

Knowledge, attitude, and practice among staff associated with Human Papillomavirus vaccine of young children in Iran

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ABSTRACT

Introduction: This study aimed to evaluate knowledge, attitudes, practice associated with Human Papillomavirus (HPV) Vaccine for Young Children among lecturers and health staffs of Shahid Beheshti University of Medical Sciences (SBMU).

Method: This was a cross-sectional study with 220 adults from five different specialties, randomly selected. Data was collected using 45-item questionnaire on knowledge (12-item), attitude (18-item) and practice (15-item) (KAP) about HPV. The demographic questionnaire included information on age, gender, level of education, occupation, and marital status. Content validity was calculated by content validity ratio (CVR) and content validity index (CVI). Reliability was evaluated using test-retest and by Cronbach's Alpha coefficient, internal consistency was calculated values >0.81 which considered as satisfactory.

Results: The mean age of the studied population was 37.70±8.07 (23-67) years. Of the 220 participants, 80 (36.4%) were males and 140 (63.6%) were females. In evaluating KAP in the men and women, the mean and standard deviation of knowledge were estimated at good level and one-way ANOVA analysis showed significant differences between women and men ($p=0.019$). There was no significant difference in men and women related to attitude ($p=0.92$) and practice ($p=0.38$).

Conclusion: The KAP about HPV among participants was significantly higher at good levels compared to average levels. Women's knowledge was significantly higher than men. Attitude and practice could have been higher because there was consensus to the usage of vaccine among the specialists to prevent HPV.

KEYWORDS:

Human papillomavirus infection; Health Policy; clergy; Management; Knowledge

INTRODUCTION

Cervical cancer is a global problem and is considered as the third highest cause of death in women.¹ Infection with human papillomavirus (HPV) is one of the main causes of

sexually transmitted infections (STIs). Having first sexual intercourse during young ages, having multiple partners, and smoking, are among contributing factors. On the other hand, HPV can be prevented by increasing the awareness among the community and significantly reduced by the use of preventive methods. Vaccination and immunisation against HPV are one of the effective strategies to control the disease before the first sexual intercourse.¹

Studies have shown that knowledge among women about the association between cervical cancer and HPV is low. However, women had positive attitudes toward vaccination of their children before 18 years old to prevent HPV and believed that their children should be trained before marriage.^{2,3}

In study by Gerend, more knowledge was seen among women who have had HIV or women with many sexual partners or a history of cervix dysplasia. These findings could predict HPV vaccination camps and may be useful in creating interventions for people with the greatest lack of knowledge of HPV.⁴

Wong et al., showed that, knowledge about HPV vaccination, cancer screening and risk factors for cervical cancer was very poor among women.⁵ A study by Lisen et al., showed that, the tendency to vaccinate children was significantly higher among their mothers and costs did not appear like a big barrier. Information on the safety and efficacy of the vaccine is important and parents need more information about HPV infection and HPV vaccine.⁶ Morales-Campos showed that, their subjects believed that their children should be trained in relation to HPV before marriage.⁷ Since the mid-1970s, HPV was known as the main cause of cervical cancer.⁸ In most countries, about two thirds of cancers were cervical cancer. The highest prevalence was in Sub-Saharan Africa (24%), Eastern Europe (21.4%) and Latin America (16.1%). The overall average of this disease was 11.7% of the population. A total of 16% of women with high-risk genotypes are prone to cervical cancer and much research has been done around the world. In a study conducted between 1995 and 2009 that included 194 different studies, estimated that one million women without any cytological problems were surveyed around the world found the average rate of infection with HPV is 11.7%, this varied from place to place.⁹

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There are limited studies done in Iran regarding the association between HPV and cervical cancer. Considering that among women, cervical cancer is one of the deadly cancers after breast cancer, oesophagus and stomach.¹⁰ Because of the fact that the cancer can be prevented in people who has been vaccinated before the first sexual intercourse. Studies have shown that the cost of vaccine delivery is effective along with screening for uterine cancer and integration into the health system.¹¹

Therefore, a study aimed to evaluate knowledge, attitudes, and practice (KAP) associated with HPV for young children was assessed among lecturers and health staffs of Shahid Beheshti University of Medical Sciences (SBMU) in 2018.

MATERIALS AND METHODS

This was a cross-sectional study with 220 adults from five different specialties (dermatologists, infectious specialists, Psychiatrists, Clergy Cultural, Gynecologists), which were randomly selected from SBMU of Tehran. Data were collected using self-administered questionnaire.

