV-related diseases and bringing them under control. In this regard, it is recommended to extend community-based screenings and provide all individuals in society with information about the issue by health professionals and maintain consultancy services to.

Ethics Committee Approval

Before starting the study, ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee (Decision number: 2022-11/18) and the study permit was obtained from the Provincial Health Directorate. The study was conducted in accordance with the ethical standards of the Helsinki Declaration. Before starting the study, the informed consent form was read to all participants and their verbal and written consent was obtained. Permission was obtained from the authors before using the data collection tools.

Author Contributions

Concept – BY,AY; Design – BY,AY; Supervision - BY; Resources – BY,AY; Materials – BY,AY; Data Collection and/or Processing – BY,AY; Analysis and/or Interpretation – BY,AY; Literature Search – BY,AY; Writing Manuscript – BY,AY; Critical Review – BY,AY.

Declaration of Interests

All contributing authors completed the ICMJE form individually. The authors confirm that I have answered every question in the relevant form and have not changed the text of any questions.

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