ORIGINAL ARTICLE

Knowledge and practices of nurses on cervical cancer, HPV and HPV vaccine in Cankiri state hospital, Turkey

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Abstract

Objective: To determine knowledge and practices of nurses on cervical cancer, human papillomavirus and its vaccine.

Methods: This descriptive study was conducted at Cankiri Karatekin University, Cankiri, Turkey, from December 2015 to January 2016, and included nurses. . A survey was used to collect data about socio-demographic features and knowledge and practices on cervical cancer and screening, signs and symptoms of cervical cancer and human papillomavirus vaccine. SPSS 16 was used for data analysis.

Results: Of the 110(61.1%) participants, 83(75.5%), 78(70.9%) and 45(40.9%) did not know risk factors of cervical cancer, signs of cervical cancer and how to protect oneself against cervical cancer, respectively. Moreover, 56(50.9%), 85(77.3%) and 60(54.5%) knew the route of transmission of human papillomavirus, risk factors of human papillomavirus and its vaccine, respectively. Besides, 2(1.8%) nurses received human papillomavirus vaccine. Also, 11(10%) nurses received a regular Pap smear test and 19(17.3%) received a regular gynaecological examination. The reasons given for not having the examinations were being sexually inactive in 28(25.5%) cases, not feeling the need for an examination 26(23.6%), shying away from gynaecological examinations 13(11.8%), and having inadequate knowledge 6(5.5%). Significantly higher rates of the nurses aged $\geq$40 years, having given birth, and having regular gynaecological examinations had a Pap smear test ($p \leq 0.05$).

Conclusion: Knowledge of nurses about risk factors, signs and prevention of cervical cancer were found to be below the desired level.

Keywords: Cervical cancer, HPV, HPV vaccine, Nurse. (JPMA 66: 1621; 2016)

Introduction

Cervical cancer is one of the most important health issues for adult women in developing countries. The International Agency for Research on Cancer (IARC) has reported that cervical cancer ranks fourth of the most life-threatening cancers in the world.[1] According to data from the Turkey Cancer Statistics (2009), cervical cancer is the ninth most frequent cancer seen in women of all age groups.[2] It is reported that globally one woman dies due to cervical cancer every two minutes.[3]

The greatest risk for cervical cancer is failing to receive a Pap smear test. In developed countries, 85% of women have a Pap smear test at least once in their lifetime, while this rate is only 5% in underdeveloped countries.[4] Cervical cancer screening for women is recommended to start three years after the onset of sexual activity, or at 21 years of age in the United States (US), and at 25 years of age in Europe.[5] In Turkey, the National Standards of Cervical Cancer Screening recommends having a smear at least once between the ages of 35 and 40 years with repeat screening every five years, stopping at the age of 65, when women have two consecutive negative tests.[6]

One of the most important risk factors for cervical cancer is human papillomavirus (HPV) infection. HPV is a virus transmitted through sexual activity. In addition, the disease may have a very fast and diffuse form in the presence of conditions causing immune deficiency such as pregnancy, acquired immune deficiency syndrome (AIDS) and corticosteroid treatment.[7,8]

The key role HPV played in the aetiology of cervical cancer has increased the number of studies to develop a vaccine against this virus, and several vaccines providing a high rate of prevention have been developed. The HPV vaccine, administered in three doses to the age group of 9-26 years, was approved by the US Food and Drug Administration (FDA) in June 2006.[7] With the widespread use of this vaccine, the incidence of and mortality from cervical cancer are expected to decrease over the next 20-30 years.[9] As this is a common problem in the society, it is important to raise awareness in prevention and early diagnosis of cervical cancer. In this context, health care personnel, nurses in particular, who are considered as role

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models for the society, should play a fundamental role, first by protecting their own health and secondly by informing the society while setting an example for them.[10] Nurses should have adequate and accurate knowledge of preventive health care services to fulfil their educative and counselling roles. The current study was planned to determine knowledge and practices of nurses on cervical cancer, HPV and HPV vaccine.

Subjects and Methods

This descriptive study was conducted at Cankiri Karatekin University, Cankiri, Turkey, from December 2015 to January 2016, and comprised nurses selected. Sample selection method was not used in the study, and an attempt was made to reach the entire population. Nurses who were on vacation leave, absent due to illness, or who declined to participate were excluded.

