ORIGINAL RESEARCH ARTICLE

Examination of HPV knowledge levels of young adults between 18-30 years of age and the associated factors

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Abstract

The aim of the study was to determine the knowledge levels of young adults aged 18 to 30 regarding Human Papillomavirus (HPV), and to identify associated and influencing factors. This descriptive and cross-sectional study was conducted among young adults within the specified age group. The sample size was calculated using the G*Power 3.1 program, and the study was completed with 411 participants. Data were collected online between March 15, 2023, and July 1, 2023.As data collection tools, the *"Personal Information Form"* and the *"Human Papillomavirus (HPV) Knowledge Scale (HPV-KS)"* were used. The mean total score on the HPV-KS was found to be 14.52 ± 7.86, indicating a moderate level of knowledge among young adults. A statistically significant relationship was found between the total score and demographic characteristics, specifically age and gender. According to regression analysis, age and gender significantly explained 3.1% of the variance in HPV knowledge levels. Additionally, a significant and positive relationship was identified between HPV knowledge levels and awareness of HPV ($\beta = 5.222$, $p < 0.001$), awareness of HPV testing ($\beta = 1.978$, $p < 0.001$), and awareness of the HPV vaccine ($\beta = 5.556$, $p < 0.001$).In conclusion, the lack of knowledge about HPV may contribute to its continued transmission. *(Afr J Reprod Health 2025; 29 [8]: 112-122).*

Keywords: Human Papillomavirus; Knowledge Level; Young

Résumé

L'objectif de cette étude était de déterminer le niveau de connaissances des jeunes adultes âgés de 18 à 30 ans concernant le virus du papillome humain (VPH) et d'identifier les facteurs associés et influents. Cette étude, de type descriptif et transversal, a été menée auprès de jeunes adultes appartenant à ce groupe d'âge. La taille de l'échantillon a été calculée à l'aide du logiciel G*Power 3.1, et l'étude a été complétée avec 411 participants. Les données ont été collectées en ligne entre le 15 mars 2023 et le 1er juillet 2023.Les outils de collecte de données comprenaient un « Formulaire de données personnelles » et l'« Échelle de connaissances sur le VPH (HPV-KS) ». Le score total moyen obtenu à l'échelle HPV-KS était de 14,52 ± 7,86, indiquant un niveau de connaissances modéré parmi les jeunes adultes. Une relation statistiquement significative a été observée entre le score total et certaines caractéristiques démographiques, notamment l'âge et le sexe. Selon l'analyse de régression, l'âge et le sexe expliquaient de manière significative 3,1 % de la variance du niveau de connaissance sur le VPH. De plus, une relation significative et positive a été identifiée entre le niveau de connaissance sur le VPH et la connaissance du VPH *($\beta = 5,222$, $p < 0,001$),* la connaissance du test de dépistage du VPH *($\beta = 1,978$, $p < 0,001$)* ainsi que la connaissance du vaccin contre le VPH *($\beta = 5,556$, $p < 0,001$).* En conclusion, le manque de connaissances sur le VPH pourrait contribuer à sa transmission continue. *(Afr J Reprod Health 2025; 29 [8]: 112-122).*

Mots-clés: Virus du papillome humain; niveau de connaissances; jeunes adultes

Introduction

Human Papillomavirus (HPV) is one of the most common sexually transmitted infections worldwide.[1] HPV infections are mostly asymptomatic and heal spontaneously within one to two years.[2] HPV infections that do not heal spontaneously are known to cause some high-risk cancer types. HPV has been shown to be the leading cause of six cancer types and genital warts in both men and women.[3]The six cancer types caused by HPV include cervical, vaginal, vulvar, penile, anus, and oropharyngeal cancers.[4] HPV has been reported to be the cause of 91% of cervical and anal cancers, 75% of vaginal cancers, 70% of oropharyngeal cancers, 69% of vulvar cancers, and 63% of penile cancers.[3] It has been reported that 80% of sexually active women or men have been infected with HPV at least once in the course of their lives.[1,5] Vaccines have been developed to prevent HPV infection and the diseases it may cause. The HPV vaccine prevents HPV-associated genital warts, mostly cervical, anal,

vaginal, and vulvar cancers, and lowers the risk of HPV-associated throat cancers.[6,7] The World Health Organization (WHO) plans to eliminate this condition—a major public health problem— by achieving HPV vaccination success of 90% by the year 2030.[8] It is important to raise HPV vaccination rates and elevate the knowledge level of individuals to prevent HPV infections. In the literature, it has also been indicated that young adults have low knowledge levels of HPV.[9] Therefore, the aim of this study is to determine the knowledge levels of young adults between the ages of 18 and 30 about HPV and to identify the associated and effective factors. The questions set out in the study are as follows:
What is the knowledge level of young adults about HPV?
How are the knowledge level about HPV and the descriptive characteristics correlated?
How are the knowledge levels about HPV and sexual health-related characteristics correlated?
What are the factors that affect the knowledge level about HPV?

