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Original Research Article

Awareness about human papilloma virus and its vaccine among young women

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ABSTRACT

Background: In India, cancer cervix is the leading type of cancer. It is estimated that nearly 100,000 new cases of cervical cancer occurring annually contributing significantly for death of Indian women and it is on the progressive increase. HPV has been incriminated as important cause of cancer cervix. Thus, the study aimed at assessing the extent of awareness and attitude towards Human papilloma virus, HPV vaccine and cervical cancer among young Women in Medical and Nursing College.
Methods: Cross sectional study done on 1st year female medical and nursing students (18-21years of age) for the period of One month. Pre-tested, semi structured, self-administered questionnaire was used for the collection of data regarding HPV and its vaccine. Statistical analysis was done by simple percentages and proportions. Frequency and percentages were evaluated for categorical variables. Fisher's exact test is used to identify the association between categorical variables.
Results: In this study 83% of the study Subjects were aware of the disease cancer cervix and 79% of the study Subjects were aware of the Human Papilloma Virus and the association between the causation of cancer cervix by HPV virus is known only by 46%. Awareness about HPV vaccination was 59%, out of which 19% were vaccinated; 41% were neither aware of HPV vaccine nor taken vaccination. However, study showed a strong association between awareness about HPV vaccination and vaccinated, which is statistically significant with Fisher's Exact p value <0.05.
Conclusions: There is need to augment the Information, Education and Communication (IEC) activities to create awareness at all levels in the community in general and among young Women in particular to avert future misery of Women folk who suffer silently. Delhi, first state to launch HPV vaccine as public health programme in schools from March 1st 2016.

Keywords: HPV, Cervical cancers, Pap smear

INTRODUCTION

Cancer cervix is the most common cancer among women affecting approximately 5 lakh women each year resulting in 270,000 deaths worldwide. About 85% of them belonging to developing Countries. In India, cancer cervix is the leading type of cancer. It is estimated that nearly 100,000 new cases of cervical cancer occurring annually contributing significantly for death of Indian women and it is on the progressive increase. HPV has been incriminated as important cause of cancer cervix. There are many types of HPVs. The high-risk types are HPV-16 and HPV-18 which are associated with cervical cancer and the low-risk types are HPV-6 and HPV-11, which cause genital warts. The virus commonly spreads through sexual intercourse.[1]

Vaccination against the most common oncogenic human papilloma virus (HPV) types, HPV-16 and HPV-18 could

prevent development of up to 70% of cervical cancers worldwide. The bivalent HPV vaccine was efficacious in prevention of incident and persistent cervical infections with HPV-16 and HPV -18, and associated cytological abnormalities and lesions. Vaccination against such infections could substantially reduce incidence of cervical cancer.[2]

Advisory committee on immunization practice (ACIP) has recommended the use of a quadri-valent Human Papilloma Virus. Vaccine licensed by the US Food and Drug Administration (FDA) on June 8, 2006 for the prevention of cervical cancer. The licensed HPV vaccine is composed of the HPV L1 protein, the major capsid protein of HPV. Expression of the L1 protein in yeast using recombinant DNA technology produces noninfectious virus-like particles (VLP) that resemble HPV virions. The quadrivalent HPV vaccine is a mixture of four HPV type-specific VLPs prepared from the L1 proteins of HPV 6, 11, 16, and 18 combined with an aluminum adjuvant.[3]

These two vaccines were US FDA approved and are commercially available in India. However, in spite of these vaccines are reported to be highly immunogenic, safe, well tolerated and highly effective in preventing HPV infection; HPV vaccines are still not a part of the National Immunization Programme.[4]

The success and benefit of control and prevention of cervical cancer depends to a great extent on the level of awareness about different aspects of the disease and the vaccine among young women.

Thus, the study aimed at assessing the extent of awareness and attitude towards human papilloma virus, HPV vaccine and cervical cancer among young Women in medical and nursing college.

METHODS

It is a cross sectional study done on 1st year female students for the period of one month (21st November to 22nd December 2016) at MVJ Medical College and Research Hospital and MVJ College of Nursing, Bangalore. Informed verbal consent was obtained before the collection of data from the study participants.

