

Original Research Article

A study on knowledge and perception of HPV infection and vaccination amongst medical students, Barabanki

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ABSTRACT

Background: Cervical cancer is third most common cancer in women worldwide and fourth leading cause of cancer deaths in women. In India it's a leading cancer in women responsible for more than 74,000 deaths per year. To assess knowledge, attitude towards HPV infection and HPV vaccination.

Methods: Cross sectional study which was conducted at Mayo institute of medical sciences, Barabanki in January 2022. 150 medical students aged between 18-23 years were included in study.

Results: The survey sample consisted of 150 medical students aged between 18-23 years with a mean age of 20.56 ± 1.67 years. Around 22 (14.66%) of responders achieved a total knowledge score of 15 or higher, meaning that they correctly answered more than 15 out of 20 knowledge questions on HPV.

Conclusions: There is an urgent need for educational Intervention both formal and informal, not only for girls and boys but also for parents to change their attitude towards HPV vaccination.

Keywords: HPV, Knowledge, Medical students

INTRODUCTION

Cervical cancer is third most common cancer in women worldwide and responsible for more than 74,000 deaths per year.¹ There are variety of risk factors associated with cancer cervix such as early age of marriage, multiple sexual partners, multiple pregnancies, poor genital hygiene and smoking etc. out of which HPV infection is the leading cause. Human papilloma virus is a DNA virus infecting basal epithelial cells.²

The low-risk strains of HPV (6, 11) can cause anogenital warts, which are growths on the cervix, vagina, vulva and anus in women and the penis, scrotum or anus in men. They also cause epithelial growths over the vocal cords of children and adults known as juvenile respiratory papillomatosis. The high risk strains of HPV 16, 18, 31,

33, 35, 39, 45, 51, 52, 56, 58, 59 and 66 can lead to cervical cancer.³

All cervical cancer cases (99%) are linked to genital infection with HPV and it is the most common viral infection of the reproductive tract.⁴ For primary prevention, two vaccines, a quadrivalent (HPV 16, 18, 6 and 11) 'Gardasil' and a bivalent (HPV 16 and 18) 'Cervarix'.⁵ These two HPV vaccines are commercially available in India have been introduced for vaccinating young adolescent girls between ages 9±13 and/or 13±26 year young adults.⁶ These two vaccines were US FDA approved. In spite of these vaccines are reported to be highly immunogenic, safe, well tolerated and highly effective in preventing HPV infection, they are still not a part of the National immunization program.⁷

Aims and objectives

Aim and objectives of current study were; to assess knowledge, attitudes towards HPV infection and HPV vaccination and to sensitize beginners in medical profession regarding HPV which may lead to decrease in occurrence of cervical cancer in future.

METHODS

Cross sectional study which was conducted at Mayo institute of medical sciences, Barabanki in January 2022. A total of 150 medical students aged between 18-23 years were included in study using purposive sampling. Predesigned and pretested questionnaire regarding HPV infection was used for data collection and awareness assessed by cut off scoring method (for right 1 and wrong 0). Institutional ethical committee permission was taken. Statistical analysis was carried out using statistical package for social sciences program (SPSS, trial version 21.0, IBM).

Inclusion criteria

All medical students present at the time of distribution of questionnaire were included in current study.

Exclusion criteria

All the medical student except interns were excluded from the study.

RESULTS

The survey sample consisted of 150 medical students aged between 18-23 years with a mean age of 20.56 ± 1.67 years. There were 79 males and 71 females studying in first or third year of MBBS (Table 1).

Table 1: Age gender wise distribution of study subjects.

Age groups (years)	Gender		Total N (%)
	Male N (%)	Female N (%)	
18-20	39 (50)	39 (50)	78 (100)
21-23	40 (55.6)	32 (44.4)	72 (100)
Total	79 (52.7)	71 (47.3)	150 (100)

A high percentage of students 128 (85.3%) and 106 (70.7%) were aware about cervical cancer and HPV respectively. Whereas only 90 (60%) were knew about the risk factors of CA cervix. Majority 101 (67.3%) knew about the transmission of HPV. About 98 (65.3%) answered correctly about the symptoms of HPV. 95 (63.3%) knew that HPV can be a cause of cervical cancer and 92 (61.3) were aware about its role in genital warts. Only 80 (53.3%) participants were aware that CA cervix can be prevented by HPV vaccine. However 104 (69.3%) had a positive attitude towards HPV vaccination but at the time of interview only 13 (8.7%) were vaccinated. Few students (25.3%) answered correctly about the age of vaccination.

Ranking of knowledge was done by cut off scoring method according to which students getting 15 or higher score were considered having higher knowledge, 11 to 14 moderate whereas 10 or lower low in knowledge about HPV. 22 (14.66%) of responders achieved a total knowledge score of 15 or higher, meaning that they correctly answered more than 15 out of 20 knowledge questions on HPV, cervical cancer and HPV vaccination. 64 (42.66%) had moderate knowledge and 64 (42.66%) were low in knowledge.