Data was collected using a survey developed by the researchers in light of the literature and including 28 questions on socio-demographic features (eight questions), knowledge, screening, symptoms and signs of cervical cancer (fourteen questions) and HPV vaccine (four questions) and practices of nurses (two questions).[8,11,12]

Ethical approval was obtained from the Cankiri Karatekin University and the Directorate of Public Hospitals. Informed verbal consent was taken from all participants. Their participation in the study was voluntary. Data was collected by conducting face-to-face interviews with the participants. Each interview lasted approximately 10-15 minutes.

Data was analysed using SPSS 16 and descriptive statistics (frequencies and percentages) were calculated.

Results

Of the 180 nurses at the institute, 110(61.1%) participated in the study. All the participants were females and 32(29%) of them were aged between 25-29 years. Moreover, 52(48.2%) participants were nursing high school graduates, 23(20.9%) were graduates of two-year university programmes for nursing and 21(19%) were graduates of four-year university programmes for nursing. Besides, 38(34.5%) nurses had work experience of 6-10 years. Furthermore, 71(65.4%) participants were married, 49(44.5%) had never been pregnant, 35(31.8%) experienced pregnancy two times and 34(30.9%) gave live birth to two children. Moreover, 26(23.6%) of the nurses reported that they received education on cervical cancer and HPV in the past. Also, 15(13.6%) nurses thought their own level of knowledge on cervical cancer was adequate. Most of the nurses, i.e. 102(92.7%), reported no history of cervical cancer in their first degree relatives and 80(72.7%) considered that they were at no risk of cervical cancer (Table-1).

Table-1: Descriptive variables of the nurses.

Variables	n	%
Age		
<19 age	10	9.1
20-24 age	16	14.5
25-29 age	32	29.1
30-34 age	21	19.1
35-39 age	21	19.1
≥40 age	10	9.1
Education level		
High school	53	48.2
Associate degree	23	20.9
Graduate degree	21	19.1
Master	11	10
Doctorate	2	1.8
Work experience		
<1 year	15	13.6
1-5 year	30	27.3
6-10 year	38	34.5
11-15 year	8	7.3
>15 year	19	17.3
Marital status		
Married	71	64.5
Single	39	35.5
Number of pregnancies		
0	49	44.5
1	17	15.5
2	35	31.8
3	6	5.5
> 4	3	2.7
Number of live births		
0	49	44.5
1	19	17.3
2	34	30.9
3	8	7.3
Status of education on the subject		
Yes	26	23.6
No	84	76.4
Considered themselves competent enough in cervical cancer		
Yes	15	13.6
No	95	86.4
History of cervical cancer in first-degree relatives		
Yes	8	7.3
No	102	92.7
Finding themselves at a risky situation for cervical cancer		
Yes	30	27.3
No	80	72.7
Total	110	100

Furthermore, 84(76.4%) of the nurses knew that cervical cancer is globally the second most frequent cancer in

Table-2: Nurses' knowledge on cervix cancer, HPV and its vaccine.

Knowledge on cervix cancer, HPV and its vaccine	n*	%
Cervical cancer, globally the second most frequently observed cancer in women		
Yes	84	76.4
No	26	23.6
Risk factors for cervical cancer		
Cigarette smoking	16	14.5
Common birth	7	6.4
Multiple partners	13	11.8
Early sexual activity	4	3.6
Infection	11	10
Cervical cancer symptoms		
Bleeding	31	28.2
Irregular menstrual cycles	9	8.2
What can be done to prevent cervical cancer		
Regular pap-smear test	51	46.4
Decreasing the number of deliveries	19	17.3
HPV vaccine	17	15.5
Preventing giving birth at early and late age	17	15.5
Education	49	44.5
Regular doctor consultation	35	31.8
Monogamy	40	36.4
Know the routes of transmission of HPV		
Yes	56	50.9
No	54	49.1
HPV risk factors		
Early sexual activity	48	43.6
Early age at birth	29	26.4
Cigarette smoking	26	23.6
Long-term use of COCs	32	29.1
Vitamin C	6	5.5
Know the HPV vaccine		
Yes	60	54.5
No	50	45.5

*The total was not expressed since one participant selected more than one statement.
HPV: Human papillomavirus.
COC: Combined oral contraceptives.

women, 27(24.5%) knew about risk factors for cervical cancer, 32(29.1%) knew about signs of cervical cancer and 65(59.1%) knew what needs to be done for prevention of the condition. The most frequent three risk factors of cervical cancer described by the nurses were cigarette smoking 16(14.5%), multiple partners 13(11.8%) and infection 11(10%) and the most frequent two signs of cervical cancer mentioned were bleeding 31(28.2%) and irregular menstruation 9(8.2%). The most common responses to the question, "What can be done to prevent cervical cancer?" were Pap smear test 51(46.4%), education 49(44.5%), and decreasing the number of deliveries 19(17.3%). In addition, 75(68.2%) participants did not know at what age Pap smear tests should commence, while 13(11.8%) asserted that it should be performed immediately after the first sexual intercourse.

