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Knowledge of HPV and Attitude towards HPV Vaccination among Medical Students of Jodhpur, Rajasthan

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Abstract
Background: Human Papilloma Virus is a causative agent of cervical cancer. Vaccination against HPV is an important mode of primary prevention against cervical cancer. Two vaccines against HPV have been approved and recommended for use in India. However the availability of these vaccines is hardly known and seldom utilised, even among the medical fraternity.
Aims and Objectives: To assess the awareness of the human papillomavirus infections and vaccination among medical students.
Materials and Methods: An observational descriptive study was conducted to know the awareness of HPV infection and vaccination among medical students. A questionnaire was designed to acquire information about knowledge and understanding of the disease, concept of vaccination, the level of acceptance and attitude towards vaccination.
Results: About 67.5% students implicated that HPV is a causative agent of cervical cancer. 66.25% students know HPV can cause genital warts. Only 40% students know that HPV vaccine prevent infection. 35% of the students have the knowledge that approved age for vaccine is 9-26 years and 37.5% knows there are 3 doses for HPV vaccine. About 66.2% participants were strongly disagreeing that their parents would not allow them to get the vaccine. 30% students were strongly agreed that they will get the vaccine if it will be free.
Conclusion: Lack of knowledge among medical students can be detrimental to the health of the society. So there is a need to create awareness among the future health educators against various aspects of HPV, cervical cancers and its prevention.

Keywords: awareness, cervical cancer, human papillomavirus, HPV vaccine, knowledge of HPV

Introduction

Human papillomavirus (HPV) is one of the most common causes of sexually transmitted infections in all over the world. It is responsible for approximately 90% of cases of invasive cervical cancer [1-3] and is a major cause of female mortality. Approximately 5,00,000 new cases of cervical cancer and 2,60,000 cancers related deaths occur annually [4]. The incidence of cervical cancer is increasing in Latin America and Caribbean, sub Saharan Africa and South- East Asia. In India, cervical cancer remains as the commonest female cancer and the annual incidence of more than 1,32,000 every year. [5] HPV types 16 and 18 contribute to around 74% of cervical cancers [6] as well as to cancers of the anus, penis, vulva, vagina, mouth and oropharynx [7]. HPV types 6 and 11 cause almost all cases of genital warts [8].

Recognition of this dreaded virus in cervical cancer has led to stimulated search for preventive vaccines. HPV vaccines have been introduced in many developed countries in recent years. As preventing cancer with the help of a vaccine is a comparatively new concept, awareness and education will have important implication in the implementation of this strategy. It should be well understood that the mere availability of an effective vaccine is not synonymous with an effective vaccination program. We hypothesized that awareness programs conducted at various levels addressing tailored issues will help to successfully implement HPV vaccination in our country.

Two types of recombinant vaccines against HPV have been approved for use in India and several countries like USA, Australia and in the European Union marketed as Gardasil and Cervarix. [9] The World Health Organization, Food and Drug Administration, Centre for Disease Control and Global Advisory Committee on Vaccine Safety have confirmed and declared that the vaccine is safe and effective. [10-12] The FUTURE trials have demonstrated an efficacy of 91-100%.[13]

For the public to be aware, it is essential that those in the medical field have a sound knowledge first. This includes health care professionals as well as medical students. In a few years these students will be practicing doctors and can play a pivotal role in spreading awareness among a wide range of population. With this in mind, we conducted a survey among the medical students to know their knowledge, attitude and acceptance of HPV vaccine in Government Medical College, Jodhpur.

Material and Method

A cross sectional questionnaire based study was conducted after approval of the Institutional Ethics Committee to know the awareness of HPV infection and vaccination among medical students of a Government Medical College at Jodhpur in Rajasthan. Eighty female medical students who gave consent to participate in the survey were included in this study. The only exclusion criterion was unwillingness of the student to participate in the study. A questionnaire having thirty questions was designed to acquire information about knowledge and understanding of the disease, concept of vaccination, the level of acceptance and attitude towards vaccination.

Participants were given a score of 1 for each question and then knowledge was assessed. If they score between 0-4 it indicates Poor knowledge, whoever Score 5-8 having Moderate Knowledge and those who score between 9-12/13 having Good knowledge.

Results

A total of 80 MBBS students were participated in this study. Among that 47(58.75%) were of MBBS first year and 30(37.5%) were of second year. Their age ranges between 18-25 years with a mean age of 19.12 years ± 1.1136. All of them were unmarried.

Knowledge of HPV infection

The answers were analyzed for the awareness of the students regarding the Human papillomavirus and its infection. 78(97.5%) students know that HPV is a sexually transmitted disease. 54(67.5%) students implicated that HPV is a causative agent of cervical cancer. Only 25(31.25%) student know HPV can cause penile cancer while 56(70%) students doesn't know about it. 53(66.25%) students know HPV can cause genital warts whereas 69(86.25%) students know HPV can heal by itself. 50(62.5%) students were of the opinion that condoms prevent HPV infection and they did not know whether HPV infection is treatable or not.

Knowledge about HPV vaccination

In this study 37(46.25%) of the medical students did not know that HPV vaccine prevent HPV infection or not; only 40% know that HPV vaccine prevent infection. 55% of the students thought that HPV vaccine prevents cervical cancer while 31(38.75%) students didn't know that HPV vaccine prevents genital wart. 35% of the students have the knowledge that approved age for vaccine is 9-26 years and 37.5% knows there is 3 doses for HPV vaccine however 48.75% students doesn't know that there is a six month interval between the dose of HPV vaccine.

