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Araştırma Makalesi/ Research Article

Sağlık Hizmetleri Meslek Yüksekokulu Öğrencilerinin Human Papilloma Virüsü ve Aşısı Hakkında Bilgi, Tutum ve Davranışlarının Değerlendirilmesi

Evaluation of Health Services Vocational School Students' Knowledge, Attitudes and Behaviours About Human Papilloma Virus and Vaccine

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Özet: Bu çalışmada, Sağlık Hizmetleri Meslek Yüksekokulu'nda öğrenim gören öğrencilerin HPV virüsü ve HPV aşısı hakkındaki bilgi, tutum ve davranışları değerlendirilmiştir. Çalışma tanımlayıcı ve kesitsel niteliktedir. Çalışmanın örneklemini 2024 yılı Ocak-Şubat aylarında ülkemizin doğu illerinde bulunan 4 üniversitenin Sağlık Hizmetleri Meslek Yüksekokulu'nda öğrenim gören 506 öğrenci oluşturmuştur. Çalışma verileri sosyo-demografik bilgi formu ve Human Papillomavirüs (HPV) bilgi ölçeği kullanılarak toplanmıştır. Katılımcıların %79,8'i kadın ve %89,5'i 18-24 yaşları arasındadır. "HPV bilgi ölçeği toplam" puan ortalaması 8,24±6,90 (0-25), "genel HPV bilgisi" puan ortalaması 5,33±4,09 (0-15), "HPV tarama testi bilgisi" puan ortalaması 0,87±1,19 (0-6), genel HPV aşı bilgisi" puan ortalaması 1,33±1,57 (0-5) ve "mevcut HPV aşılama programına yönelik bilgi" puan ortalaması 0,69±1,08 (0-25)'dir. Öğrencilerin yaş grupları, ailelerinden bilgi alma, cinsel yolla bulaşan hastalıklar (CYBH) hakkında bilgi sahibi olma, serviks kanseri hakkında bilgi sahibi olma ve aktif bir cinsel yaşama sahip olma durumlarına ait ölçek toplam puan ortalamaları istatistiksel olarak anlamlı düzeyde yüksektir ($p<0.05$). Öğrencilerin HPV ve aşısı hakkında bilgi, tutum ve davranışlarının yeterli düzeyde olmadığı saptanmıştır. Öğrencilerin HPV hakkındaki bilgi düzeylerini artırmak için lise ve üniversite müfredatına HPV ile ilgili eğitim kavramları eklenmeli ve eğitim sürecine daha erken yaşta başlanarak toplumun bilgi sahibi olması sağlanmalıdır.

Anahtar Kelimeler: Cinsel Sağlık, HPV, Koruyucu Sağlık Hizmetleri, Serviks Kanseri

Abstract: This study evaluated the knowledge, attitudes, and behaviors of students studying at the Vocational School of Health Services about the HPV virus and HPV vaccination. The study is descriptive and cross-sectional. The sample of the study consisted of 506 students studying in the Vocational School of Health Services of 4 universities in the eastern provinces of our country in January-February 2024. The study data were collected using a socio-demographic information form and a human papillomavirus (HPV) information scale. 79.8% of participants were female and 89.5% were aged between 18 and 24. The mean score of the "total HPV-KS" was 8.24±6.90 (0-25), the mean score for "GHI" was 5.33±4.09 (0-15), the mean score for "STI" was 0.87±1.19 (0-6), the mean score of "GVI" was 1.33±1.57 (0-5) and the mean score of "GVP" was 0.69±1.08 (0-25). The mean total scores of the scale belonging to the age groups of the students, obtaining information from their families, having information about sexually transmitted diseases (STDs), having information about cervical cancer, and having an active sexual life were statistically significantly higher ($p<0.05$). It was determined that students' knowledge, attitudes, and behaviors about HPV and vaccination were not at an adequate level. To increase the knowledge about HPV, educational concepts about HPV should be added to high school and university curricula and the educational process should be started at an earlier age to inform the society.

Keywords: Sexual Health, HPV, Preventive Health Services, Cervical Cancer.

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INTRODUCTION

Human papillomavirus (HPV), which is sexually transmitted and common in adults, is a major cause of cervical cancer and has become a widespread public health problem (Sel et al., 2020). Human papillomavirus causes 5% of cancers, including cancers of the oropharynx, vulva, penis, anus, cervix and vagina. There is evidence that it even causes conjunctival cancers. The most important cancer associated with HPV (95 percent) is cervical cancer (Williamson, 2023). Cervical cancer is the fourth most common cancer in the world. According to 2018 estimates, an estimated 600,000 women worldwide have been diagnosed with cervical cancer and an estimated 300,000 have died (WHO, 2024). According to the statistics of our country, it ranked 19th among 35 cancer types in our country in 2020, with 2,532 new cervical cancer diagnoses and 1,245 deaths due to cervical cancer (GLOBOCAN, 2020).

