ORIGINAL ARTICLE

Attitude and knowledge of Iranian female nurses about Human Papilomavirus infection and cervical cancer: a cross sectional survey

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Key words

HPV • Nurses • Vaccine • Knowledge

Summary

Background and aim. *Human Papilomavirus (HPV) is one of the most widespread sexually transmitted diseases is highly related to cervical cancer in women. Cervical cancer's crude incidence rate in Iran is 6-8 per 100,000. The HPV vaccine provides a chance to considerably decrease the transmission of most types of HPV. The aim of this study was to evaluate awareness and knowledge of HPV infection and vaccines and to assess the attitude and approach toward these vaccines among female nurses at Shahid Sadoughi University of Medical Sciences, Yazd, Iran.*

Materials and methods. *This cross-sectional, descriptive study was performed among 380 female nurses. Data were collected using a questionnaire was consisted in demographic variables and questions on knowledge of participants about HPV infection, HPV vaccine and cervical cancer and also questions on attitude of nurses towards HPV vaccination. The validity and internal consistency of questionnaire was confirmed during experts consents and pilot testing (α = 0.79). Data analysis was performed using SPSS15 using χ^2-test or Fisher's exact test.*

Results. *Three hundred and eighty questionnaires were distributed and 357 female nurses completed and returned their questionnaires: Only one hundred and thirty-one of the nurses (36.7%) knew about HPV infection and how it can cause abnormal pap Smear results. about 147 (41.2%) of the nurses stated they would want to be vaccinated. About 146 (40.9%) of respondents supported vaccination of preadolescent girls.*

Conclusion. *The results of this study confirm the lack of knowledge about HPV vaccine and its relation to cervical cancer and also the ways of this cancer prevention. Our study shows an urgent need to design similar studies in other regions of Iran and draw a broad estimation on knowledge of different target groups to make a national program to increase the knowledge of women on this matter and help to decrease the rate of cervical cancer in Iranian population.*

Introduction

HPV or The Human papillomavirus, is one of the most widespread sexually transmitted diseases [1, 2]. Over half of the sexually active women population is exposed to at least one type of HPV during their lifespan [2]. HPV infection can transpire in women of all age consortium, also higher rates of HPV infectivity are generally perceived in women 20-24 years old [3]. For the most part, genital HPV infections are asymptomatic, ephemeral, and resolve without no treatment spontaneously and cause no disorders or complaints. Genital HPV is classified as high risk which mostly is related to types 16 and 18 or low risk that is related to types 6 and 11, reflecting the potential risk to develop malignancy. The development of cervical intraepithelial neoplasia and cervical cancer is in correlation with a previous continual cervix uteri infection with a high risk HPV type [4]. HPV types 16 and 18 are the prime cause of 70% of all cervical cancers.

Cervical cancer transparency worldwide indicates that it is primarily a problem of low resource countries for the main reason of limited access to screening and treatment facilities [1]. In countries with organized screening programs, cervical cancer incidence and mortality have significantly reduced. Cervical cancer is easily accessible to biopsy and also easily recognizable before development because of its long latent period, there for screening programs can be most effective, and there is an effective treatment in precursor disease [5].

Cervical cancer is the second common malignancy among women and the most frequent of gynecologic cancers worldwide [4]. Only in 2008 about 530,232 new cases were diagnosed, and 85.5% of these emerged in developing countries [6]. In developing countries, Cervical cancer is one of the chief public health issues and the leading cause of deaths related to cancer among women [7]. Cervical cancer's crude incidence rate in Iran is 6-8 per 100,000 [8].

It has been hoped that the on hand HPV vaccines will noticeably diminish the burden of cervical cancer and also other HPV-related diseases in developing countries. The HPV vaccine provides a chance to considerably decrease the transmission of both high risk types 16, 18 and low risk types 6, 11 and by doing so, not only reduce cervical cancer incidence and mortality rate,

but also the financial burden of diagnosis and treatment interventions [9]. Infections can be prevented for those with no prior exposure, there for administration have to take place in adolescents and before their sexual debut. The vaccine is expensive and not available to the public in low income countries [10-12].