Methods

Type and objective of the study

This descriptive study aimed to determine the knowledge levels of young adults aged 18-30 years about Human Papillomavirus (HPV) and identify the associated and effective factors.

Population and sample

The population of the study consisted of young adults between the ages of 18-30 living in Turkiye. G*Power 3.1 programme was used to determine the sample size. The correlation coefficient for the dependent variable of the study, Human Papillomavirus (HPV) knowledge level, was taken as r=0.166.[10]According to this value, the sample size was calculated as 367 at confidence interval of 95%, significance level of 5%, effect size of 0.16 and power of 90%, and the study was completed with 411 participants with approximately 12% (44 people) surrogates.

Inclusion criteria

Young adults who were voluntary to participate in the study,
aged between 18 and 30 years,
able to read and write Turkish,
had no mental problems,
and had access to internet-social media (such as WhatsApp, Instagram, and Twitter) were included in the study.

Data collection tools

A "personal data form" prepared by the researchers based on a literature review and the "Human Papillomavirus Knowledge Scale" were used to collect the data.[10-12] There are 3 parts in the online questionnaire. The first part involves informing the participants about the study and getting their consent. The second part includes a personal data form with descriptive and sexual health questions, and the third part comprises the items of the Human Papillomavirus Knowledge Scale (HPV-KS).

Personal Data Form: Prepared by the researchers based on a literature review, the form includes a total of 14 questions, including 1 open-ended and 13 closed-ended questions.[11, 12]The form includes 8 questions about the socio-demographic characteristics of the individuals (age, marital status, family type, income level, etc.) and 6 questions aiming to assess their knowledge about sexual health and HPV. Two academicians who are faculty members in the midwifery department were consulted as external observers for the form consisting of 14 questions in total.

Human Papillomavirus Knowledge Scale (HPV-KS): Developed by Waller *et al*., (2013), the scale has a total of 35 items.[13]Bozkurt and Özdemir (2023) removed 2 items from the original version of the scale during its Turkish validity and reliability study and finalised the scale with a total of 33 items and 4 subscales. All items of the scale are rated as "yes," "no," or "I don't know.". During the assessment phase, each correct answer is scored with "1," while incorrect answers and the statement "I don't know" are scored with "0.". The total score to be obtained from the scale ranges between 0-33, and high scores in the subscale and overall scale indicate high knowledge levels. The subscales of the scale are general HPV knowledge (subscale 1), HPV testing knowledge (subscale 2), general HPV vaccine knowledge (subscale 3), and HPV vaccine availability (subscale 4)." (Bozkurt and Özdemir, 2023). For the subscales of the scale, Cronbach's alpha coefficients were found to be 0.93, 0.85, 0.90,

and 0.89, respectively.[10]In the present study, the Cronbach's alpha coefficient for the overall ***HPV-KS*** was 0.92. The Cronbach's alpha values for the subscales of HPV-KS were determined as 0.87 for general HPV knowledge, 0.73 for HPV testing knowledge, 0.81 for general HPV vaccine knowledge, and 0.68 for HPV vaccine availability.

Data collection

The data were collected online between 15.03.2023 and 01.07.2023. The data for the study was collected online via Google forms. The first person who agreed to participate in the study was sent the data collection tool via Whatsapp. At the same time, the data collection form was shared on other social media platforms (Instagram and Twitter) and people who were suitable for the sample range were included. Participants were asked to answer the questions and it took approximately 10-15 minutes for the participants to fill out the relevant survey.

Data analysis

SPSS 22.0 software package was used to analyse the data. Skewness and kurtosis coefficients were used to determine whether the data were normally distributed or not, Pearson's Correlation Analysis and Hierarchical Multiple Regression Analysis were used to determine and explain the correlations between variables. Cronbach's Alpha reliability coefficient was used to determine the total internal consistency coefficients of the scale.