Table 2: HPV related knowledge among medical students.

Questionnaire	Frequency	Percentage
Your attitude towards premarital sex behaviour		
Positive	45	30
Negative	20	13.3
Neutral	52	34.7
Undecided	13	8.7
Do you know about cancer cervix?		
Yes	128	85.3
No	13	8.7
No response	9	6
Do you know about HPV?		
Yes	106	70.7
No	36	24
No response	8	5.3
What are the risk factors for cancer cervix?		
Correct	90	60
Incorrect	31	20.7
No response	29	19.3

Continued.

Questionnaire	Frequency	Percentage
Is HPV sexually transmitted?		
Correct	101	67.3
Incorrect	22	14.7
No response	27	18
Do all women infected with HPV show symptoms?		
Correct	98	65.3
Incorrect	17	11.3
No response	35	23.3
Do you think HPV can infect a man?		
Correct	95	63.3
Incorrect	20	13.3
No response	35	23.3
Can HPV cause cervical cancer?		
Correct	95	63.3
Incorrect	15	10
No response	40	26.7
Can HPV cause genital warts?		
Correct	92	61.3
Incorrect	28	18.7
No response	30	20
Is there any vaccine for HPV?		
Correct	99	66
Incorrect	26	17.3
No response	25	16.3
Can cervical cancer be prevented by HPV vaccine?		
Correct	80	53.3
Incorrect	41	27.3
No response	29	19.3
Does HPV vaccine prevent other cancers?		
Correct	36	24
Incorrect	70	46.7
No response	44	29.3
Does HPV vaccine prevent other STDs?		
Correct	74	49.3
Incorrect	37	24.7
No response	39	26
Can the vaccine be given to men also?		
Correct	70	46.7
Incorrect	147	31.3
No response	23	22
Age of vaccination?		
Correct	38	25.3
Incorrect	32	21.3
No response	80	53.4
What is the schedule for HPV vaccination?		
Correct	66	44
Incorrect	32	21.3
No response	52	34.7
Once vaccinated with HPV vaccine gives protection for what duration.		
Correct	20	13.3
Incorrect	82	54.7
No response	48	32

Continued.

Questionnaire	Frequency	Percentage
Cost of vaccine?		
Correct	29	19.3
Incorrect	66	44
No response	55	36.7
Is there any side effect of the vaccine?		
Correct	Correct	Correct
Incorrect	Incorrect	Incorrect
No response	No response	No response
What is your attitude towards future HPV vaccine?		
Positive	Positive	Positive
Neutral	Neutral	Neutral
No response	No response	No response
Are you vaccinated for HPV?		
Yes	Yes	Yes
No	No	No
No response	No response	No response

DISCUSSION

The survey sample consisted of 150 medical students aged between 18-23 years with a mean age of 20.56 ± 1.67 years. There were 79 males and 71 females studying in first or third year of MBBS (Table 1).

In the present study a high percentage of students 128 (85.3%) and 106 (70.7%) were aware about cervical cancer and HPV respectively. Whereas only 90 (60%) were knew about the risk factors of CA cervix.

Majority 101 (67.3%) knew about the transmission of HPV. 98 (65.3%) answered correctly about the symptoms of HPV. 95 (63.3%) knew that HPV can be a cause of cervical cancer and 92 (61.3%) were aware about its role in genital warts. In a study by Rashid et al similar results were seen where awareness about HPV as the major cause of cervical cancer was 45.61% and about genital warts was 42.54%.⁸

Only 80 (53.3%) participants were aware that CA cervix can be prevented by HPV vaccine However 104 (69.3%) had a positive attitude towards HPV vaccination but at the time of interview only 13 (8.7%) were vaccinated. Similarly in the study by Rashid et al the percentage of girls who got vaccinated was very low (7%).

The study by Durusoy et al on-HPV vaccine awareness and willingness of first year students entering university in western Turkey revealed that the knowledge amongst them was remarkably poor and only 11.6% of females intended to be vaccinated vs. 69.3% in our study. Few

students (25.3%) answered correctly about the age of vaccination. Around 22 (14.66%) of responders achieved a total knowledge score of 15 or higher, meaning that they correctly answered more than 15 out of 20

knowledge questions on HPV, cervical cancer and HPV vaccination. 64 (42.66%) had moderate knowledge and 64 (42.66%) were low in knowledge.

Limitations

Limitation of current study was the sample size in the present study was less and purposive sampling was done so the generalizability of the study can be questioned.

CONCLUSION

The study suggests that the overall awareness and knowledge about cervical cancer, HPV and HPV vaccination are poor among medical college students. There is an urgent need for educational Intervention both formal and informal, not only for girls and boys but also for parents to change their attitude towards HPV vaccination. To achieve this, both print and audio-visual media may play an important role. It is suggested that there is a need for incorporation of HPV vaccination in the National immunization program and eliminate the limitations of vaccine cost and poor awareness for successful control of HPV induced cervical and other cancers.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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