Pre-tested, semi structured, self-administered questionnaire was used for the collection of data regarding HPV and its vaccine. Repeated visits were carried out to cover all the female medical and nursing students of 1st year.

The study mainly focused on two parts, the first part explored knowledge on HPV infection and cervical cancer, while the second part explored as to how well these adolescents knew about the vaccine and their willingness to take vaccine and its inclusion in National Immunization Programme.

Analysis

Data was entered in computer using Microsoft Excel Software; data was analyzed using SSPS (statistical package for the social sciences) software. Descriptive statistics formed the basis of the statistical analysis. Frequency and Percentages were evaluated for categorical variables. Fisher's exact test is used to identify the association between categorical variables.

RESULTS

In this study 83% of the study Subjects were aware of the disease cancer cervix and 79% of the study subjects were aware of the human papilloma virus and the association between the causation of cancer cervix by HPV virus is known only by 46% (Table 1).

Table 1: Awareness about HPV, cancer cervix and other consequences of HPV.

Awareness about HPV and its association with cancer cervix			
	Aware	**Not aware**	**Total**
Cancer cervix prevalence	83	17	100
HPV virus	79	21	100
Association of cancer cervix with HPV	46	54	100
Awareness about other consequences of HPV			
Genital and anal warts	12	88	100
Anal cancer	5	95	100
Vulval cancer	5	95	100
Oro-pharyngeal cancer	5	95	100

Table 2: Awareness about mode of transmission.

Mode of transmission	Aware
Sexual transmission	71
Blood borne	12
Food borne	3
Air borne	1
None of the above	19
Total	**100**

Table 3: Awareness regarding HPV vaccine and how many are vaccinated.

Aware of HPV vaccine	Vaccination		Total
	Yes	No	
Yes	19	40	59
No	0	41	41
Total	19	81	100

Fisher's exact p value: 0.0001.

Further, 71% knew about sexual route of transmission of infection by HPV virus, 12% informed about blood borne

route about transmission, 19% were not aware of the route of transmission, few of them answered for food borne (3%) and air borne (1%) route of transmission (Table 2).

Awareness about HPV vaccination was 59%, out of which 19% were vaccinated; 41% were neither aware of HPV vaccine nor taken vaccination. However, study showed a strong association between awareness about HPV vaccination and vaccinated, which is statistically significant with Fisher's Exact p value <0.05 (Table 3).

Table 4: Reasons for not getting vaccinated.

Reasons	Frequency	%
Not aware	41	50.62
Cost	7	8.64
Not available	9	11.11
Uncomfortable asking parents/doctors	12	14.81
Worried about side effects	6	7.41
It's not required	2	2.47
Advised against by parents	4	4.94
Total	81	100

Among the study Subjects, 81% were not vaccinated, out of which 50.64% being not at all aware of vaccination, while other reasons cited for not getting vaccinated was (i) cost of the vaccine (8.64%), (ii) vaccine not available (11.11%), (iii) uncomfortable to ask parents/doctors (12.81%),(iv) side effects to vaccine(7.41), (v) thought not required (2.47%) and (vi) advised by the parents not to get vaccinated(4.94%) (Table 4).

In this study, the main source of information of HPV vaccine, health education events (23.7%), followed by mass media (19%). Out of 59 participants 11.8% did not answer any source of information.

In this study awareness regarding pap-smear as screening tool for cancer cervix was only 9%. Further, on inclusion of HPV vaccine under National Immunization Programme, 92% agreed for its inclusion.

DISCUSSION

Cancer cervix is leading type of cancer in India next to breast cancer. However vaccine is available to prevent human papilloma virus which is a leading cause for cancer cervix in majority of the cases and this is the only vaccine preventable cancer. In the present scenario, awareness about cancer cervix, etiology of cancer cervix, screening etc., the knowledge attitude and practices among the various strata of society is unacceptably poor. Even though the knowledge level exists to some extent, there are still some gaps between attitude and practice. It is felt there is a wide scope to prevent cancer cervix through vaccinations to save the life of Women who succumb to this malignancy.

