



**AWARENESS REGARDING HPV VACCINATION AMONG STUDENTS OF
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ABSTRACT

Background: As preventing cancer with the help of a vaccine is a comparatively new concept, awareness and education about it will have important implication in the implementation of this strategy.

Materials and Methods: Present explorative questionnaire-based survey included 155 students for final analysis.

Results: Total 650 students participated in the study. after signing the informed consent. Out of these, 370 were females and 280 were males. We came to know that:

90.1% knew what Human papilloma virus caused and what it's vaccine could prevent.

75.7% were already aware before our presentation that there existed such a vaccine in India.

43.1% of the students had already read about this vaccine before our study.

20.9% knew about this vaccine from existing education campaigns 15.7 % were made aware by their friends and relatives.

Yet, only 12.2 % of the participants had taken the vaccine.

87.8 % had not been vaccinated, of whom 78.3 % of the people who underwent counselling became willing to take the vaccine, in which 60.8 % are willing to get vaccinated irrespective of the cost, but 17.5 % still felt that the cost of the vaccine was a major constraint of getting vaccinated.

21.7 % participants were unwilling to get vaccinated.

Medical teaching had a definitive impact on the understanding of this important public health issue. Females seemed to be more ready to accept the vaccine and recommend it to others.

For our study population the most common source of information was medical school teaching. Majority of participants agreed that the most important obstacle in implementation of HPV vaccination program in our country is inadequate information and 86.2% wanted to be educated by experts in this regard.

CONCLUSION: HPV vaccine for primary prevention of cervical cancer is a relatively new concept. Health professional will be able to play a pivotal role in popularizing this strategy.

Keywords: HPV vaccine, cervical cancer, vaccine awareness.

INTRODUCTION:

The DNA virus known as the human papillomavirus (HPV) is a member of the Papillomaviridae family and is nonenveloped and double-stranded. HPV is mostly spread through sexual activity. The virus may cause HPV-related cancer in both men and women. In addition to cervical malignancies, HPV infection has also been linked to cancers of the head and neck.

According to WHO data from 2020, cervical cancer is the fourth most frequent cancer globally and the second most common among Indian women.(1) The main cause of cervical cancer is infection with certain high-risk strains of the human papillomavirus (HPV). More than 80% of cervical cancer cases in India are caused by the high-risk HPV strains HPV 16 and HPV 18.(1)

Since cervical cancer has a high prevalence of morbidity and death, the only treatments available are early detection and treatment. The HPV vaccine provides protection against the disease as HPV infection is the primary cause of cervical cancer.(1)

Screening for precancerous lesions also lowers the incidence and death of cervical cancer. While Pap smear cytology-based screening programs have been shown to be advantageous in wealthy nations, low-resource settings may benefit more from other screening methods such visual inspection with acetic acid (VIA) and visual inspection with Lugol's Iodine (VILI).(1)

Since using a vaccination to prevent cancer is still a relatively new idea, raising awareness and educating people will be crucial to the success of this method. It should be made clear that having an effective vaccine does not equate to having a successful immunization program.(2)

We postulated that awareness campaigns addressing specific challenges at different stages would facilitate the effective rollout of HPV vaccination in our society. We selected medical students for the reason that, in a few years, these students will be working as clinicians, and the public will look to them as their first source of information. They can also be extremely important in raising awareness among a broad spectrum of the public. (2)

Lack of understanding, acceptability, and vaccination cost are obstacles to implementation. For HPV vaccination campaigns to be successful, knowledge of illnesses linked to HPV and the advantages of immunization for teenagers. Since 2006, initiatives to vaccinate teenage girls

against HPV have been authorized in an effort to reduce the number of cancer deaths caused by HPV each year.(3)

Thus, this study sheds light on teenage girls' awareness of and familiarity with HPV.

HUMAN PAPILLOMA VIRUS VACCINE:

- **GARDASIL QUADRIVALENT** (against HPV types 16, 18, 6 and 11)
0.5 ml intramuscular 3 doses at 0, 2 and 6 months.
Cost: 3500 INR per dose
- **CERVARIX BIVALENT** (against HPV types 16 and 18)
0.5 ml intramuscular 3 doses at 0,1 and 6 months.
Cost: 2600 INR per dose

The vaccine provides protection against HPV which are most commonly, (but not always) implicated in causing Carcinoma of Cervix. Screening should continue even after getting vaccinated.

Vaccination is recommended before onset of sexual activity.

In India it may be taken by ages 9 years to 26 years.

AIMS: To spread awareness of HPV vaccine among women of india.

OBJECTIVES:

- People involved in healthcare could help in dissemination of knowledge. They could help generate interest about this vaccine.
- Literature suggested that medical and paramedical students were not sufficiently aware about this vaccine, and even few had taken the vaccine themselves. Hence, even if they shared this information it would inspire much confidence among the lay public.
- We decided to check the level of awareness regarding HPV vaccination among the students of our University and their attitude towards the same.
- To evaluate participants own interest and barriers toward HPV Vaccination for cervical cancer prevention.