Ethical considerations

Ethics committee approval (Decision No: 04.14, Decision Date: 07.03.2023, Number: 264035) was obtained from the Social and Human Sciences Ethics Committee of a university in the Central Black Sea region of Turkiye. The study was conducted in accordance with the Declaration of Helsinki and informed consent was obtained from individuals who agreed to participate in the study.

Results

The findings of the study revealed that the mean age of the participants was 22.93±3.84 years, 86.9% were female, 87.6% were single, 85.4% lived in a nuclear family, 92.9% had no children, 61.1% held a bachelor's degree or higher, 57.4% had an income equal to their expenses, 78.3% were non-smokers, and 90% of them had no chronic diseases. Furthermore, 74.7% of the young adults stated that they knew about sexually transmitted diseases (STDs), and 55.5% of them stated that their knowledge about STDs was partially adequate. 82.7% of the participants stated that they were not informed about sexual health, 71.2% stated that they learned about sexual health at school, all of them stated that individuals should be educated about sexual health, and 48.9% stated that sexual health education should begin at the high school level. Also, 81.5% of the participants stated that they knew HPV, 71.8% knew HPV tests, and 66.7% knew HPV vaccines (Table 2).

While the ***HPV-KS*** total mean score of young adults was 14.52±7.86 [Min=0 / Max=30], their mean subscale scores were 8.76±4.04 for General HPV Knowledge, [Min=0 / Max=16], 2.04±1.79 [Min=0 / Max=6] for HPV testing knowledge, 2.41±1.89 [Min=0 / Max=5] for General HPV Vaccine Knowledge, and 1.30±1.43 [Min=0 / Max=5] for HPV vaccine availability (Table 3).

The correlations between the total mean score of the **HPV-KS** and descriptive and sexual health-related characteristics were evaluated. Table 3 presents the variables with statistically significant correlations. Accordingly, a low, positive, and significant correlation was found between the total mean score of **HPV-KS** and age, gender, source of information about sexual health, and the educational period when sexual health education should begin ($p<0.05$) (Table 3).

There was a moderate, positive, and significant correlation ($p<0.05$) between the total mean score of **HPV-KS** and the status of having

Table 1: Distribution of descriptive and sexual health characteristics of the participants (n=411)

Descriptive Characteristics	**Mean**	**Sd**
Age	22.93	3.84
	n	**%**
Gender		
Female	357	86.9
Male	54	13.1
Marital Status		
Single	360	87.6
Married	51	12.4
Family Type		
Nuclear	351	85.4
Extended	60	14.6
Having Child		
No	382	92.9
Yes	29	7.1
Educational Level		
High School	160	38.9
Bachelor's degree or above	251	61.1
Income Status		
Income less than their expenses	119	29.0
Income equal to their expenses	236	57.4
Income more than their expenses	56	13.6
Smoking		
Smoker	89	21.7
Non-smoker	322	78.3
History of Chronic Disease		
Yes	41	10.0
No	370	90.0
Knowledge about Sexually Transmitted Diseases		
I have knowledge	307	74.7
I have no knowledge	104	25.3
Knowledge Level of Sexually Transmitted Diseases		
I have inadequate knowledge	43	10.5
I have partially adequate knowledge	228	55.5
I have adequate knowledge	140	34.0
Information on Sexual Health		
I was informed	340	82.7
I was not informed	71	17.3
Source of Information on Sexual Health (n=340)		
I was informed by the school	242	71.2
I was informed online	48	14.1
I was informed by my friend	26	7.6
I was informed by a health professional	24	7.1
The Support for the Provision of Sexual Health (SH) Education to Individuals		
They should be educated on SH	411	100
They should not be educated on SH	0	0.00
Educational Level at which Sexual Health Education Should Be Begun		
Primary School	49	11.9
Secondary School	130	31.6
High School	201	48.9
Bachelor's degree or above	31	7.5

Status of knowing HPV		
Yes, I know.	335	81.5
I know partially	52	12.7
I do not know	24	5.8
Status of knowing HPV Test		
Yes, I know.	295	71.8
I know partially	74	18.0
I do not know	42	10.2
Status of knowing HPV Vaccine		
Yes, I know.	274	66.7
I know partially	86	20.9
I do not know	51	12.4
Total	**411**	**100**

