Black Sea Journal of Health Science
doi: 10.19127/bshealthscience.1494420

Open Access Journal
e-ISSN: 2619 - 9041

Research Article
Volume 7 - Issue 7: 149-154 / July 2024

COMPARISON OF HPV AND CERVICAL CANCER AWARENESS OF MALE AND FEMALE UNIVERSITY STUDENTS

Tiince AKSAK[1], Efdal OKTAY GULTEKİN[1]*

[1]Toros University, Vocational School of Health Services, Department of Medical Services and Techniques, 33140, Mersin, Türkiye

Abstract: Cervical cancer is one of the most important types of cancer that is caused by the Human Papilloma Virus and affects women. HPV is one of the most common sexually transmitted diseases among young women and men. This study aimed to compare the knowledge of male and female university students studying in the field of health about cervical cancer, HPV infection, and their awareness of HPV vaccine. A cross-sectional questionnaire was used, which was appropriate for both male and female students separately. A total of 100 university students attending a foundation university were asked to fill out a questionnaire by taking a consent form. It was observed that sexually transmitted diseases, HPV, HPV vaccine, cervical cancer and risk factors, and PAP smear awareness were not very high. These findings showed that it is important to provide education to both male and female university students to increase their awareness about cervical cancer, risk factors, diagnosis and treatment methods, and the HPV vaccine.

Keywords: Awareness, Cervical cancer, HPV, University students

***Corresponding author:** Toros University, Vocational School of Health Services, Department of Medical Services and Techniques, 33140, Mersin, Türkiye
E mail: efdaloktay@gmail.com (E. OKTAY GULTEKİN)
Tiince AKSAK https://orcid.org/0000-0001-7841-8456
Efdal OKTAY GULTEKİN https://orcid.org/0000-0002-0962-152X

Received: June 02, 2024
Accepted: July 02, 2024
Published: July 15, 2024

Cite as: Aksak T, Oktay Gultekin E. 2024. Comparison of HPV and cervical cancer awareness of male and female university students. BSJ Health Sci, 7(4): 149-154.

1. Introduction

Cervical cancer is one of the most common cancer types among female cancers. According to the data from the World Health Organization (WHO), cervical cancer is the fourth most common type of cancer in women. In 2018, approximately 570,000 cases of cervical cancer were diagnosed worldwide, of which an estimated 311,000 died. Cervical cancer constitutes approximately 50% of reproductive system cancers in women and is more common in women aged 40-55 years. However, it has been reported that it has recently started to be seen more frequently in lower age groups. The recent onset of cervical cancer at an early age brings to mind the developments in early diagnosis methods (Jemal et al., 2010). Cervical cancer is the earliest diagnosed cancer type among genital cancers. Risk factors for cervical cancer include Human Papilloma Virus (HPV) infection, an excessive number of sexual partners, smoking, dietary habits, high fertility, early sexual intercourse, long-term contraceptive use, immune system deficiency, and genetic factors. However, about 95% of this type of cancer is caused by the oncogenic HPV. HPV is a very common and contagious sexually transmitted virus that is very common in sexually active populations and can cause infections in the vaginal area in women. While these infections can resolve spontaneously, persistent infections can cause cervical cancer. This type of cancer can be controlled when a detailed prevention, screening and treatment approach is used. The most effective methods in preventing cervical cancer are the HPV vaccine, which is the primary prevention method (especially against HPV 16 and HPV18 types, which WHO recommends for girls aged 9 -14 years), and a secondary prevention method screening and treatment of precancer lesions. WHO adopted the global strategy for cervical cancer in 2020. This strategy has an approach in the form of effective screening, treatment and early diagnosis, and palliative care to prevent precancerous lesions (WHO, 2021). Pap smear test has an important place in the early diagnosis of cervical cancer. Cervical cancers can be detected at an early stage with the Pap smear test. Some of the studies in the literature contain data on the level of knowledge and application of the Pap smear screening test by the masses (Karabulutlu and Pasinlioglu, 2016). At the same time safe sexual intercourse, condom use during sexual intercourse, regular testing after the age of 30, quitting smoking and eating a balanced diet are also defined as ways to protect against cervical cancer (Medeiros and Ramada, 2011; Bray et al., 2018).