HPV vaccines protect against infection and human papillomaviruses (HPV) (Kamolratanakul & Pitisuttithum, 2021). According to HPV types, the bivalent vaccine is recommended for type 16 and type 18, and the quadrivalent vaccine is recommended for types 6, 11, 16, and 18. The nonavalent vaccine is recommended for HPV types 6, 11, 16, 18, 31, 33, 45, 52, and 58 Non-avalan vaccines are recommended for HPV types 6, 11, 16, 18, 31, 33, 45, 52, and 58. This vaccine is unavailable in Turkey (Istanbul Chamber of Pharmacists, 2024). Unfortunately, the HPV vaccine is a vaccine that is not included in the national vaccination calendar that individuals in our country have to buy with their financial means (Böyük & Bilgin, 2023).

HPV is a disease that can be prevented and treated with early diagnosis and a range of screening tests and treatments (Singh & Baliga, 2021). Healthcare professionals are among the professional groups that play an important role in raising awareness about HPV vaccines. The evaluation of the knowledge of these students, especially in the field of health education in our country, about HPV and its vaccine will help us to understand the level of awareness of health professionals who will be at the forefront in this field in the future. It is important to ensure that health workers are trained and comply with vaccination plans, to prevent hesitancy in vaccination and to create an adequately immunized population in general. For these reasons, associate degree students studying in the field of health should be adequately educated on this subject in order to be able to promote vaccination in their professional lives in the future. With this study, we aimed to evaluate the level of knowledge of health services vocational school students about HPV, HPV screening test and HPV vaccine.

MATERIALS AND METHODS

Place and Time of the Research

The descriptive and cross-sectional study was completed between January-February 2024 with 506 students studying at the vocational schools of health services of 4 universities in the east of our country.

Data Collection Instruments

Data were collected through Google forms including ‘Socio Demographic Information Form’ and ‘Human Papilloma Virus (HPV) Knowledge Scale’.

Socio-demographic İnformation Form

The questionnaire prepared by the researchers consisted of 14 questions on age, gender, educational status, economic status, place of residence, and women's health.

Human Papilloma Virus (HPV) Knowledge Scale

The Turkish validity and reliability study of the scale developed by Waller et al. (2013) was conducted in our country by Demir (2019). Consisting of 33 items, the scale has 4 sub-dimensions. The sub-dimensions are defined as "general HPV knowledge (GHI)", "HPV screening test information (STI)", "general HPV vaccine information (GVI), " and "knowledge about the current HPV vaccination program (GVP) ". Each

correct answer given to the questions in the scale is a "1" point, wrong and don't know answers are "0" points. A total of 0 to 33 points are obtained from the scale. The participants' high scores on the scale indicate a high level of knowledge about HPV, HPV screening tests, and HPV vaccine. The Cronbach alpha value of the scale was found to be 0.96 by Demir (2019). The Cronbach's alpha value of this study was found to be 0.95 and was found to have high reliability. Permission to use the scale was obtained for the study (Demir, 2019).

Universe and Sample

The research population consists of a total of 2090 students. Students studying in Vocational Schools of Health Services in 4 provinces participated in the study. An attempt was made to reach the entire population for the study, but 542 of them voluntarily participated in the study. Since 36 incorrect and incomplete data forms were removed, the study was completed with 506 students. After the research, the sample was evaluated with the Epi Info package program. It was determined that a 99% confidence interval was reached with 506 participants at a 5% margin of error (α:0.05) with a frequency of 50% within the determined universe.

Analysing the Data

Analyses were performed with the SPSS 21 statistical programme. In data analysis, arithmetic mean, frequency, standard deviation, and percentage were used as descriptive statistical methods. Kurtosis and Skewness scores were used to evaluate the normal distribution of HPV-KS total and subscale mean scores, and these values were accepted to be between -1.5 and + 1.5 for normal distribution (Tabachnick et al., 2013). Independent variables and HPV-KS total and subscale mean scores were compared with dependent sample t-test and ANOVA. If significance was found as a result of ANOVA, the Tukey test was performed to test which groups this significance originated from. A significance (p-value) value below 0.05 was considered significant.