* Mean=Mean, SD=Standard deviation, n=Number, %=Percentage

Table 2: Total Mean Scores of HPV Scale and its Subscales

SCALE AND ITS SUBSCALES	n	$\bar{X}$± SD (Min-Max)
Total Score of the HPV Scale	411	14.52±7.86 [Min=0 / Max=30]
Subscales		
General HPV Knowledge	411	8.76±4.04 [Min=0 / Max=16]
HPV testing knowledge	411	2.04±1.79 [Min=0 / Max=6]
General HPV Vaccine Knowledge	411	2.41±1.89 [Min=0 / Max=5]
HPV vaccine availability	411	1.30±1.43 [Min=0 / Max=5]

* $\bar{X}$ =Mean, **SD**=Standard deviation

knowledge about STDs, one's own level of knowledge about STDs, the status of receiving information about sexual health, the status of knowing HPV and HPV tests, and the status of knowing the HPV vaccine ($p<0.05$). No significant correlation was found between **HPV-KS** and marital status, family type, having children, educational level, income status, smoking, and history of chronic diseases ($p> 0.05$) (Table 3). In the study, hierarchical multiple regression analysis was done to determine the effect of descriptive and sexual health-related characteristics on the HPV-KS total mean score. Before the regression analysis, the correlations between the descriptive and sexual health-related characteristics and the total mean score of the HPV-KS were examined, and the variables with a significant correlation were included in the regression model. Categorical variables were turned into dummy variables and the groups considered as references are given in Table 4. Two models were established under regression analysis. In Model 1, age and gender were found to significantly account for 3.1% of the total mean score variance of HPV-KS ($F=6.590$; $p=0.002$, $R^2=0.031$).

Age ($\beta=0.270$; $p=0.007$) and gender ($\beta=2.449$; $p=0.032$) variables were significant predictors of the HPV-KS total mean scores (Table 4). Then, Model 2 was constructed by incorporating the characteristics related to sexual health into the model, and it was determined that 58.4% of the variance of the total mean score of the HPV-KS was significantly explained with an increase of 55.3% ($F=56.265$; $p<0.001$, $R^2=0.584$, R^2 Change=0.553). In Model 2, the status of knowing STDs ($\beta=1.390$; $p=0.028$), knowledge level about STDs ($\beta=2.704$; $p<0.001$), information on sexual health ($\beta=3.072$; $p<0.001$), educational period when sexual health education should begin ($\beta=1.638$; $p=0.041$), the status of knowing HPV ($\beta=5.222$; $p<0.001$), the status of knowing HPV test ($\beta=1.978$; $p<0.001$), and the status of knowing HPV vaccine ($\beta=5.556$; $p<0.001$) were significant predictors of the HPV-KS total mean score (Table 4).

Table 3: The correlation between knowledge level of HPV and descriptive and sexual health

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Age	-										
2. Gender (Female)	0.102*	-									
3. Having knowledge about STDs (I have knowledge)	-0.060	0.022	-								
4. Having knowledge level about STDs (I have adequate level of knowledge)	0.159**	0.067	0.029	-							
5. Receiving information on Sexual Health (I was informed)	0.034	0.032	0.237**	0.206**	-						
6. Source of Information on Sexual Health (Healthcare Professional)	0.134**	-0.118*	-0.022	0.149**	0.114*	-					
7. Educational Level at which Sexual Health Education Should Be Begun (Primary school)	0.156**	0.032	-0.028	0.052	0.089	0.068	-				
8. Having knowledge about HPV (Yes, I know)	0.003	0.056	0.242**	0.170**	0.263**	0.065	0.021	-			
9. Having knowledge about HPV test (Yes, I know)	0.055	0.012	0.244**	0.177**	0.271**	0.133**	0.047	0.551**	-		
10. Having knowledge about HPV vaccine (Yes, I know)	0.066	0.061	0.301**	0.214**	0.182**	0.110*	-0.027	0.527**	0.600**	-	
11. HPV-KS	0.143**	0.119*	0.302**	0.351**	0.371**	0.128**	0.102*	0.587**	0.552**	0.630**	-

* $p < 0.05$, ** $p < 0.01$; STD= Sexually Transmitted Diseases, HPV-KS= Human Papillomavirus Knowledge Scale

Table 4: Hierarchical multiple regression models of knowledge level of young adults on HPV