The KAP questionnaire included 45 items, which was developed from literature review. There were 12-item on Knowledge, 18-item on Attitude and 15-item on Practice. Each item consists of a 5-point Likert scale (Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5). The total score for each section were scored from 12 to 60 (knowledge), 18 to 90 (attitude) and 15 to 75 (practice).

Knowledge scores <20 was designated as poor, 20-40 as average and >40 as good. For the attitude scores <30 was designated as poor, 30-60 as average and >60 as good. For the practice scores <25 as was designated poor, 25-50 as average and >50 as good score.

The demographic questionnaire included information on age, gender, level of education, occupation, and marital status of the participants.

Validity Evaluation:

Validity of initial items was evaluated through content, face, and construct validity methods. Items were corrected based on the panel suggestions. Quantitative content validity was calculated by content validity ratio (CVR) and content validity index (CVI).

Reliability Evaluation:

Reliability was evaluated using test re-test and by Cronbach's Alpha coefficient, internal consistency was calculated values >0.81 being considered as satisfactory.

Sampling method and sample size calculation: due to 11.7% prevalence of HPV infection, the sample size was 216 samples, with a probability of 5% attrition risk considered 220 samples.

Statistical Analysis:

Statistical analysis was done using SPSS 16.0 (SPSS Inc., Chicago, IL, USA). Correlation coefficient of KAP questions are calculated and $p < 0.05$ was considered significant. Data were analysed by logistic regression, t-test and nonparametric tests.

RESULTS

The mean age of the studied population was 37.70 8.07 (range 23-67) years. Of the 220 subjects 80 (36.4%) were males and 140 (63.6%) were females. The mean age of the women was 36.49±7.22 years and the mean age of men was 39.7±9.05 years. Of the 220 subjects 146 (66.4%) were married and 74 (33.6%) were single. Employment status of the subjects showed that, 10 (4.5%) were unemployed and 210 (95.5%) were employed. The study population included 27 specialised assistants (12.3%), 39 gynaecologists (17.7%), 31 dermatologists (14.1%), 16 infectious diseases specialists (7.3%), 34 psychiatrists (15.4%), 26 clergy (11.8%), 16 cultural specialists (7.3%) and 31 (14.1%) were from the health group. Table I shows that the age group of 30-40 years had the highest rate and the age group of 40-50 years had the lowest rate among studied population.

Table II shows that the scores for KAP of the participants on HPV. All the participants obtain at least an average level of KAP on HPV, the number of participants who obtained good level KAP on HPV was significantly higher as compared to average level of KAP on HPV.

In evaluating KAP in the men and women, mean and standard deviation of knowledge were estimated at good levels and one-way ANOVA analysis showed significant differences between women and men ($p=0.019$). There was no significant difference in men and women which are related to attitude ($p=0.92$) and practice ($p=0.38$). Table III shows knowledge, attitude and practice of the studied subjects' related human papillomavirus (HPV) by gender.

In response to the question in the questionnaire, which method do you recommend for the vaccine? Table IV showed that more than half of subjects believed that, cost of vaccine should be funded by the insurance.

The results of open-ended questions showed that, the highest percentage of people believed that, the lack of cultural education programs contributes to the prevalence of HPV infection. They considered the role of cultural programs important in public awareness of the dangers of HPV. The highest percentage of clergy believed that, developing a cultural education program would reduce the risk of HPV. They also stated that, the effect of modern communication technologies in everyday life can be used to change the attitudes of young people towards personal health. The need for pre-puberty vaccination in approximately half of the population indicated that vaccination and risk reduction cultures should be corrected. Key findings on the need for pre-puberty vaccination in nearly one-fifth of the studied population indicated that the root cause of the problem was the weakening spirituality of individuals.

A high percentage of clergymen agreed that, the society should be strongly trained in the basis of health by paying attention to the principles of family in order to promote health. They also agreed that youth employment would help to form a family and would help prevent STDs.