Numerous studies, mainly in developed countries, have revealed that both health care providers and the general public have various knowledge of HPV infection and vaccines [13-21]. Nurses as a group of health care professionals can have important role in immunization programs, they because of their social situation can provide health education to the public and their knowledge of HPV infection and vaccine prevention will influence on the success of the immunization program against cervical cancer.

Based on our knowledge up to know there is no study on attitude and knowledge of health care professionals about HPV and its vaccination in Iran. This study evaluated the knowledge of HPV infection and vaccines and tried to determine the attitude and approach toward these vaccines among the female nurses at Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Materials and methods

This cross sectional descriptive study conducted among the nursing staff of Shahid Sdoughi teaching Hospital, Yazd, Iran. The study is approved by Research Ethics Committee of Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Assuming that 50% of the female nurses had sufficient knowledge of genital HPV infection, and with 95% confidence and 5% reliability about 300 needed participants were calculated for the study. The instrument of data collection was questionnaire covered information on socio demographic traits, on alertness and knowledge of HPV infections, cervical cancer, and HPV vaccines, and on approval of these vaccines. The questionnaire was developed in consultation with a health educator, two midwives, one gynecologist and an expert in questionnaire validation and its validity was confirmed. Also internal consistency of questionnaire was confirmed by piloting and calculating related α ($\alpha = 0.79$). The questionnaire was completed by hand throughout working hours by the participants. The purpose of the study was explicated to all nurses and their verbal consent was obtained before they were handed a pretested, structured, anonymous, self-administer questionnaire.

All registered information was transferred into SPSS-15 software using χ^2-test or Fisher's exact tests. A p-value < 0.05 was considered as statistically significant results.

Results

Sociodemographic characteristics

Out of the three hundred and eighty questionnaires that were disseminated, 357 female nurses completed and sent back their questionnaires. Two hundred and eighty one (78.7%) of the respondents were married while 76 (21.3%) were single. About 64 (17.9%) respondents were working in midwifery section and 293(82.1%) in other sections.

Only one hundred and thirty - one of the nurses (36.7%) knew about HPV infection and how it can cause abnormal Pap smear results. About 130 (36.5%) of them were aware that It is possible for the infected person to have no sign or symptoms. And only 37 (10.4%) of the nurses knew HPV may not cause herpetic lesions in men and women (Tab. I).

About 208(58.3%) of the nurses knew that HPV could be transmitted by sexual intercourse, while only 40 (11.2%) were aware that it could be passed on by skin-to-skin contact. The data of Table II revealed the knowledge of participants about HPV transmission.

147 (41.2%) of the nurses affirmed they would be inclined to be vaccinated, whereas 210 (58.8%) were reluctant to vaccination; reason given for unwillingness by 26.2% was inadequate knowledge of the HPV vaccines and 41.4% were concerned about the complication of the vaccine (Tab. III).

About 146 (40.9%) of respondents supported vaccination of preadolescent girls, while 209 (59.1%) did not. The ground on which to not advocate the HPV vacci-

Tab. I. Knowledge questions and responses of participants about HPV infection and its relation to cancer.

Do not know		Wrong		Correct		Responses Questions
%	N	%	N	%	N	
52.1	186	11.2	40	36.7	131	HPV infection can cause abnormal Pop smear results
47.3	169	16.2	58	36.5	130	It is possible that infected person has no sign and symptom
51.8	185	32.2	115	16	57	HPV infection resolve without treatment
46.8	167	42.8	153	10.4	37	HPV may not cause herpetic lesions in men and women
54.6	195	5.6	20	39.8	142	Some specific HPV genotypes (mostly16 and 18)can develop cervical cancer
62.5	223	15.7	56	21.8	78	HPV genotype that cause genital warts and cervical cancer is the same
64.7	231	18.5	66	16.8	60	HPV cannot cause cancer in men

Tab. II. Transmission questions and responses of participants about HPV infection and its relation to cancer.

Responses / Questions	Correct		Wrong		Do not know	
	%	N	%	N	%	N
Blood component	120	33.6	61	17.1	176	49.3
Sexual relationship	208	58.3	13	3.6	136	38.1
Skin contact to genital	175	49	22	6.2	160	44.8
Using the toilet	79	22.1	111	31.1	167	46.8
Tear and saliva	157	44	29	8.1	171	47.9
Kissing	40	11.2	147	41.2	170	47.6

Tab. III. Questions about vaccine of HPV and responses of participants about HPV infection and its relation to cancer.