Studies in Western countries show that despite the high prevalence of HPV among young women, most studies show that these women have little knowledge about HPV (Wong and Sam, 2010). As in the world, the prevalence of cervical cancer is quite high in Türkiye. According to the data of the Ministry of Health, cervical cancer ranks 9th among cancer types in Türkiye and in 2019, 212 thousand women died due to cervical cancer. However, HPV infection, cervical cancer, and prevention methods

are still poorly understood among young women and men. Desire to get the HPV vaccine depends on factors such as education, beliefs, and lifestyle. Many studies have been conducted worldwide to measure the knowledge of women and men about HPV and cervical cancer (Pitts et al., 2009). Especially in the literature, there are few studies conducted to measure the level of awareness of sexually active university students about cervical cancer. One of the most common sexually transmitted infections among university students is HPV (Pitts et al., 2009). For this reason, it is an important element to evaluate the awareness of women and men in this group. Although HPV is observed in men as asymptomatically, men are also in the risk group regarding the carrier (Mehu-Parant et al., 2010).

There are few studies conducted to understand the awareness of university students studying in the field of Health in Türkiye about HPV infection, vaccination, and screening tests. It will be a pioneer in understanding and preventing cervical cancer if young women and men who will work in the health sector in the future have knowledge about HPV and cervical cancer. The aim of this study is to determine the awareness of male and female university students studying in the field of health about cervical cancer, ways of prevention, and health strategies.

2. Materials and Methods

2.1. Participants

The research was conducted among volunteers to fill out the questionnaire before the cervical cancer awareness conference organized for students studying at Toros University Vocational School of Health Services in Mersin. The universe of the study was determined as 150 people who were trained in Health Services, and who were expected to attend the conference, and the p value of 0.05 was calculated statistically at the 95% confidence level. A total of 100 people, 50 women, and 50 men, were randomly selected among the volunteers participating in the conference. The ages of the students range from 17 to 30. In addition, the participants were informed about whether or not to participate in the research voluntarily. Consent forms received. It has been announced that the questionnaires will be filled in anonymously. Volunteers filled out the questionnaires and put them in the box in front of the conference room.

For the research, two separate questionnaires were prepared for male and female students who will participate in the conference. In the prepared survey questions, the demographic characteristics of the participants were asked in common. There were 12 questions in the questionnaires distributed to the women. The questions included information about sexually transmitted diseases, HPV and cervical cancer, prevention, and screening methods, and awareness about vaccination. There were 9 questions in the questionnaires distributed to male students. These questions were aimed at determining their knowledge about sexually transmitted diseases and HPV and their awareness of the HPV vaccine.

2.2. Statistical Analysis

Analyses were performed on SPSS (IBM SPSS Statistics 24). The degree of statistical significance between the groups was accepted as $P<0.05$. Frequency tables and descriptive statistics were used to interpret the findings. "Fisher-Exact" or "Pearson-$\chi 2$" crosstabs were used according to the expected value levels in examining the relations between two qualitative variables.