Independent Variables	**Model 1**				**Model 2**			
	β	**95% Confidence Interval**		**p**	***β***	**95% Confidence Interval**		**p**
Age	0.270	0.073	0.468	0.007	0.142	0.007	0.277	0.040
Gender (Female)	2.449	0.209	4.689	0.032	1.340	-0.164	2.844	0.081
Having knowledge about STDs (I have knowledge)					1.390	0.152	2.629	0.028
Having knowledge level about STDs (I have adequate level of knowledge)					2.704	1.589	3.818	0.000
Receiving information on Sexual Health (I was informed)					3.072	1.638	4.506	0.000
Source of Information on Sexual Health (Health Professional)					0.447	-1.762	2.657	0.691
Educational Level at which Sexual Health Education Should Be Begun (Primary School)					1.638	0.069	3.207	0.041
Having knowledge about HPV (Yes, I know)					5.222	3.590	6.854	0.000
Having knowledge about HPV test (Yes, I know)					1.978	0.480	3.477	0.010
Having knowledge about HPV vaccine (Yes, I know)					5.556	4.131	6.981	0.000
Model Values								
R^2	0.031				0.584			
R^2 Variance	0.031				0.553			
F	6.590				56.265			
P	0.002				0.000			

Discussion

HPV is one of the most common sexally transmitted infections in young adults worldwide. It has been reported that approximately 80% of sexually active individuals have been infected with HPV at least once during the course of their lives.[14] Therefore, it has become even more important to have knowledge about HPV today. The findings of this research, which aimed to determine the knowledge level of young adults aged 18-30 years about HPV and to identify the associated and effective factors with the knowledge level, are discussed below based on the literature.

In the study, it was determined that the majority of young adults (74.7%) had knwledge about STDs, and almost half of them (55.5%) considered their knowledge level to be partially adequate. In their study, by Folasayo *et al*., (2017) found that the majority of adults (86.6%) had knowledge about STDs.[15] On the other hand, in their study, Subbarao *et al*., (2017) found that more than half of adults (64.0%) had knowledge about STDs.[16] Findings of the study are compatible with the literature. Although studies have shown that individuals have knowledge about STDs, it is believed that more young adults should be reached and informed about STDs.

Moreover, 81.5% of the participants stated that they had knowledge about HPV. Among similar studies, the study conducted by Pan *et al*., (2014) in China reported that 76.5% of individuals had knowledge and awareness about HPV and the study conducted by Farazi *et al*., (2018) in Cyprus reported that 91% of individuals had knowledge and awareness about HPV.[17,18]The findings of the study are compatible with the literature. It is thought that the reason why the findings of the studies are similar is because the individuals participating in the study were from a young population and they conducted information research on the subject.

The present study revealed that 71.8% of young adults knew about the HPV test. The study by Erat and Dalkılıç (2024) reported that 63% of the individuals knew the HPV test, while the study by Koç *et al*., (2023) found that 57.4% of the individuals knew the HPV test.[19,20] The fact that the finding of the study was higher than the value reported in the literature suggest that it may be associated with the internet access available to the participants. Because having internet access makes individuals freer and more advantaged in accessing information. At the same time, it is considered that the information provided in educational institutions or through peer education also contributes to the emergence of this result.

Moreover, the present study revealed that 66.7% of the young adults stated that they had knowledge about the HPV vaccine. In their study, Sarı *et al*., (2023) found that 21.6% of the individuals had knowledge about the HPV vaccine; whereas, in their study, Yağız Altıntaş *et al*., (2022) determined that 66.2% of the individuals had knowledge about the HPV vaccine.[21,22]The findings of the study are partially similar to the literature. This may be due to the fact that the sample of the study consisted of young adults.

In the study, it was found that the HPV-KS total mean score of young adults was 14.52±7.86 and the participants had moderate level of knowledge about HPV. In their study, Yarıcı and Mammadov (2023) found that the HPV-KS total mean score was 16.42 ± 11.73; whereas, in their study, Koçkaya *et al*., (2024) found that HPV-KS total mean score was 14.02 ± 7.19.[23,24]The finding of the study is compatible with the literature. It is considered that the similarity of findings across studies may be influenced by participants' insufficient knowledge regarding HPV testing and vaccination. The fact that the level of knowledge about HPV has not yet reached a satisfactory level underscores the need to enhance educational efforts in this area. Furthermore, this finding, which is consistent with the existing literature, should not be overlooked as it may contribute to the rapid spread of HPV.

The multiple regression analysis done in the study showed that gender affected the knowledge level about HPV, and especially the knowledge level of female individuals was higher. When the related studies were examined, the female gender was found to be significant in raising the knowledge level about HPV.[25,26] The finding of the study is compatible with the literature. This finding of the present study may be attributed to the higher prevalence rate of HPV infections in women, the cervical cancer caused by HPV, the inclusion of cervical cancer among the most common types of cancer in the female gender, and the guidance provided by healthcare

professionals to women during their fertile and sexually active periods to obtain information on the subject.