Responses / Questions	Correct		Wrong		Do not know	
	N	%	N	%	N	%
How kind of vaccine of HPV is	50	14	0	0	307	86
HPV vaccine can prevent the cervix cancer	16	4.5	76	21.3	265	74.2
HPV vaccine can prevent genital warts	20	5.6	65	18.2	272	76.2
The women that injected vaccine has need to Pop smear	126	35.3	16	4.5	215	60.2
The best age for vaccination is?	70	19.6	60	16.8	227	63.6
Are you willing vaccination?	147	41.2	210	58.8	-	-
Do you vaccinate your girls	146	40.9	209	58.5	-	-

nation for preadolescent girls included (1) safety of the vaccine is not unverified; (2) the vaccine is expensive; and (3) the lack of enough knowledge about the vaccines and its potential complications. Only 16 (4.5%) of the respondents knew that vaccination of HPV can prevent cervix cancer and 20 (5.6%) knew that vaccination of HPV can prevent genital warts.

Discussion

Awareness of HPV infection and vaccines was moderately low amongst nurses in this study. Despite the understanding and familiarity of cervical cancer and HPV infection, a relatively low proportion (36.7%) knew about the correlation between HPV infection and cervical cancer. In other parallel studies 78.5% of Greek, 71% of New Zealander, and 81.8% Thai nurses were aware of this correlation [21-24]. This data exhibits the inadequate knowledge of nurses in our study and the necessity of increasing this knowledge.

A number of studies display that knowledge of HPV infection is higher in countries with an existing nationwide HPV education programs. These programs caused an enhanced alertness and better knowledge and understanding of HPV infection and associated diseases among health care providers and the general public.

In this Iranian study, only a 16 (4.5%) of the nurses knew they were for the prevention of cervical cancer. This is relatively low as opposed to the 39.1% in Thailand [24]. The nominal familiarity of the HPV vaccine among the nurses in this Iranian study may be due to the lack of education programs about cervical cancer and HPV infection in Iran. The important notable issue is that our participants we nurses and reasonably they passed some lessons about viral infections and malignancies. In fact our participants were previously educated during their graduation courses but even in such group of people we found lack of knowledge. This shows needs for continues educational programs for all target groups as most of our previously educated respondents were failed to answer knowledge questions of our study.

About 147 (41.2%) of the female nurses gave consent to vaccination. These results are lower than those obtained from nurses in the Thai and Nigerian studies [24, 25]. 146 (40.9%) of the nurses were also amenable to propose the HPV vaccines for preadolescent girls. These findings were lower than what was stated in other recent studies [13, 14, 19, 21, 25, 26]. These studies initiated that despite the overall lack of knowledge about HPV infection and other related diseases, the public interest in the HPV vaccination was significant. Studies also display that the main predictors of providers' intent to recommend HPV vaccination are endorsed by specialized organizations and provider of knowledge and approach toward HPV vaccination [23, 26, 27]. Furthermore, the Authors point out that the nurses who gave their consent to be vaccinated were also the more likely to suggest the vaccine for preadolescent girls.

The nurses` justification for not consenting to the HPV vaccines or promoting it for preadolescent girls was the information inadequacy about the effectiveness and safety of the vaccines and also the high cost of the vaccine. In other studies, these factors were also acknowledged as difficulties to an effectual HPV immunization [14, 28-30]. virtually all the nurses sought to obtain more information about the vaccines.

Conclusions

The results of this study confirm the lack of nurses` knowledge about HPV vaccine and its relation to cervical cancer and also the ways of this cancer prevention. Considering with this fact that nurses are educated previously during graduation courses and their low level of knowledge about HPV infection and vaccine, we recommend contentious educational programs for health care staffs as they are one of the most sources of public to get information about diseases. Our study shows an urgent need to design similar studies in other regions of Iran and draw a broad estimation on knowledge of different target groups to make a national program to increase the knowledge of women on this matter and help to decrease the rate of cervical cancer in Iranian population.

Limitations

The relatively small sample size and it being as self-administer, are the probable confines of this study.

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