

Knowledge of cervical cancer, HPV infection and vaccine in nursing students, nursing staff and female hospital workers in a tertiary care centre of North India

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Abstract

Human Papilloma virus is one of the most common and dangerous sexually transmitted disease which affects around 50-80 % of women of reproductive age group. HPV is associated with a number of diseases like vaginal warts, anal warts, premalignant and malignant lesions of cervix. Present study is undertaken to assess the knowledge of cervical cancer screening, HPV infections, and HPV vaccination in nursing students, nursing staff and female hospital workers. A total of 110 nursing students, 80 nurses and 70 group D female workers were interviewed. Most of the nursing students had adequate knowledge about cervical cancer and screening followed by Staff nurses. Knowledge of HPV infection and vaccine is adequate in 3/4 th of the nursing students and nursing staff. Female workers had inadequate knowledge of cervical cancer and screening and negligible knowledge HPV infection and vaccine. We concluded that Healthcare employees should be involved in all the cervical cancer awareness programs initiated by hospital. If properly informed Hospital staff could be a useful link for spreading information from health care systems to general public.

Keywords: Cervical cancer, HPV infection, HPV vaccine, Nurse, Female hospital workers.

1. Introduction

Human Papilloma virus is one of the most common and dangerous sexually transmitted disease which affects around 50-80 % of women of reproductive age group [1]. Peak incidence occurs in women of 20-24 years. Infection usually cleared of the genital organs in hosts of normal immunity. Many malignant and non –malignant diseases occur due to persistence of different HPV infections. HPV is associated with a number of diseases like vaginal warts, anal warts, premalignant and malignant lesions of cervix. HPV is further classified as high risk and low risk depending upon their malignant potential. HPV 16, 18, 31, and 32 are related to cervical carcinoma [2]. Cervical carcinoma is most common gynaecological cancer in women in India and worldwide. 85% of burden of cervical cancer related deaths is contributed by developing countries [3]. Indian women face a 2.5% cumulative lifetime risk and 1.4% cumulative death risk from cervical

cancer.[4] Every year 122,844 of new cases is detected and 67477 mortality occurs every year. Cervical cancer screening is utilised by 19.5% women only[PAP smear important].At present two types of vaccine available against HPV related disease: quadrivalent[6,11,16,18] and bivalent vaccine [16,18]. From year 2006 advisory committee of immunisation practices recommended HPV vaccine for girls 9-26 years [5]. HPV vaccine is licensed in India since 2008 but even recent studies shows a large knowledge gap about HPV vaccine and infection at every level from policy makers, health care providers, parents and teens [6]. Lack of knowledge about the vaccine and screening methods is the greatest barrier in the implementation of the preventive measures of carcinoma cervix. In our country government and health system is taking initiative to increase the awareness regarding cervical cancer screening in its cancer prevention program even then awareness is widely deficient in general population specially in the women who

needed it most. Most of the researches analysing the barriers were focused on the practitioner or parents. Hospital staff is one of the care provider as well as a link between health facility and general population. Present study is designed to analyse the knowledge, attitude and practices of nursing students, staff nurses and group D female workers regarding HPV infection, HPV vaccine, cervical cancer screening and cervical cancer itself. We specially tried to find out barriers to adoption of vaccine, current sources of information and status of awareness in younger and older age group.

1.1 Aims and objectives

Primary Objective

To assess the knowledge of cervical cancer screening, HPV infections, and HPV vaccination in nursing students, nursing staff and female hospital workers

Secondary Objective

To find out voids in information, myths and barriers in adoption of cervical cancer screening methods and HPV vaccination

2. Material and methods

Present study is a cross sectional study. It's a pre structured questionnaire based study. After informed consent participants were recruited. Participants of our study were divided into three groups

I. Nursing student

II. Nursing staff

III. Group D hospital female workers

Participants were interviewed by four trained doctors with the help of a pre-structured questionnaire and answers were noted down simultaneously. Participants were told that they may or may not disclose any particular information about themselves. We clarified and explained the questions if participant demanded.

2.1 Data Analysis

Knowledge of HPV, cervical cancer and genital warts and vaccines and perception for HPV vaccination and cervical cancer screening were computed simply by numbers and percentages

3. Results

A total of 110 nursing students, 80 nurses and 70 group D female workers were interviewed. 100% of nurses and group D workers were married and 100% of nursing staff were unmarried. Due to social inhibition nursing students did not answered the question of sexual activity or number of partners. Most of participants did not answer question regarding "the age of sexual debut". We were not able to provide any valid information on these two questions. Average age of Nursing students, Staff nurses and Group D female workers is 20.5 years, 34.7 years and 38.6 years. 74.4 % of participants were Hindu, followed by Christians and Muslims.