More than half of the clergy believed that, the clergy were able to persuade those who resisted vaccination. They also agreed that, clerics assist the public with health education in different ethnicities for successful vaccinations by holding

Table I: Age distribution according to the expertise of the subjects

Age group (Year)	Health group	Dermatologists	Infectious specialists	Psychiatrists	Clergy	Cultural specialists	Total	Others	Gynaecologists
39	7	7	0	0	4	2	10	9	<30
140	14	29	5	13	27	14	20	18	30-40
18	5	1	5	1	1	0	1	4	40-50
23	1	3	6	12	2	0	0	0	50-60
220	27	39	16	16	34	16	31	31	Total

Table II: Knowledge, attitude and practice of the studied subjects related to Human Papillomavirus

Variables	Number	Mean±SD Average level	Number	Mean±SD Good level	P value
Knowledge	24	38.2±1.6	196	53.0±4.9	0.001
Attitude	44	57.1±2.7	176	69.9±6.7	0.001
Practice	46	45.2±4.3	174	60.5±7.6	0.001

Table III: Knowledge, attitude and practice of the studied subjects related to Human Papillomavirus by gender

Variables	Mean±SD Women	Mean±SD Men	p-value
knowledge	50.7±7.1	82.8±5.1	0.019*
Attitudes	67.7±9.1	67.7±7.2	0.92
Practice	9.0±57.7	9.4±58.9	0.38

*p=0.019

Table IV: Proposed methods for funding the vaccine from the studied population of Human Papillomavirus (HPV)

Number(percent) methods	Vaccine cost payment
113(51.6)	Insurance
18(8.2)	personal
89(40.2)	Government

briefings placed. More than two-thirds of respondents agreed that increasing pre-adolescent community awareness of coping with and preventing sexually transmitted diseases at school as personal hygiene lessons as well as mass media education during adulthood could help to institutionalize health culture.

DISCUSSION

Our results showed that there was no low-level of KAP on HPV among the participants, while there were significantly higher number of participants with a good level of KAP on HPV compared to average level. The mean and standard deviation of knowledge was in good level at evaluating knowledge process. Knowledge among women was significantly higher than that among men. Attitude and practice in men and women were not significantly different. The age group of 30 to 40 years comprised the highest percentage of the studied population. The results of open-ended questions in the studied population showed that the highest percentage of people believed that lack of cultural education programs contributes to the prevalence of HPV infection. In addition, they considered the role of cultural programs important in public awareness of the dangers of HPV. The opinion of clerics of HPV was in line with that of the other specialists' opinion as well. Results of surveys on the

necessity of vaccination before puberty in approximately half of the studied population indicated that, culture should be corrected for vaccination and risk reduction. Key findings on the need for vaccination before puberty in nearly one-fifth of the studied population demonstrated that, the root cause of the problem was the weakening spirituality among individuals.

High percentage of people believed that lack of cultural education programs contributed to the prevalence of HPV infection. And they considered the role of cultural programs important in public awareness of the dangers of HPV. The high percentage of clergy believed that, developing a cultural education program would help to reduce the risks of getting HPV. They also stated that the effect of modern communication technologies in everyday life can be used to change the attitudes of young people towards personal health. In a study by Farzaneh et al., the level of knowledge about HPV and its association with cervical cancer was low. The attitudes of people about the need for increasing education were almost high.¹⁰ In a study by Klug et al., community knowledge about HPV infection was poor. It was suggested that, raising awareness of children at an early age be facilitated by school-based disease prevention education programs with the support of the media, subject specialists, relevant organisations.¹²

In a study by Songthap et al., knowledge about cervical cancer and HPV vaccine among nurses and physicians was moderate. Almost 80% of nurses and 63% of physicians agreed to use the HPV vaccine. Almost all nurses and doctors recommended vaccination before age 18.¹³ In addition, Songthap et al., in a study about parents and teachers in Thailand on the Papillomavirus vaccine, showed that knowledge and attitude about the importance of the HPV vaccine were particularly good among parents and teachers. Fundamental efforts should be made to educate people on the benefits of vaccination before parents; teachers and students are accepted.¹⁴ The difference between the above studies and the findings of the our study is due to the differences in the studied population. A high percentage of the surveyed population stated that, the lack of cultural education programs contributes to the prevalence of papillomavirus infection and HPV infection could be prevented by presenting a culturally appropriate program to the Iranian society. They also emphasized the role of cultural activities in preventing or reducing HPV infection. Also, they agreed to provide cultural activities to encourage vaccination for at risk people.

