

RESEARCH ARTICLE

Knowledge and Attitudes of Medical and Non-Medical Turkish University Students about Cervical Cancer and HPV Vaccination

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Abstract

Background: This study was conducted to determine knowledge, attitudes and practices about cervical cancer and HPV vaccination of students studying in various faculties of Erciyes University. **Materials and Methods:** The study was performed among the first and fourth grade students of Medicine, Theology, Education and Economics and Administrative Sciences (FEAS) faculties of Erciyes University. It was aimed to reach 1,073 students and 718 were evaluated. A questionnaire consisting of 48 questions related to the socio-demographic characteristics, knowledge, attitude and practices about cervical cancer and HPV vaccination was administered to the students. The chi-square test and logistic regression were used for the statistical analyses. **Results:** Of the students, 78.3% were aware of cervical cancer, while 36.1% of them were aware of the HPV vaccine. The percentage hearing about cervical cancer and HPV vaccination was significantly higher among the students of the medical faculty than the others and among fourth grade students comparing with the first grade. The marital status and the presence of a health worker in the family had no significant impact on the knowledge level of the students. The acceptability of the HPV vaccination was low among all students. **Conclusions:** The knowledge levels of the university students about cervical cancer and HPV vaccination are inadequate. This deficiency is more pronounced among the non-medical students and there is no significant increase during the faculty years. Non-medical students must be provided with information about important public health issues by elective courses. HPV vaccination could provide many benefits for men and women by decreasing the morbidity and mortality of cervical, anal, and penile cancers.

Keywords: Cervical cancer - HPV vaccine - university student

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Introduction

Cervical cancer is an important global public health problem (WHO, 2008). Cervical cancer is the fourth most common cancer in women, and the seventh overall. (GLOBOCAN, 2012). According to data from the Ministry of Health in Turkey in 2009, cervical cancer is third most common cancer in female genital cancers and incidence rate of 4.5 per hundred thousand (Gultekin and Boztas, 2014).

Human papillomavirus (HPV) infection is the main cause of cervical cancer. The high risk HPV types 16 and 18, contribute to about 70% of cervical cancer cases (Smith et al., 2007). HPV infection is the most prevalent sexually transmitted disease (STD) in the world (Denny et al., 2012). HPV infection affects both men and women, although men are usually asymptomatic carriers (Pitts et al., 2009). Determining the acceptability of the HPV vaccination is important because HPV is an STD that is not only detected in almost 100% of cervical cancers worldwide, but strains of the virus have also been linked to 70% of anal cancers and 70% of precancerous lesions

of the penis (Geipert 2005).

University students will have a variety of professions in the future and they will have a say in the community that's why their knowledge, attitudes and practices about cervical cancer and HPV vaccination are very important both in terms of their own health and community health. In the literature, most of the studies about cervical cancer and HPV vaccination focused on females' knowledge. There are few studies analyzing both males' and females' knowledge. It is also important to compare the medical students' knowledge with the other university students to determine new strategies and education programs about health.

The aim of the study is to determine knowledge and attitudes of the students studying at the first and fourth grades of the various faculties of Erciyes University, about cervical cancer and HPV vaccination and related factors.

Materials and Methods

The study was performed on students studying in the first and fourth grades of Medicine, Theology, Education

and Economics and Administrative Sciences (EAS) faculties of Erciyes University in 2011-2012 academic year. For the study, ethical approval from Erciyes University Medical Faculty Ethics Committee and official permission from the deaneries of the concerned faculties were obtained. Similar number of students from these faculties was aimed to be included in the study. For this reason, one department was selected randomly from five in EAS faculty, three departments were selected randomly from nine in Education Faculty and as the number of the students studying in the first and fourth grades of Medicine and Theology Faculties were less, all of them were taken in the study. Thus, we aimed to reach a total of 1073 students.