Table-3: The practices of nurses on cervical cancer and HPV.

The practices on cervical cancer and HPV	n*	%
Regularly had a gynaecological examination		
Yes	19	17.3
No	91	82.7
Having Pap smear test		
Once year	11	10
Every three or five years	10	9.1
When complaints	12	10.9
When physician advises	3	2.7
Never done	74	67.3
Reasons for performing Pap smear test		
Regular control	16	14.5
Physician order	11	10
Family history of cancer	2	1.8
Flow-scratch-bleeding	7	6.4
Cancer concerns	1	0.9
Reasons for not performing Pap smear test		
No need	26	23.6
Being shy about gynaecological examination	13	11.8
Considering oneself not at risk	2	1.8
Having inadequate knowledge	6	5.5
Sexually inactive	28	25.5
No complaints	6	5.5
HPV vaccine received		
Yes	2	1.8
No	108	98.2

*The total was not expressed since one participant selected more than one statement.
HPV: Human papillomavirus.

Moreover, 56(50.9%) nurses knew about the route of transmission of HPV, 85(77.3%) knew about risk factors for HPV and 60(54.5%) knew about HPV vaccine. All the nurses who stated that they knew the route of transmission marked sexual contact. The most commonly reported risk factors for HPV were a high number of sexual partners 73(66.4%), being sexually active from an early age 48(43.6%), and long-term use of combined oral contraceptives (COC) 32(29.1%). Of all the nurses who stated that they knew about the HPV vaccine, 13(21.7%) stated that the vaccine should be administered in three doses to females aged 9-26 years (Table-2).

In addition, 38(34.5%) nurses were found to provide education for others and the most common issues that they provided information about were guidance for a pap smear test 30(27.3%), risk factors for cervical cancer 16(14.5%) and HPV 6(5.5%).

Besides, 19(17.3%) nurses regularly had a gynaecological examination and 36(32.7%) had a Pap smear test in the past. Moreover, 12(10.9%), 11(10%), 10(9.1%) and 3(2.7%)

participants had a Pap smear test when they had any complaints, annually and regularly, every 3-5 years, and when a doctor requested, respectively. When the nurses were asked why they had a Pap smear test, 16(14.5%) stated that they had it for a regular check-up. When the reasons for not having a Pap smear were evaluated, 28(25.5%) stated that they had no Pap smear test since they were sexually inactive and the other most common responses were no need for a pap smear 26(23.6%), being shy about gynaecological examination 13(11.8%) and inadequate knowledge and no complaints 6(5.5%) each. Also, 108(98.2%) nurses reported that they did not receive an HPV vaccine. Of the nurses who claimed they knew about the HPV vaccine, 58(96.7%) did not have the vaccine (Table-3).

Discussion

Cervical cancer, the most common cancer in developing countries and globally the second most common gynaecological cancer, has a very high mortality rate when not diagnosed in the early phase.[13] Deaths due to cervical cancer, which are widespread in the community, can be reduced by increasing awareness among women. However, studies conducted so far point out that the majority of women do not know about the risk factors for cervical cancer and the importance of Pap smear tests.[7,8,14] Knowledge of cervical cancer risk and education are very important in the diagnosis and treatment of the disease. In this respect, healthcare personnel, nurses in particular, experience a burden of responsibility. This study was performed to determine nurses' knowledge about this subject and status of nurses working and providing care to women at a hospital.

A majority of the nurses (76.4%) was found to receive no prior education on cervical cancer, HPV or the vaccine, and also a large majority (86.4%) found their own knowledge on the subject inadequate. Consistent with the results of the present study, one study[8] demonstrated that 62.5% and 73.9% of the nurses received no education on cervical cancer and HPV vaccine, respectively, and 40% of them found their own knowledge on the subject insufficient. The present study also showed that knowledge of the nurses on this subject is insufficient. In addition, a study[15] with health workers found that knowledge of healthcare personnel on cervical cancer was inadequate, which is compatible with the results of the present study.