In the above perspective, the present study was conducted among all the female students of 1st year Medical and Nursing institution. Majority of the students are aware of the cancer cervix and Human Papilloma Virus and half of them were able to articulate virus being the cause of cancer cervix. The highlight of this study, the large group of study subjects opines the sexual route of intercourse for the transmission of HPV infection; some of the answers were vague in nature like 'food borne' and 'air borne'.

In this study, around half of the Subjects are not at all aware of the vaccine, while many of them were somewhat aware but still gaps existed between awareness and protection by vaccination. Apart from very poor knowledge about HPV and vaccination, majority of them cited the reasons regarding availability and its cost, and also personal reasons which they felt as embarrassing to them.

The study done by Mehta et al regarding awareness about Papilloma Virus and its vaccine among medical students shows the magnitude of the cervical cancer in the country was not known to the students; 50% are aware of HPV infection and its relationship with cervical cancer, majority of the students implicated HPV is the causative agent of cancer cervix. 38% of the participants knew that HPV is transmitted sexually where as 55% answered that HPV infection is transmitted by sexual as well as non-sexual route. Knowledge on prevention of cancer cervix is satisfactory but 18% of medical students did not know about HPV vaccination and cervical cancer.[5]

The study done by Durusoy et al regarding HPV vaccine awareness and willingness of first year students entering university in Western Turkey, revealed approximately 25% of the participants knew about HPV and HPV vaccine, among the participants only Three students were vaccinated and 11.6% had desire to get vaccinated.[6]

The study done by Di Giuseppe et al regarding human papilloma virus and vaccination: knowledge, attitudes, and behavioral intention in adolescents and young women in Italy infer 23% have heard that HPV is an infection of the genital mucosa and about cervical cancer. Majority of the study subjects were interested to take HPV vaccination.[7]

The study done by Stocker et al human papilloma virus uptake, knowledge and attitude among 10th grade students in Berlin, Germany, 2010. It is stated that 63.6% of the students specified HPV as sexually transmitted infection and 41% received HPV vaccine doses as per schedule. Further reasons cited for not getting vaccinated was dissuasion from parents (40%), dissuasion from their physicians (18.5%) and 30.8% were concerned about side effects of vaccine.[8]

The study done by Schulein and others on factors influencing uptake of HPV vaccination among girls in

Germany, inference was 17.4% of girls were already vaccinated, 61.5% felt positively about doing so , another 4.7% felt no need for vaccination and 16.3% were not sure whether to take vaccine or not. In this study majority of girls were in favor of HPV vaccination to prevent cancer cervix.[9]

Pandey and others in their study on awareness and attitude towards human papilloma virus (HPV) vaccine among medical students in a premiere medical school in India showed 89.6% of the participants were well aware of the preventable nature of cervical cancer. (89.2%) of them knew Cervical cancer infection with high risk HPV is responsible for the cancer. Awareness regarding vaccine availability was 75%. In the same study majority of the participants was of the view most important hassle in implementation of HPV vaccination program in our country is lack of information, further 86.2% of the participants wanted to get more information from the experts.[10]

Joshi and others, In their study to evaluate awareness about human papilloma virus (HPV) vaccine in the prevention of cervical cancer amongst the medical students, 96% were aware of the causative agent of cancer cervix, 69.4% of the participants were aware regarding the availability of the vaccine against cervical cancer, 56.2% of the study subjects were aware regarding availability of HPV vaccine in India. Overall 67.8% participants showed their acceptance for HPV vaccine, while majority of participants were lacking knowledge about HPV vaccine in all aspects.[11]

CONCLUSION

It is evident from this study that awareness regarding HPV infection and vaccine utilization is not encouraging. Even though considerable advances in Preventive Health Care to prevent cancer cervix are made, like for example; availability of reliable vaccine to prevent cancer cervix due to HPV infection, screening tests and so on, yet there is a substantially low level of Awareness which is hindering the utilization of the existing preventive strategies. This factor needs to be addressed. It can be concluded that, there is need to augment the Information Education and Communication (IEC) activities to create awareness at all levels in the community in general and among young Women in particular to avert future misery of Women folk who suffer silently. Keeping in the view the prevalence of cancer cervix and pricing of the vaccine in the market, it is recommended that the vaccine should be included in the national immunization schedule.

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