By visiting the classes, students were informed about purpose of the study and their verbal consents were taken. The questionnaire consisting of 48 questions were distributed to the students who agreed to participate in the study. The questionnaire was consisting of the questions about socio-demographic characteristics of students, and knowledge, attitudes and practices about cervical cancer and HPV vaccination. The questionnaire forms were returned after being answered by students. Students were asked for not writing their names on the questionnaires. All the students in the classes volunteered to participate in the study. A total of 718 students were included in the study.

The obtained data were analyzed using SPSS 15 software. Chi-square test and logistic regression method were used for statistical analyses. In the logistic regression analysis, hearing status of cervical cancer and the HPV vaccination have taken as dependent variables while faculty, grade, gender, marital status and having a health worker in the family have taken as independent variables.

Results

As shown in Table 1, 78.3% of the students heard cervical cancer and 36.1% HPV vaccination. The percentage of the hearing cervical cancer and the HPV vaccination among medical students were significantly higher than others. It was determined that 75.5% of the first grade students heard cervical cancer and 26.2% HPV vaccination. These percentages were found 82.1% and 49.7% in the fourth grades, respectively. The percentage of the fourth grade students saying they heard both cervical cancer and HPV was significantly higher than the first

grades. However, it was determined by further evaluation; that this difference stems from the medical students; there is no significant difference between the first and fourth grades in other faculties.

As shown in Table 2, at the logistic regression analysis it was found that; probability of hearing about cervical cancer, among the medical students was 5.7 times higher than the Theology Faculty students, 5.6 times higher than Education Faculty students and 2.4 times higher than the EAS Faculty students. This probability was found 1.7 times more in the fourth grade students than the first grades, and 3.2 times more in female students than the males. Marital status and having a health professional in the family have not significant impact on the probability of the students' hearing about cervical cancer.

As shown in Table 3, it was found that; percentage of hearing about HPV vaccine, among the Medical Faculty students was 18.5 times higher than the Theology Faculty students 3 times higher than Education Faculty students and 4.2 times higher than the EAS Faculty students. Fourth grade students' heard about HPV vaccine 3.7 times more than the first grade students. Marital status, gender and having a health professional in the family have not significant impact on the probability of the students' hearing about HPV vaccination.

Of the students, only 0.3% (3 students) was vaccinated against HPV and 8.8% of them were willing to be vaccinated. The percentage of the students willing to vaccinate against HPV in Medicine, EAS, Education and Theology faculties were 18.0%, 6.5%, 5.0% and 1.0% respectively. The percentage of the students willing to vaccinate were significantly higher in the Faculty of Medicine than the others, among females than males and in the fourth grade students than the first grades. Marital status and having a health professional in the family have no significant impact on the thinking about HPV vaccination.

Of the study group, 22.4% knew that HPV vaccine is available in Turkey, 31.9% expressed that HPV vaccination is required for only females and 8.7%, expressed that it is required also for male, 80.1% had no idea about the price of the vaccine, 22.3% suggested that HPV vaccination must be free and 15.2% stated that they would be vaccinated if it is free.

To evaluate the students' information about cervical

Table 1. The Students' Hearing Percentages of Cervical Cancer and HPV Vaccination According to Their Faculties and Grades

Faculties and Grades		n	Hearing About Cervical Cancer		Hearing About HPV Vaccination	
			Number	%	Number	%
Faculties	Medicine	256	230	89.8	160	62.5
	Theology	199	140	70.4	23	11.6
	Education	108	71	65.7	38	35.2
	EAS	155	121	78.1	38	24.5
P value			<0.001		<0.001	
Grades	1	416	314	75.7	109	26.2
	4	302	248	82.1	150	49.7
	P value		0.033		<0.001	
Total		718	562	78.3	259	36.1

Table 2. Impacts of Various Factors on the Probability of the Students' Hearing about Cervical Cancer (The Results of Logistic Regression Analysis)