Knowledge of risk factors, signs and prevention methods of cervical cancer plays an important role in taking necessary precautions and avoiding behaviour deemed to be risky for cervical cancer. In this study, only 24.5% of the nurses reported that they knew the risk factors of cervical cancer. The risk factors mentioned by the nurses were cigarette smoking (14.5%), multiple partners (11.8%) and infection (10%). A study[16] stated that 73% of the doctors were found to know that early sexual activity was a risk factor for cervical cancer. A study[17] investigated Chinese women's knowledge of the risk factors for cervical cancer. They reported that the women knew about a majority of the risk factors.[17] In the present study, of all the nurses reporting to know about signs of cervical cancer (29.1%), 28.2% and 8.2% marked bleeding and irregular menstruation, respectively. This study also demonstrated that the nurses did not know the risk factors and a majority of the signs of cervical cancer and needed education on this subject.

More than half of the nurses (59.1%) were found to know what was important for prevention of cervical cancer. They stated that having a Pap smear test (46.4%), education (44.5%) and decreasing the number of deliveries (17.3%) could prevent cervical cancer. The most frequent three prevention methods stated in a study[8] were paying attention to personal hygiene, getting an HPV vaccine and using a condom. One study[15] stated that, 50% of healthcare professionals found Pap smear test important in prevention of cervical cancer. In the present study, it turned out that although the nurses considered Pap smear test as one of the most important practices in prevention of cervical cancer, the rate of having a Pap smear test was low. This suggested that the role of Pap smear test was underrated. In this study, a majority of the nurses (82.7%) was found not to have regular gynaecological examinations and more than half of the nurses (67.3%) were found to have no Pap smear test previously. Another study[18] found that 40% of nurses had regular gynaecological examinations.

Studies have indicated different rates of 58% in nurses, midwives and female health technicians,[19] 81.7% in healthcare personnel,[15] 86.7% in nurses,[18] and 74% in nurses and 86.8% in doctors[12] for having no Pap smear test. A study[20] on medical students in Malaysia found that 90.1% of the students knew about the necessity of Pap smear test in cervical cancer screening; however, 50.3% were found not to know at what age Pap smear tests should be commenced. A study[21] with female doctors and nurses found the rate of having a regular Pap smear test to be 13.9%. Although the results of the studies reported seem to be similar, it is obvious that the number of women having Pap smear tests is very low, even among health care personnel. The percentage of those having a Pap smear test was found to be higher in the >40 age group compared with the <40 age group, though it was

not significant. Consistent with the results of the present study, one study[21] found that the rate of having a Pap smear test was higher among female doctors and nurses aged >40 years. In addition, although statistically not significant, a higher rate of the nurses who received education about prevention of cervical cancer had a Pap smear test, emphasising the role of education. In this present study, 50.9% and 77.3% of the nurses knew the transmission routes and risk factors of the disease, respectively. A study[20] stated that 61.0% of the doctors knew how HPV was transmitted. In another study[22] with medical school students, 93.7% participants were found to know that HPV was an important risk factor for cervical cancer. In the present study, 54.5% of the nurses reported that they knew about the HPV vaccine, while only 1.8% reported that they received an HPV vaccine. One study reported that, 69.5% of the medical school students knew that HPV vaccine prevented approximately 70.0% of cervical cancers; however, only 13.9% of the students were found to receive at least one HPV vaccine.[20] In a study[11] on paediatricians, more than 90% of the doctors admitted that their knowledge on HPV vaccination was insufficient and they emphasised the necessity of education programmes on the subject. One study found that more than one-fifth of physicians were unaware of the presence of HPV vaccine.[16] A study stated that almost all of the nurses (90.5%) heard about HPV before, but only 14.5% knew about it.[18] The nurses' level of knowledge on the subject is a significant parameter when considering education of a society. A study reported that acceptance of the HPV vaccine in a society is affected by positive health policies motivating the use of the vaccine and they emphasised the role played by healthcare personnel in training programmes on HPV.[23] The findings of the present study are compatible with the literature and have established insufficient knowledge of the nurses on HPV and its vaccine.

The current study has its limitations since its results cannot be generalised as it was conducted in a single hospital. Also, the results of the study are limited to the period when data was collected.

In the light of the findings of the study, the nurses' level of knowledge of cervical cancer, its risk factors, signs and prevention methods, Pap smears, and HPV and HPV vaccine should be increased. Time spent on this subject, both at undergraduate education level and in the postgraduate in-service training activities of nurses, should be increased since healthcare personnel, in addition to the therapeutic services they provide, are responsible for providing preventive healthcare services and education and guidance for society.

Conclusion

The majority of the nurses had no prior education on cervical cancer, HPV, and its vaccine, and found their own knowledge on this subject inadequate. Nurses did not have the desired level of knowledge on risk factors and signs of cervical cancer and prevention of the disease, had inadequate knowledge and insufficient practical training on Pap smears, HPV and its vaccine.

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