Ethical Aspects of the Research

Approval for the study was obtained from the Ethics Committee of Şırnak University (22.01.2024/90189). The students were informed about the subject and purpose of the study and their consent was obtained verbally and with Google forms.

RESULTS

404 (79.8%) of the students were female and 89.5% were between the ages of 18-24. It was observed that 35.6% of the students were studying in the Department of Child Development and 315 (62.3%) of them stated that their income was less than their expenses. (Table 1).

The mean score of the "total HPV-KS" was 8.24±6.90 (0-25), the mean score for "GHI" was 5.33±4.09 (0-15), the mean score for "STI" was 0.87±1.19 (0-6), the mean score of "GVI" was 1.33±1.57 (0-5) and the mean score of "GVP" was 0.69±1.08 (0-25) (Table 2).

Statistically, a significant difference was found between the age groups of the students and the mean scores of HPV-KS, GHI and STI sub-dimensions ($p<0.05$). Accordingly, the mean scores of HPV-KS, GHI, and STI sub-dimension scores of students aged 25 years and over were significantly higher than those of the 18-24 age group (Table 3). The total and sub means of the HPV-KS did not differ significantly ($p > 0.05$) with respect to sex, income status, mother's and father's educational level ($p > 0.05$) (table 3). According to some characteristics of the participants obtained within the scope of the research, HPV-KS total and sub-dimension mean scores are analyzed in Table 4.

There was a statistically significant difference between students' status of receiving HPV information from family and mean GHI, GVI, and HPV-KS scores. Tukey test was performed to determine between which groups the significance was made. Accordingly, it was found that the mean scores of those who had full information about GHI, GVI, and HPV-KS were significantly higher than those who had no information at all ($p<0.05$), (Table 4).

The mean scores of the HPV -KS and all its sub-dimensions were significantly higher among students who stated that they had information about STDs compared to students who did not have information about STDs ($p<0.05$) (Table 4).

HPV-KS total and subscale mean scores were significantly higher in students who had prior knowledge about cervical cancer compared to those who did not ($p<0.05$). GHI, STI, GVI and HPV-KS total mean scores of students with active sexual life were found to be significantly higher ($p<0.05$), (Table 4).

Table 1. Students descriptive characteristics

Descriptive Characteristics		**n**	**%**
Gender	Female	404	79,8
	Male	102	20,2
Age	18-24 Age	453	89,5
	25 Over Age	53	10,5
Section	Child Development	180	35,6
	Aged Care	72	14,2
	First and Emergency Aid	71	14,0
	Opticianry	28	5,5
	Medical Secretariat	45	8,9
	Other	110	21,7
Class	1	287	56,7
	2	218	43,1
Income Status	Income Less than Expenditure	315	62,3
	Income Equivalent to Expenditure	160	31,6
	Income Exceeds Expenditure	31	6,1

Table 2. Data related to HPV-KS total and subscale score averages

HPV-KS	n	Min	Max	$\bar{X}$	S.S
GHI	506	,00	15,00	5,33	4,09
STI	506	,00	6,00	,87	1,19
GVI	506	,00	5,00	1,33	1,57
GVP	506	,00	5,00	,69	1,08
HPV-KS Total	506	,00	25,00	8,24	6,90

Table 3. HPV-KS and Subscale Score Averages According to Socio-Demographic Variables