3. Results

There was no statistically significant relationship between gender and sexually transmitted disease knowledge, disease knowledge level, need for education, sexual intercourse age and HPV vaccination status ($P>0.05$). The groups are independent and homogeneous in terms of the specified characteristics. A statistically significant relationship was found between gender and sexual intercourse ($\chi 2=33.101$; $P=0.000$). It was determined that 33 women (66.0%) had not had sexual intercourse before, and 30 men (60.0%) had previously had sexual intercourse. Women predominantly did not engage in sexual intercourse, while men predominantly engaged in sexual intercourse. A statistically significant relationship was found between gender and diagnosed disease status ($\chi 2=5.828$; $P=0.016$). It was determined that 16 women (32.0%) had a diagnosed disease and 44 men (88.0%) did not have a diagnosed disease. It was determined that those with a diagnosed disease were predominantly female, and those without a diagnosed disease were predominantly male. A statistically significant relationship was found between gender and reproductive tract disease status ($\chi 2=38,000$; $P=0,000$). When the diseases in the breeding areas are examined; It was determined that the most common disease in women was infection with 13 people (41.9%), and warts in the genital area with 6 people (85.7%) in men (Table-1).

In addition, it was determined that 45 (90.0%) of the women had heard of cervical cancer before, 40 (80.0%) had information about cervical cancer, and 18 (36.0%) of them got information about cervical cancer from internet sites. social media/health personnel and 50 (100.0%) did not have PAP-smear. It was determined that 26 (68.4%) of 36 men who had sexual intercourse used condoms against the risk of sexually transmitted diseases (Table-2).

Table 1. Examining the relationships between gender and some characteristics

Variable	Women (n=50)		Men (n=50)		Statistical analysis*
	n	%	n	%	Possibility
Sexually Transmitted Disease Information					
Available	38	76.0	39	78.0	χ^2=0.056
Not available	12	24.0	11	22.0	P=0.812
Sexually Transmitted Disease Knowledge					
Has no information	1	2.0	6	12.0	χ^2=4.842
Has little knowledge	10	20.0	12	24.0	P=0.184
Has/insufficient knowledge	26	52.0	19	38.0	
He has enough knowledge	13	26.0	13	26.0	
Need For Sexually transmitted disease education					
Yes	33	66.0	23	46.0	χ^2=4.102
No	7	14.0	12	24.0	P=0.129
No idea	10	20.0	15	30.0	
Having sexual intercourse					
Yes	5	10.0	30	60.0	χ^2=33.101
No	33	66.0	8	16.0	P=0.000
Unanswered	12	24.0	12	24.0	
Sexual intercourse age					
12-18	2	40.0	19	63.3	P=0.369
19-29	3	60.0	11	36.7	
Diagnosed sexually transmitted disease					
Available	16	32.0	6	12.0	χ^2=5.828
Not available	34	68.0	44	88.0	P=0.016
Reproductive tract disease**					
wart in genital area	-	-	6	85.7	
Painful swelling in the hand	-	-	1	14.3	
Infection	13	41.9	-	-	
ovarian cyst	10	32.3	-	-	χ^2=38.000
sore on the cervix	1	3.2	-	-	P=0.000
Other	7	22.6	-	-	
Getting the HPV vaccine					
Yes	2	4.0	2	4.0	χ^2=0.000
No	48	96.0	48	96.0	P=1.000

**More than one answer was given to the question and the percentages were determined according to the total number of samples.

Table 2. Distribution of some findings of men and women

Variable	Women	
	n	%
Hear about cervical cancer		
Yes	45	90.0
No	5	10.0
Knowledge about cervical cancer		
Yes	40	80.0
No	10	20.0
Where to get information about cervical cancer*		
websites	18	36.0
Social media	18	36.0
Health personnel	18	36.0
During training at school	16	32.0
Friends and social circle	15	30.0
Family members	13	26.0
Books	3	6.0
PAP-smear		
No	50	100.0
	Men	
	n	%
Using condoms in case of sexually transmitted disease risk		
Yes	26	68.4
No	12	31.6

*More than one answer was given to the question and the percentages were determined according to the total number of samples.

4. Discussion

Although there are many studies on cervical cancer, prevention methods, and early diagnosis and treatment, there are very few studies examining the knowledge of university students studying in the field of health services, who will be the health workers of the future. Knowledge and awareness are believed to influence sexual behavior.