Independent Variables	Groups	n	Hearing About Cervical Cancer		OR (%95 GA)
			number	%	
Faculty	Medicine	256	230	89.8	1,000
	Theology	199	140	70.4	0.176 (0.101–0.308)*
	Education	108	71	65.7	0.177 (0.096–0.326)*
	EAS	155	121	78.1	0.416 (0.233–0.742)*
Grades	1	416	314	75.7	1,000
	4	302	248	82.1	1.748 (1.160–2.634)*
Gender	Male	243	172	70.8	1,000
	Female	475	390	82.1	3.221 (2.118–4.899)*
Marital Status	Unmarried	701	552	78.7	1,000
	Married	17	10	58.8	0.447 (0.158–1.261)
Health Professional in the Family	No	416	465	77.1	1,000
	Yes	302	97	84.3	1.294 (0.729–2.295)
Total		718	562	78.3	

Table 3. Impacts of Various Factors on the Probability of the Students' Hearing about HPV Vaccination (The results of logistic regression analysis)

Independent Variables	Groups	n	Hearing About HPV Vaccination		OR (%95 GA)
			number	%	
Faculty	Medicine	256	160	62.5	1,000
	Theology	199	23	11.6	0.054 (0.031–0.094)*
	Education	108	38	35.2	0.338 (0.203–0.562)*
	EAS	155	38	24.5	0.238 (0.150–0.380)*
Grades	1	416	109	26.2	1,000
	4	302	150	49.7	3.689 (2.531–5.377)*
Gender	Male	243	100	41.2	1,000
	Female	475	159	33.5	1.254 (0.855–1.840)
Marital Status	Unmarried	701	251	35.8	1,000
	Married	17	8	47.1	2.546 (0.871–7.444)
Health Professional in the Family	No	416	205	34.0	1,000
	Yes	302	54	47.0	1.330 (0.834–2.122)
TOTAL		718	259	36.1	

cancer, HPV infection and HPV vaccination, their opinions about 11 statements (four of them were right and seven were wrong) were asked. More than half of the students have reported no idea on these statements. The percentages of the students knowing correctly that HPV vaccine protects against cervical cancer, HPV infection can cause penile cancer, cervical cancer is more common among the women having multiple partners, and cervical cancer is more common among the wives of polygamous men are 44.7%, 14.9%, 36.5%, 32.3% respectively. In contrast, the percentages of students having wrong information, such as; HPV infection is rare among women, HPV infection is not seen among men, condoms protect against HPV, HPV vaccination can cause infertility in women, HPV vaccination protects against AIDS, the HPV vaccinated individuals don't need prevention against STD and cervical cancer is more common in spouses of circumcised men are 9.5%, 16.4%, 21.7%, 8.8%, 13.8%, 4.6%, 5.6% respectively.

About 85% of students stated that they want to have more information about cervical cancer and HPV vaccination.

Discussion

In this study, the percentage of hearing about cervical cancer was found 78.3% and as expected the percentage was higher among females (82.1%). The percentages of hearing about cervical cancer vary among the studies. In Poland nearly all of the (98.5%) four hundred female students had heard of cervical cancer (Kamzol et al., 2013). A Dutch study conducted among 600 female and male students it was found that 94% had heard of cervical cancer (Lenselinka et al., 2008). But, there are also some studies that the hearing percentages of cervical cancer are lower. For example a study among female university students in South Africa this percentage was found 58.9% (Hoque et al., 2013). Among the 375 female Nigerian students, the percentage was found 53.9% (Iliyasu et al., 2010).

Although the percentage of hearing cervical cancer was high among the students, the knowledge of cervical cancer risk factors, HPV and HPV vaccination were low in our study. Similar results were reported at a Malaysian study among university female students (Wong et al.,

2010). It was found only one fourth of the first year students at Ege University in Turkey had heard about HPV infection and HPV vaccination (Durusoy et al., 2010). Another study covering 1808 participants in a Turkish subpopulation the hearing percentage of HPV vaccine was 24.3 % (Onan et al., 2009).

The most known risk factor for cervical cancer was having many sexual partners in the literature (Wardle et al., 2001). In our study only 36.5 % of the students' knew that cervical cancer is more common among the women having many partners and only 32.3 % of them knew that cervical cancer is more common in the wives of polygamous men. In the other studies having multiple sexual partners was a better known risk factor for cervical cancer. It was revealed that 67% of women and 51% of men recognized having several sexual partners as a risk factor for cervical cancer in a UK survey (Wardle et al., 2001). Of the female university students, 62.5% defined multiple sex partners as a risk for cervical cancer in South Africa (Hoque et al., 2013).