Acceptance and Attitude towards HPV vaccination

Among the study population 66.2% participants were strongly disagree that their parents would not allow them to get the vaccine. 50% were strongly agreed to recommend HPV vaccine to their friends and colleagues. Out of 80 students 24(30%) students were strongly agreed that they will get the vaccine if it will be free whereas 36(45%) students were strongly agreed that they would have pay for vaccine if they could.

Discussion

Cancer is an invincible disease which has plagued mankind for centuries. There are different modalities of treatment of cancers. Recently, a lot of researches are going on for vaccine which can prevent cancers. The development of HPV vaccine represents a huge advancement in the fight against cervical cancer.

In this study we look at the awareness and attitude of our medical college students towards HPV and its vaccine. We found that medical students did not know the incidence of cervical cancer in India, but they could relate its association with cervical cancer. We observed that the level of awareness about HPV and HPV vaccine was very low. The lack of knowledge may be due to the fact that the HPV infection is mainly asymptomatic and in 90% of cases the infection clears off without treatment.

In this study only 18.7% participants had correct knowledge of HPV vaccine whereas 27.5 % had no knowledge regarding the vaccination which is consistent with the study conducted by Saha *et al.* [14] in Kolkata who also revealed a very low level of awareness among the graduate and postgraduate students. Another study conducted to find out awareness about the risk factors for cervical cancer among the educated youth in India, Sri Lanka and Nepal and the average awareness in this regard was found to be 66% in India, 58.8% in Nepal and 57.7% in Srilanka [15].

This is lesser than the results reported by S. Mehta *et al.* [16] and D. Pandey *et al.* [17] whose studies have been in medical students in other medical colleges. The study also reported a lower level of awareness than studies done among doctors in Bangalore. The level of awareness regarding HPV vaccination was, however higher than those studies done among general population and among nurses by Swapnajaswanth *et al.*, [18] Ramavath *et al.* [19] and Siddharthar J *et al.* [20] The difference in study subjects or difference in study setting may be a reason for these differences [21].

In this study we found that only 18.7% participants had correct knowledge of HPV vaccine whereas 27.5 % had no knowledge regarding the vaccination. 10 % Participants had a poor, 48.7 % had moderate and 38.7 % had good knowledge of HPV. Most participants believe that their parents could pay for the vaccine and almost 66.25 % would get the vaccine if it were free which is in agreement with the study conducted by S Mehta *et al*. who reported that 66.8% were willing to accept the HPV vaccine. [16] In this study we found that only 5(6.25%) participants were found to be vaccinated prior to this study.

The major obstacles to implementation of HPV vaccine programs in our country as mentioned by Bhatla N *et al.*[22] included cost, acceptability, lack of public awareness and infrastructure, concern about unknown side-effect. In their review article by Bharadwaj at al [23] high cost of the vaccines was stated as the major concern for mass vaccination program in India.

Conclusion

The existing gap between the knowledge and attitude of the students can be overcome by various educational programs. Widespread acceptance of HPV vaccines is likely to lend enormous health benefits by decreasing morbidity and mortality associated with cervical cancer. There exists a need to implement this fact by aggressive health education programs, group discussions and targeting mainly the adolescent population.

Table 1: Knowledge of Human Pappiloma Virus

Statements	Correct response	Incorrect Response	I don't know
HPV is a sexually transmitted disease (True)	78	1	1
HPV can cause cervical cancer (True)	54	7	19
HPV can cause genital warts (True)	53	7	20
HPV can cause penile cancers (True)	25	9	46
A person might be infected without knowing (True)	52	13	15
HPV can be cured by taking antibiotics (False)	59	10	11
HPV can heal by itself (True)	69	9	2
Pills protect against HPV (False)	41	16	23
Using a condom can provide partial protection against HPV (True)	54	11	15
It's important for women to be screened for HPV (True)	41	8	31
Most people with genital HPV have visible signs and symptoms (False)	35	12	28

Table 2: Knowledge of HPV Vaccine

Statements	Correct response	Incorrect Response	I don't know
HPV vaccine prevents HPV infection (True)	32 (40%)	11	37
HPV vaccine prevents cervical cancer (True)	44	20	26
HPV vaccine prevents genital warts (True)	38	11	31
Approved age for vaccine is 9-26 years (True)	28	09	43
Required no.of Doses for vaccine is 3 (true)	30	15	35
Interval between the doses is 6 months (False)	15	26	39
Number of brands of HPV vaccine available are cervarix and Gardasil (True)	19	06	55

Table 3: Acceptance and Attitude towards HPV vaccination

Statement	Strongly agree	Agree	Strongly disagree	Disagree
I think my parents/guardians could pay for the vaccine	45	18	5	12
I would get the vaccine if it were for free.	24	29	43	14
I would pay for the vaccine if I could.	36	31	9	44
I would be embarrassed to ask my parents/guardians about vaccination	1	8	27	44
It's not necessary for me to get the vaccination	0	3	45	32
Vaccinating young people against HPV would encourage them to become sexually active.	2	16	22	40
If I get the vaccination, it's not necessary for me to be protected against other sexually transmitted infections.	4	13	26	27
Only sexually active women should receive the vaccine.	0	2	26	51
My parents would not allow me to get the vaccine.	1	3	23	53
I wish to get more information about HPV and HPV-vaccination	46	34	00	00
I would recommend it to my friends and colleagues	40	40	00	00
I would recommend it to my future clients	43	37	00	00

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