Variables	**GHI**		**STI**		**GVI**		**GVP**		**HPV-KS**	
Gender	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**
Male (102)	5,27	4,07	,85	1,18	1,30	1,54	,68	1,08	8,12	6,82
Female (404)	5,56	4,21	,94	1,25	1,47	1,68	,72	1,10	8,70	7,20
t & p	,611	,542	,267	,790	,027	,979	-,132	,895	,406	,685
Age	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**
18-24 Years (453)	5,12	4,03	,82	1,13	1,29	1,56	,68	1,09	7,92	6,76
Over 25 (53)	6,92	4,23	1,24	1,63	1,66	1,59	,75	1,01	10,58	7,52
t & p	**-3,057**	**,002**	**-2,411**	**,016**	-1,610	,108	-,475	,635	**-2,677**	**,008**
Income Status	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**
Income<Expense (315)	5,21	4,00	,81	1,14	1,25	1,55	,63	1,02	7,92	6,64
Income=Expenditure (160)	5,53	4,29	,95	1,23	1,43	1,54	,75	1,18	8,67	7,23
Income>Expense (31)	5,54	4,12	1,06	1,52	1,64	1,88	1,00	1,09	9,25	7,61
F & p	,357	,700	1,136	,322	1,290	,276	2,026	,133	,993	,371
Mother Education	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**
Illiterate (216)	5,14	3,90	,83	1,16	1,23	1,51	,62	,98	7,83	6,47
Literate (43)	6,06	3,96	,88	1,15	1,53	1,53	,62	1,09	9,11	6,43
Primary Education (162)	5,39	4,18	,97	1,27	1,45	1,65	,82	1,19	8,64	7,34
Secondary Education (74)	5,13	4,41	,68	1,07	1,22	1,58	,63	1,09	7,68	7,19
University and Above (11)	6,63	4,92	1,36	1,62	1,63	1,56	,90	1,04	10,54	8,00
F & p	,786	,535	1,237	,294	,809	,520	1,008	,403	,918	,453
Father Education	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**	**X̄**	**S.D**
Illiterate (45)	4,80	3,87	,77	1,18	,53	,99	,53	,99	7,37	6,58
Literate (60)	4,98	3,64	,70	,97	,45	,85	,45	,85	7,21	5,72
Primary Education (159)	5,34	4,05	,88	1,24	,78	1,11	,78	1,11	8,42	6,89
Secondary Education (185)	5,31	4,36	,84	1,17	,65	1,07	,65	1,07	8,12	7,22
University (57)	6,15	3,96	1,21	1,33	,94	1,24	,94	1,24	9,85	7,11
F & p	1,126	,343	1,471	,210	,399	,809	2.155	,073	1,053	,380

F: ANOVA t: t-test (Independent sample t-test)

Table 4. Mean HPV-KS and Subscale Scores According to Some Variables

Variables	GHI		STI		GVI		GVP		HPV-KS	
Obtaining Information from Family	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**
Exactly (72)[a]	6,38	4,17	1,05	1,16	1,69	1,57	,87	1,20	10,01	7,00
Never (327)[b]	5,05	4,06	,83	1,20	1,21	1,53	,62	1,04	7,72	6,77
Partially(107)[c]	5,48	4,06	,86	1,22	1,47	1,65	,79	1,09	8,62	7,03
F & p	**3,933 & ,020 a>b**		,097 & ,379		**2,126 & ,120 a>b**		2,218 & ,110		**4,167 & ,016 a>b**	
STD Knowledge	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**
Knowledge Available (101)[a]	7,08	3,83	1,24	1,36	1,80	1,65	,96	1,22	11,09	6,80
No Information (181)[b]	2,35	3,34	,44	,93	,45	,93	,41	,93	3,67	5,53
Partially Informed (224)[c]	5,26	3,82	,77	1,08	1,35	1,56	,59	,97	7,99	6,36
F& p	**53,011 & ,000 a>b,c ; c>b**		**21,790 &,000 a>b**		**17,847 & ,000 a>b**		**13,835 & ,000 a>b**		**39,721 & ,000 a>b,c ; c>b**	
Hearing Cervical Cancer	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**
Yes (347)	6,45	3,94	1,07	1,27	1,64	1,62	,81	1,15	9,98	6,81
No (159)	2,89	3,29	,44	,86	,65	1,21	,43	,86	4,42	5,38
t & p	**9,106**	**,000**	**5,533**	**,000**	**5,803**	**,000**	**4,391**	**,000**	**7,949**	**,000**
Active Sexual Life***	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**	**x̄**	**S.D**
Yes (38)	7,31	3,79	1,50	1,70	1,89	1,60	,89	1,06	11,60	7,17
No (388)	5,23	4,02	,85	1,13	1,33	1,57	,71	1,11	8,12	6,77
t & p	**3,058**	**,002**	**3,204**	**,001**	**2,096**	**,037**	,975	,330	**3,006**	**,003**

*F: ANOVA t: t-test (Independent sample t-test) *** 80 people who did not answer this question were excluded from the evaluation*

DISCUSSION

In the study in which we aimed to evaluate the level of knowledge of university students about HPV, the mean total score of HPV-KS was 8.24±6.90. The mean GHI sub-scale score was 5.33±4.09, the mean STI score was 0.87±1.19, the mean GVI score was 1.33±1.57 and the mean HPV General Vaccination Programme (GVP) score was 0.69±1.08. This result may differ in similar studies in which the same measurement tool was used.

Yıldırım (2022) found that students scored 8.38±6.64 points from HPV-KS, 5.60±4.04 points from the GHI sub-dimension, 0.81±1.21 points from the STI sub-dimension, 1.28±1.62 points from the GVI sub-dimension and 0.67±1.08 points from the GVP sub-dimension.