Considering the average age of university students in Türkiye, most of them are of sexually active age. Although the risk of cervical cancer is a disease that only affects women, especially the young male population is a carrier of HPV infection. Therefore, in this study where we compared HPV and cervical cancer awareness levels of young women and young men, it was reported that most of the male students had sexual intercourse experiences, while only 5 of the female students had sexual intercourse. Twelve of the women did not answer the question. It has been observed that there is a significant difference between women and men in terms of experiencing sexual intercourse, and men experience more sexual intercourse than women. At the same time, it has been observed that 80% of women have knowledge about cervical cancer. In a study conducted among university students studying in the field of health in Portugal, it was observed that most of the students experienced sexual intercourse, but it was stated that their awareness about cervical cancer and HPV was low (Medeiros and Ramada, 2011). In another study conducted at a university in Europe, it was reported that only 17.7% of students had heard of HPV (Wong and Sam, 2010). In our study, we noticed that 76% of female students studying in the field of Health had knowledge about sexually transmitted diseases. In a study conducted at a university in Florida, USA, it was reported that 78% of female students had only heard of HPV (Gerend and Magloire, 2008). In a study conducted to show the cervical cancer information of Singaporean men, it was observed that men had moderate knowledge about cervical cancer and poor knowledge about HPV. They heard about HPV in general through the media, but it was reported that they misunderstood and thought that it was transmitted through skin contact (Pitts et al., 2009). In another study, it was reported that men see HPV as less risky for themselves but higher risk for their female partners, and they aim to reduce the number of sexual partners (McPartland et al., 2010). In our study, it was seen that 78% of male university students had knowledge about HPV and sexually transmitted diseases. This is a relatively high awareness and it was determined that 68.4% of them used condoms to protect themselves from sexually transmitted diseases. From two separate studies conducted in Canada and Australia, it has been shown that approximately 51% and 51.2% of women have only heard of HPV, respectively. However, some of the women thought that the infection was transmitted through skin contact (Sauvageau et al., 2007; Pitts et al., 2007). In our study, we observed that women and men have moderate knowledge about sexually transmitted diseases. Participants stated that they accessed this information at a higher rate through the internet, social media, and health personnel. In addition, it was stated that information was obtained during the education at the school and during the conferences organized for the students receiving education in the field of health services. In addition, it has been observed that the information learned from friends and social environment, and family members is insufficient. This makes us think that it is related to the conservative society's reluctance to talk about such information, especially among women. In a study among women in England, it was reported that they had little idea about understanding and prevention of cervical cancer and its risk factors. HPV is poorly understood. And only 30% of respondents reported that they had only heard of HPV. However, it was stated that they were not aware that HPV affects both men and women. It has been reported that only 11.3% are aware that HPV may be a cancer risk (Pitts and Clarke, 2002). In our study, we compared how many young women and young men knew about HPV and cervical cancer. And we did not find any significant difference in awareness between men and women in this regard. The awareness of male and female university students was moderate and numerically similar. The reason why some of the students do not want to answer the survey questions may be due to their conservative family structure. In addition, the fact that there are internet sites and social media in terms places where information about cervical cancer among young people may be due to conservatism.

However, the fact that some diseases (such as warts, and painful swelling in the genital area) seen in the reproductive region of men in our study were significantly higher than women, supports the fact that men are carriers. In addition, 13 women who participated in the survey reported infections in the reproductive region, ovarian cysts in 10 women, and wounds on the cervix in 1 woman. Several recent studies have questioned the number of sexual partners as a risk factor for HPV infection (Mehu-Parant et al., 2010). And it has been reported that even condoms are not fully protective. It is estimated that 10% of the population in the United States has an active HPV infection. And the most common type of this infection is HPV16. They emphasized that it is not appropriate to develop a vaccination strategy by targeting risk factors with the data obtained, but a systematic vaccination policy can be developed (Winer et al., 2003; Ault 2006; Dempsey 2008). In a study by Mary et al. (2011), in which they examined HPV awareness of young individuals, they observed that vaccine interest was higher among sexually active women, women with multiple partners, and women who felt vulnerable to HPV infection. At the same time, other studies have also found findings that support this (Kahn et al., 2005; Zimet 2005). In a study conducted by Kasymowa (2019) to demonstrate HPV