According to the multiple regression analysis in the study, it was determined that age affected the knowledge level about HPV, and the knowledge level rose as the age advanced. In their study, Rashid *et al*., determined that there was a correlation between age and knowledge level about HPV, and similar to the present study, they found that the knowledge level about HPV rose as the age advanced.[27] This study finding may be attributed to sexual activity with advancing age, partner reliability, the high number of STDs, the possibility of increased risk of exposure, and the realisation of the importance of the subject. Therefore, this study finding underlines the importance of informing individuals about HPV from an early age through education and counselling.

In Model 2 which was established in the multiple regression analysis in the study, the characteristics related to sexual health and the knowledge level about HPV were analysed. After this analysis, it was determined that the knowledge level of HPV was higher in young adults who had knowledge about STDs and considered that this knowledge level was adequate. When the related studies are examined, it is observed that having knowledge about STDs elevates their knowledge level about HPV.[28,29] The literature supports the findings of the study. This finding may be attributed to the sexual transmission of HPV and therefore the orientation of individuals to obtain information on this subject.

In Model 2 which was established after the multiple regression analysis in the study, it was determined that the knowledge level about HPV was higher in individuals who were informed about sexual health. Likewise, a study conducted in Canada reported that individuals who received information about HPV had higher knowledge levels about HPV.[30] This finding of the present study is compatible with the literature. It would be an expected outcome that information about HPV, which is common today and poses a serious threat to life, during counselling or informing individuals who received information about sexual health would lead to this finding. Because receiving education should naturally increase knowledge. The fact that education also increased sensitivity may have had an effect on reaching this conclusion.

In Model 2 which was established after the multiple regression analysis in the study, it was found that the participants who thought that sexual health education should begin at the level of primary school had higher knowledge levels about HPV. One of the topics discussed in sexual health education programmes is STDs and HPV, which are included in these diseases.[31] It has been reported that education provided to individuals and vaccination programmes are important among preventive measures for HPV.[25] Since the age of sexual activity coincides with adolescence in many countries, individuals can be infected early with HPV. Therefore, some studies emphasised that HPV vaccines can be injected from 9 to 13 years of age to protect against the virus.[25,32] Therefore, providing sexual health education to individuals before reaching the reproductive age is clearly one of the preventive measures, and providing this education from primary school is one of the important steps in the prevention of HPV. In addition, the high level of education and awareness of individuals may have been effective in the emergence of this result.

In Model 2 which was established after the multiple regression analysis in the study it was determined that status of knowing HPV was higher in young adults who had knowledge about HPV test and HPV vaccine. Likewise, in their study, Aksoy *et al*., (2022) found that status of knowing HPV affected HPV vaccination and contributed to the knowledge level of HPV.[25] HPV can be identified through tests, and vaccination is recommended as a preventive measure. Therefore, such findings of the present study may have been affected by the correlation between knowledge about HPV and knowledge about vaccination and the awareness of individuals about this correlation

Conclusion

The present study revealed that although young adults had certain knowledge about HPV, there are gaps in knowledge that need to be filled. Even though those who had knowledge about HPV among the adults who participated in the study had partial knowledge and a small number of them had no knowledge about HPV, it is not possible for them to overlook the rapid spread of HPV due to ignorance.

HPV is a virus that poses a life risk and may lead to some cancers. As shown by the results of the study, it seems imperative to raise awareness and provide information for protection at an early age, especially for males. Therefore, it is recommended to provide information and organise education on HPV regardless of gender, to include vaccination in the routine vaccination schedule, and to inform individuals about diseases, such as STDs/HPV during sexuality education sessions. We also recommend that research on the subject should continue to be conducted in different countries.

Acknowledgment

We thank all young adults who participated in the study.

Strengths and limitations

The strength of the study was not only the determination of the knowledge level of the participants about HPV but also the identification of the associated and effective factors concerning the knowledge level. The limitations of the study are that the data of the study cannot be generalised to all young adults since all young adults in the population were not accessed.

Conflict of interest

The authors declared that they had no competing interests in this research.

Contribution of authors

Y.Y: Conceptualization, methodology, formal analysis, writing – original draft, writing - review & editing; E.K.D: Data curation, writing-original draft preparation, software; A.K and M.Ş.E: Visualization, ınvestigation, validation; Ö.A: Supervision, writing - review & editing. All authors mentioned in the article approved the manuscript.

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