It is a common correct known false that condoms give full protection against HPV. In our research 21.7% of the students also asserted this opinion. 80% of the Indian medical and 59.2% of the female Polish and Finish students were of the opinion that condoms prevent HPV infection (Kinga et al., 2011; Mehta et al., 2013).

In our study, only 14.9% of the students knew that HPV infection can cause penile cancer. A study made in India, among the medical students less than half (44%) noticed the association between HPV and penile cancer (Mehta et al., 2013).

Similar to our study significantly lower knowledge about cervical cancer, HPV and HPV vaccination were seen in first grade students compared to high grades students (Wong and Sam, 2010; Guvenc et al., 2012) Also a study included 1706 male and female university students of Porto, significant differences were found, regarding cervical cancer knowledge, in gender and between health sciences schools and non-health sciences schools similar to our study (Medeiros and Ramada, 2011)

The percentage of the students knowing HPV vaccination given in our country was 22.4%. Another study covering Turkish university students the percentage was higher (Yilmazel and Duman, 2014)

56.3% of the students did not know that HPV vaccination prevents cervical cancer at the current study, this percentage was lower (18%) at another study but covering only medical students (Mehta et al., 2013).

In our study group, only 0.3% of the university students vaccinated against HPV. In another study it was 0.4% among Turkish university students (Durusoy et al., 2010).

Contrast to many other studies in the literature the percentage of the students' wishing to be vaccinated against HPV was low at our study. The percentages of the students wishing to vaccinate were significantly higher at the Faculty of Medicine than the others, among females than males and at the fourth grade students than the first grade students. At another study, the first-year students at a Turkish university willingness of vaccinating against HPV was 11.6% (Durusoy et al., 2010). This

percentage was 61.1% among the nursing students in another study from Turkey (Guvenc et al., 2012). HPV vaccination acceptability is high among all university population groups in the other countries. 89% of the Portugal university students wanted to be vaccinated against HPV (Medeiros and Ramada, 2011). A study from Italy covering both secondary school and university female students reported that most of the students (81.7%) had intended to receive HPV vaccination (Di Giuseppe et al., 2008). Of the South African female university students, 77.3% were willing to accept HPV vaccination. (Hoque et al., 2013). An Indian study reported that 75% of the participants were willing to get vaccinated (Saha et al., 2010). Malaysian university students showed 48% acceptability of receiving HPV vaccination (Wong and Sam, 2010). 74.0% of the female university students in northern Nigeria were willing to accept the HPV vaccine. Even at a study covering only male university students in the United Arab Emirates nearly half of the students (46%) indicated they would accept HPV vaccination. (Ortashi et al., 2013).

Percentages are higher when vaccination against HPV is covered by the state (Mehu-Parant et al., 2010). Of our study group, 15.2% said they would be vaccinated if the vaccine was free. In another study from Turkey 11.0% of the participants indicated that they would have the vaccine if their insurance covered it. (Onan et al., 2009.) Vaccine cost has been an important issue for intention in other studies as well (Zimet et al., 2010; Onsuz et al., 2011 and Mehta et al., 2013)

It was concluded that the knowledge of the university students about cervical cancer and the HPV vaccination is insufficient and this insufficiency is more pronounced in other faculties than the Faculty of Medicine. Having a healthcare professional in the family has no effect on the students' knowledge and attitudes on this issue.

University students' having sufficient knowledge about cervical cancer, HPV infection and HPV vaccination are important both for their own health and for community health because most of them are in premarital period and they are also the ones who are expected to direct the future of the community. Training programs can be organized for all the students in order to increase their knowledge level on these issues. The students of non-medical faculties may take elective courses about health-related issues during university education. On the other hand, all community should be informed about cervical cancer and the HPV vaccination with the help of mass media.

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