awareness among university students in South Carolina, it was shown that they obtained information from university-mediated healthcare sources. For this reason, they stated that there is a need for health assistance programs throughout the campus in order to increase HPV awareness. In our study, it was reported that only 2 of both male and female university students studying in the field of health and in the age range of being sexually active had the HPV vaccine. This low rate, when the knowledge and awareness rates are taken into consideration, creates a thought such as being ashamed of sexuality and being socially afraid of the people around them. However, the fact that 4% of both men and women have had the HPV vaccine has shown that men have the same level of awareness as women, even if the rate is low. For this reason, we think that universities should encourage them to use their access to information on health services.

HPV16 type is one of the most persistent HPV types and is known to be responsible for 60% of invasive cancers worldwide. In addition, it is estimated that HPV infection is incubated for 7-12 years without showing any symptoms until carcinoma is in situ. Therefore, cervical cancer screening (PAP-smear) is routinely recommended. In this way, invasive lesions can be detected before they progress to cancer (Ylitalo et al., 2000; Moscicki, 2005). In our study, it was reported that no woman had ever been screened for cervical cancer. This is thought-provoking that young women especially worry about going to the gynecologist.

Few studies have so far questioned men's awareness of HPV and whether they agree to get vaccinated. Generally, most of these studies were conducted to assess women's knowledge and awareness. In fact, especially young men have a serious role in the transmission of HPV, because they often do not have symptoms and therefore do not get tested, causing them not to realize that they have the infection (CDCP. 2021). Awareness of HPV infection in young women and men who are of university age and considered sexually active in Türkiye is not sufficient. It is very important for people who are educated in the field of health and who will be health informants in the future, to increase their awareness of sexually transmitted diseases. For this reason, university students should receive training on this subject frequently. For this, as the right way, both men and women should be given trainings to increase their awareness about the relationship between sexually transmitted diseases and cancer.

5. Conclusion

It has been determined that the knowledge and awareness of young female and male university students studying in the field of health are not sufficient. Within the framework of this information, it will be important to provide education about cervical cancer, PAP-smear, HPV, prevention methods, and HPV vaccine to these people, who will be health personnel of the future, in order to raise awareness.

Author Contributions

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	T.A.	E.O.G.
C	50	50
D	100	
S		100
DCP	50	50
DAI	50	50
L	50	50
W	50	50
CR	50	50
SR	50	50
PM	50	50

C= concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management.

Conflict of Interest

The authors declared that there is no conflict of interest.

Ethical Approval/Informed Consent

The Ethics Committee of Toros University Scientific Ethics Committee approved this study e (approval date: 28 January, 2022, protocol code: 5197). The research was conducted in accordance with the Principles of the Declaration of Helsinki.

Acknowledgments

In this section, you can acknowledge any support given which is not covered by the author's contribution or funding sections. This may include administrative and technical support, or donations in kind (e.g., materials used for experiments).

References

Ault KA. 2006. Epidemiology and natural history of human papillomavirus infections in the female genital tract. Infect Dis Obstet Gynecol, 40470: 1-5.

Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. 2018. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. Cancer J Clin, 2018: 394-424.

CDCP. 2021. Centers for Disease Control and Prevention. Genital HPV Infection: CDC 24/7 Fact Sheet. https://www.cdc.gov/std/hpv/stdfact-hpv.htm (accessed date: June 12, 2023).

Dempsey AF. 2008. Human papillomavirus: the usefulness of risk factors in determining who should get vaccinated. Rev Obstet Gynecol ,1: 122-128.