Table 1: Knowledge about cervical cancer among 3 groups

S.N.	Question	Nursing Students	Staff Nurses	Workers
1	Knowledge about cervical cancer	100% [n=110]	95% [n=76]	10% [n=7]
2	Knowledge about genital warts	91.8% [n=101]	90% [n=72]	4.2% [n=3]
3	Knowledge about HPV Infection	90% [n=99]	61.2% [n=49]	1.4% [n=1]

90% of nursing student had fairly good idea about PAP smear and very well knew that it is a screening modality for cervical cancer screening. 87.5% [n=70] of staff nurses have correct information that it is a screening modality of cervical cancer. 2.8% [n=2] of workers did recognise PAP smear as screening modality for cervical cancer and rest 10% correlated it with white discharge. On the question of time interval in which PAP smear should be repeated 52 % of nursing students answered it correctly. 30% of Staff nurses could answer correctly. 50% of Sisters knew it need to be repeated. None of the female workers had any idea about the time interval in which PAP smear is to be repeated. 2 of them replied that it should be repeated after subsidence of infection. In answer to correlation of Cervical carcinoma with persistent HPV infection 71.8% of nursing students answered positive correlation, 60% [n=48] staff nurses and only 2.8% female workers answered

positive correlation. Correlation with early sexual debut is expressed by 77.2% [n=85] nursing students, 63.7% [n=51] staff nurses and 5.7% [n=4] female workers. Relationship with smoking is accepted by 36.36% [n=40] nursing students, 40% [n=32] staff nurses, and only 1.4% [n=1] female workers. The fact that use of condoms is beneficial for prevention of HPV infection and cervical cancer is known to 80% of Nursing students, 75% [n= 88], staff nurses [n=75] and 1.4% [n=1] workers. 10% [n=7] of female workers answered it may prevent infections but they were not sure about cancer. Another fact that multiple sex partners can be a risk factor for cervical cancer is known to 90% [n=99] nursing students, 86.25% [n=69] staff nurses and 2.8% female workers. Another 5.7% [n=4] female workers answered may be.

Answers of questions regarding HPV vaccine are shown in Table 2.

Table 2: Knowledge of HPV vaccine among 3 groups

S. No.	Question	Nursing Students	Staff nurses	Female worker
1.	Knew about existence of HPV vaccine	76.36% [n=84]	86.25% [n=69]	7.14% [n=5]
2.	Knew schedule of HPV Vaccination	77% [n=70]	66% [n=53]	1.4% [n=1]
3.	Knew that HPV vaccine prevents cervical cancer as well as genital warts	75.45% [n=83]	67.5% [n=54]	0

The question of effectiveness of HPV vaccine, need of booster dose and need of cervical cancer screening was answered by only 25% nursing students. All rest participants did not know anything about it. 90% of our participants accepted that media is the source of whatever information they have. Only 66% nursing students had this information through books or teachers. Less than 35% participants credit their doctors for such information. 5% participants gained information from their friends and less than 2% were informed by their parents.

4. Discussion

Greatest barrier in utilisation of benefits of cervical cancer screening is the total unawareness or confusion about cervical cancer screening and HPV, uncertainty about how HPV leads to cervical cancer and partial knowledge about HPV vaccine other than what is presented by pharmaceutical companies in media.

Target audience of hospital staff itself is diverse. Clinicians need detailed information of HPV types and vaccine and training is the best way of it. While other hospital staff is ignorant about regular cervical cancer screening and have questions regarding cost effectiveness and risk benefit analysis of providing HPV vaccines to teens. Cancer awareness and regular PAP smear programs should be designed to disperse information to both type of audience.

Our study reveals a bitter reality that even after working in a tertiary care centre group D workers and nursing staff is much less informed and involved in cervical cancer awareness program. Better face of the present study is that young nursing students are much more well informed about these matters partially due to their touch with academics and partially due to the more use of the internet and other mass media. Same group is eligible for HPV vaccination and they showed keen interest in receiving HPV vaccination. Another barrier in HPV vaccination is its high cost which discourages many parents apart from myths and reservations. Although HPV is not a part of our national immunisation program but some of the state governments have shown interest in it. It comes out as the ray of hope is this issue as they announced inclusion of HPV vaccination in public funded immunisation program for pre-pubertal girls [7]. Success of such pilot programs may provide opportunity of inclusion of HPV vaccination

in national immunisation program and decrease in burden of cervical carcinoma in long run.

When it's come to regular cervical cancer screening most women pretend cervical cancer to be an invisible problem and they are more scared of intervention than the disease itself. It is important to raise awareness and the fact that disease is largely preventable with regular screening and follow up. Cervical cancer screening is the subject of personal choice and only awareness and adequate motivation can drive women to regular PAP smears or HPV DNA testing. Effective HPV and cervical cancer screening related education and training programmes are the need of hour to achieve the public health benefits of HPV vaccination and cervical cancer screening programme. We also observed that source of information to most of our participants is media or friends instead of Doctors or cancer awareness programs. In the present era when we have tremendous amount of information regarding technology and mass media to our advantage so research supplemented communication strategies and information should be effectively and accurately disbursed to the target audience that women and teens.

We must keep in mind that there is much diversity in education status and capacity to imbibe medical information within the hospital staff also. These awareness programs should be informative and simple. Awareness programs must emphasize on key points and take home messages for maximum benefits. Cervical cancer awareness programme should be designed taking care of absorptive capacity and broader health needs of different group and medium of communication should also be according to the target audience. In addition to that in service training, continuing medical education and cancer awareness bulletin from employer or professional association in easily digestible forms can be another approach. Messages should be tactfully delivered to convey the need of HPV vaccination and cervical cancer screening without generating undue anxiety or exaggerated and unrealistic promises and expectations. Need of cervical cancer screening even after HPV vaccination much be emphasised.

Healthcare employees should be involved in all the cervical cancer awareness programs initiated by hospital. It is a better known fact that the experts respond better to data and scientific information and non expert target population of women responds better to the personal stories of women

with whom they can relate. If properly informed Hospital staff could be a useful link for spreading information from health care systems to general public.

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