In the study of Turhan Çakır et al. (2021), the mean HPV-KS scores of the participants were calculated as 9.08±8.32 (Turhan Çakır et al., 2021).

In the study of Aslan and Bakan (2020), the mean score of HPV-KS was found to be 5.86 ± 6.40; the mean score of GHI sub-dimension was 3.66 ± 3.90; the mean score of STI was 0.82 ± 1.39; and GVI was 0.94 ± 1.34, similar to our study (Table 2) (Aslan & Bakan, 2020).

Although the results of the research are mostly similar to the literature, it is expected that there will be differences depending on the study population. The reasons for the low level of knowledge about HPV, vaccination, and screening programs among students in the studies may include the fact that the vaccine is not included in the national vaccination calendar and that there is no standard for these issues in the course curricula. It is important to raise awareness about HPV and the importance of HPV immunization at an early age and in educational periods in the community, which is one of the most important health indicators. (Unutkan and Yangın; 2016, Özen and Terzioğlu; 2023).

There was no statistically significant difference (p>0.05) between the total and sub-dimensional mean scores of HPV-KS of the gender, income status, and mother and father education levels of the students participating in the study (Table 3). When the literature was examined, Genç Koyucu (2022)

found that there was no significant relationship between the economic status, parental education, family type, employment status, and marital status of the students (Genç Koyucu, 2022). No difference was found between the gender of the students included in the study and the mean total and sub-dimension scores of HPV-KS (Table 3).

However, when the studies in the literature are analyzed, the level of knowledge of women about HPV is generally higher than that of men (Yılmaz Özdemir et al., 2023). Since it causes the most common type of cancer in women, it is expected that women's HPV knowledge level will be higher than male participants. However, since this study was conducted on health vocational school students, we think that the HPV knowledge level of male students is higher than that of male students in other populations.

Turhan et al. (2021) reached a similar conclusion in their study. As a result, it is an important result of the research that health department students create awareness about HPV in male students due to the education they receive (Farsi et al., 2020; Swarnapriya et al., 2016; Şahin et al., 2022).

According to this study, the mean scores of HPV-KS, GHI, and STI sub-dimension scores of students aged 25 years and over are significantly higher than the 18-24 age group (Table 3). In the study conducted by Çınar et al. (2019), It was observed that as the age of the students increased, their hearing about HPV also increased. In the study conducted by Arı (2021), it was found that GHI and STI were higher in the older age group than in the younger age group. The reasons for the lack of sufficient information about HPV in young people can be listed as the inadequacy of sexual and reproductive topics in the curricula, the perception of sexuality as a taboo, and families not talking and informing their children about sexuality (Başar et al., 2019).

In the study, the mean total and subscale scores of the HPV Scale were found to be significantly higher in those who had previous information about cervical cancer compared to those who had no previous information. Aslan and Bakan (2021) found that the mean total and subscale scores of the students who had information about cervical cancer were significantly higher. Similarly, Turhan Çakır et al. (2021) found that those who heard about cervical cancer and had information about cervical cancer had high HPV-KS scores. The reason for this is thought to be that HPV is shown as the most important factor in the occurrence of cervical cancer in mass media, awareness programs, and training.

According to this study, students who stated that they had information about sexually transmitted diseases (STDs) had significantly higher mean HPV-KS and all-sub-dimension scores than students who had no information about STDs. Similarly, a statistically significant difference was found between students' active sexual life status and their mean GHI, GVI, STI, and HPV-KS scores. ($p<0.05$) (Table 4).

Turhan Çakır et al. (2021) found that there was a significant difference in terms of knowledge about STDs, hearing and having knowledge about cervical cancer, and HPV-KS scores ($p<0.05$). In the study of Yıldırım (2022), it was found that those who stated that they knew about STDs had higher levels of knowledge about HPV in the total scale and the sub-dimensions of GHI and HPV-KS. Karahan et al. (2023) found that being sexually active affected students' knowledge of HPV. It is an expected result that those with active sexual life have higher knowledge about HPV, vaccination, and screening.

CONCLUSIONS AND RECOMMENDATIONS

To increase the knowledge level of health vocational high school students, who are the health future professionals, about HPV, it should be added to high school and university curricula and the education process should be started at an earlier age to inform the society. This situation should be supported by mass media and social media, and sexual and reproductive health training should be organized especially for parents to convey the correct information to their children.

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