Gerend MA, Magloire ZF. 2008. Awareness, knowledge, and beliefs about human papillomavirus in a racially diverse sample of young adults. J Adolesc Health, 42: 237-242.

Jemal A, Siegel R, Xu J, Ward E. 2010. Cancer statistics. CA Cancer J Clin, 60(5): 277-300.

Kahn JA, Zimet GD, Bernstein DI. 2005. Pediatricians intention to administer human papillomavirus vaccine: The role of practice characteristics, knowledge, and attitudes. J Adolesc Health, 37: 502-510.

Karabulutlu O, Pasinlioglu T. 2016. The study of the knowledge levels and awareness of the academicians who are not in the field of health in relation to cervical cancer. Kafkas J Med Sci, 6(3):175-180.

Kasymowa S, Harrison SE, Pascal C. 2019. Knowledge and awareness of human papillomavirus among college students in south carolina. Infect Diseas: Res Treat, 12: 1-9.

Mary AG, Janet E, Shepherd MD. 2011. Correlates of HPV knowledge in the era of HPV vaccination: A study of unvaccinated young adult women. Women Health, 51(1): 25–40.

McPartland TS, Benthany A, Lee SK, Koutsky LA. 2010. Men's perceptions and knowledge of human papillomavirus (HPV) infection and cervical cancer. J American College Health, 53 (5): 225-230.

Medeiros R, Ramada D. 2011. Knowledge differences between male and female university students about human papillomavirus (HPV) and cervical cancer: Implications for health strategies and vaccination. Vaccine, 29: 153-160.

Mehu-Parant F, Rouzier R, Soulat JM, Parant O. 2010. Eligibility and willingness of first-year students entering university to participate in a HPV vaccination catch-up program. Eur J Obstet Gynecol Reprod Biol, 148 (2): 186-190.

Moscicki AB. 2005. Impact of HPV infection in adolescent populations. J Adolescent Health, 37: 3-9.

Pitts M, Clarke T. 2002. Human papillomavirus infection and risks of cervical cancer: what do women know? Health Edu Res, 17 (6): 706-714.

Pitts M, Smith A, Croy S, Lyons A, Ryall R, Granland S, Wrong M, Hseon T. 2009. Singaporean men's knowledge of cervical cancer and human papillomavirus (HPV) and their attitudes towards HPV vaccination. Vaccine, 27: 2989-2993.

Pitts MK, Dyson SJ, Rosenthal DA, Garland SM. 2007. Knowledge and awareness of human papillomavirus (HPV): attitudes towards HPV vaccination among a representative sample of women in Victoria, Australia. Sex Health, 4(3): 177-180.

Sauvageau C, Duval B, Gilca V, Lavoie F, Ouakki M. 2007. Human papillomavirus vaccine and cervical cancer screening acceptability among adults in Quebec, Canada. BMC Public Health, 12: 304.

WHO. 2021. https://www.who.int/health-topics/cervical-cancer (accessed date: June 12, 2023).

Winer RL, Lee SK, Hughes JP, Adam E, Kiviat NB, Koutsky LA. 2003. Genital human papillomavirus infection: incidence and risk factors in a cohort of female university students. Am J Epidemiol, 157: 218-226.

Wong LP, Sam IC. 2010. Ethnically diverse female university students' knowledge and attitudes toward human papillomavirus (HPV), HPV vaccination and cervical cancer. European J Obstet Gynecol Reprod Biol, 148: 90-95.

Ylitalo N, Josefsson A, Melbye M, Sörensen P, Frisch M, Andersen PK, Sparén P, Gustafsson M, Magnusson P, Pontén J, Gyllensten U, Adami HO. 2000. A prospective study showing long-term infection with human papillomavirus 16 before the development of cervical carcinoma in situ. Cancer Res, 60: 6.

Zimet GD. 2005. Improving adolescent health: Focus on HPV vaccine acceptance. J Adolesc Health, 37: 17-23.