Findings of study by Kamalikhah et al., showed that, cultural practices and opposition of other relatives were among the biggest obstacle in the way of education and noted that, the greatest opposition to the teaching of sexual and matrimonial matters have be done and even it is said that families should not be aware of their education. Training efficacy could be increased through combination of training programs, reproductive health with religious training, which could be subscribed by media training.¹⁵ The findings of our study were in line with the Kamalikhah findings. Zari et al., demonstrated that, one of the basic health needs of puberty and reproductive health is to raise the level of knowledge and awareness of young people about the cultural context and religious beliefs of society. So, mothers cited themselves as the best source of information. In reducing social and family barriers, educating about health issues during puberty was justified by justifying religious political officials and paying attention to religious beliefs and respect for families. The results of the study showed that, education should start at an early age.¹⁶ Vaccine financing was suggested as 51.6% insurance, 8.2% personal and 40.2% government pay by the subjects.

Tran et al., showed that factors such as strengthening adolescent sexual health education, reducing vaccine costs, and integrating HPV vaccination into the national immunization program could be viable solutions for increasing the acceptance of the vaccination levels.¹⁷ No vaccine sponsoring organisation is currently available, but according to experts, insurance organisation would be the best reference in this regard.

The high percentage of people believed that, lack of cultural education programs helps to the prevalence of HPV infection. Also, they considered the role of cultural programs important in creating public awareness of the dangers of HPV. The high percentage of clergy believed that, developing a cultural education program would help to reduce the risk of HPV. They also stated that, the effect of modern communication

technologies in everyday life can be used to change the attitudes of young people towards personal health.

Jasp et al., showed that cultural differences between African, American, and Haitian immigrant mothers were significant barriers to acceptance of the vaccine. Improving HPV vaccine use in black women requires modifying culturally sensitive approaches in order to address specific ethnic barriers. 18 Salad et al investigated a study to determine if vaccination is really needed. The latter study about "Muslim Somali girls, who do not have premarital sex, has shown that current measures in the Netherlands to prevent women with cervical cancer are difficult, as Somali women do not personally associate with these types of preventive measures. Teachers can provide culturally sensitive information to young Somali women in schools. Health belief model was recommended to promote equal access to preventive health care for Somali women.¹⁹

Natan et al., showed that, approximately 65% of mothers intend to vaccinate their daughters. Behavioural and normative beliefs and awareness have had a positive effect on the intention of mothers to vaccinate their daughters. It was found that high levels of religiosity had negative effect on the intention of mothers to vaccinate their daughters. Together with the level of knowledge and the level of religiosity, it can predict behavioural goals of mothers in vaccinating their daughters. This demonstrates the importance of role of nurses in transmitting information and increasing awareness among mothers.²⁰ Mathur et al., showed that there is a knowledge gap regarding the vaccine. Girls often did not have the required basic knowledge for making decision about vaccine. By estimating the risk of HPV-related diseases, religion is not associated with the frequency of access to health care. The religious affiliation of parental/guardian may be effective in making decision to accept the HPV vaccine for girls with age range between 9 and 18, but previous research findings have not shown the effect of religion. There was no association between religiosity and vaccination status. However, there was a significant association between religiosity and other evaluated variables.²¹

In a study, Fogel et al., showed that the Jews had fewer intentions and norms than HPV vaccine recipients by comparing the numerous religions and the role of religion in influencing HPV vaccination attitudes, goals, and behaviours. Also, Jews had the lowest level of behaviour because of their attitude toward the HPV vaccine. Evangelical Christians had the highest chance of getting an HPV vaccine. For women strong in Jewish faith, there was a potential need for better efficacy of the HPV vaccine.²² The results of our study showed that there was consensus among the specialists to prevent HPV. Community-based clergy should prepare people from various religious backgrounds, and the Ministry of Health and Medical Sciences Universities and the Ministry of Education for Education and Government with the financial support and insurance agencies for providing the vaccine needed along with other beneficiaries can take effective action to promote the attitude and practice of the community.

Selecting the specific population for the study provides key findings for planning and decision-making that could be strength of the study. On the other hand, selected specific population could be considered as weaknesses of the study because of generalization reduction.

CONCLUSION

The level of knowledge, attitudes, and practice on HPV among subjects was significantly higher at good level compared to average level. Knowledge among women was significantly higher than in men. Attitude and practice could be increased because there was consensus to vaccine among the specialists to prevent HPV.

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ETHICAL APPROVAL

The study was approved by the ethics committee of Shahid Beheshti University of Medical Sciences (012.1397.REC.SBMU.IR).

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