MATERIALS AND METHODS:

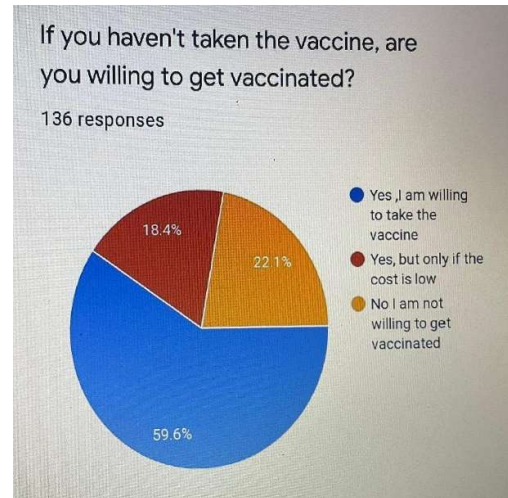
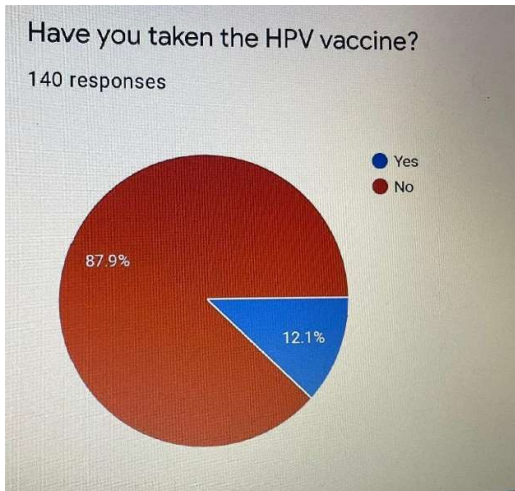
A prospective, observational study was conducted at OBS & GYN Dept in Dhiraj Hospital, Vadodara. The study was approved by Institutional Ethics Committee (IEC) of the hospital. Written informed consent was obtained from all patients before participation in the study.

Participation was entirely voluntary and an informed consent was taken before each of our research forms.

The study was conducted in 3 parts:

1. A precounselling questionnaire to test the current level of awareness.
2. The questionnaire was shared with the students via their class WhatsApp groups.

3. A post counselling questionnaire was then requested to be filled by the students to check their understanding of the vaccine and their views regarding vaccination.



INCLUSION CRITERIA:

650 Medical and paramedical students from Sumandeep Vidyapeeth of age 17-26 were selected for study.

EXCLUSION CRITERIA:

The sole basis for exclusion was a student's refusal to take part in the study.

Questionnaire was created with the intention of raising public knowledge of cervical cancer and concerns associated to HPV vaccinations.

Individual questions are included in the questionnaire to determine the population under study's acceptance of the HPV vaccine and their want to learn more about this pressing problem.

The questionnaire is available in English, the language of teaching for Indian medical courses.

RESULTS:

A total of 650 students participated in the study. 32 questionnaires were incomplete and were excluded from the final analysis.

Out of the 618 participants included in the final analysis, 268 (43.4%) were males and 350 (56.6%) were females.

Most of them 49.4% were in the age group of 20–22 years, 36.4% belonged to 17 – 19 years, while 14.2% were 23 –25 years old.

Two seventy seven (44.8%) students were in the final years of

medical school (test group). Three forty one (55.2%) had recently joined medical school, were studying preclinical subjects with bare minimum exposure to patients and clinical teaching.

This group served as control group for our study to evaluate the contribution of medical education, in practical issues like cervical cancer prevention.

Awareness:

Awareness regarding preventable nature of cervical cancer.

524 (84.8%) participants were well aware of the preventable nature of cervical cancer . 299 (85.4%) females as compared to 225 (84%) males knew that cervical cancer can be prevented .

The difference in the awareness regarding the preventable nature of cervical cancer was significant ($p= 0.012$) among test group (246, i.e. 88.8%) as compared to the control group (278, i.e. 81.5%)

Awareness regarding aetiology of cervical cancer.

Cervical cancer is now known to be caused by high risk HPV, overall awareness of this fact was 89.2%.

Three hundred and fifteen (90%) females and 236 (88.1%) males knew this.

Among the test group this awareness was 97.1% (269) as compared to the control group where this awareness was 82.7% (282), the difference is statistically significant.

Awareness regarding the need to vaccinate men

This was the lowest scoring item in the whole questionnaire with overall correct response of 25.2% only. Only 28.4% (76) males and 22.9% (80) females chose the correct response . Though only 31.4% (87) among test group, compared to 20.2% (69) among the control group could answer this correctly, the difference is statistically significant ($p= 0.005$).

Awareness regarding the catch up program.

Five hundred and nine subjects (82.4%) knew about the catch up program , which included 230 (85.8%) males and 279 (79.7%) females. Awareness of catch up program showed no difference between the educational groups .

1.7. Awareness of vaccine schedule. Less than half of the

participants knew about the correct vaccine schedule . Only 38.8% males and 41.4% females knew that HPV vaccine requires three dosage . Forty four percent students from test group, as compared to 37.5% among the control group had adequate information about the correct vaccination schedule.

Awareness regarding the protective efficacy

Overall awareness regarding the protective efficacy of HPV vaccine was 76.4% . 276 (73.1%) females and 196 (73.1%) males knew this . The difference was found to be statistically significant between control and test group (84.1% versus 70.1%; p,0.001)

Table 2
Awareness about cervical cancer prevention through HPV vaccination.

Clubs	Awareness among participants	
	frequency	%
Awareness regarding		
1. preventable nature of cervical cancer	524	84.8
2 etiology of cervical cancer	551	89.2
3. availability of vaccine	467	75.6
4. target population for vaccination	426	68.9
5. need to vaccinate men	156	25.2
6. catch up program	509	82.4
7. vaccine dosage	249	40.3
8. protective efficacy	472	76.4

Acceptance Of HPV Vaccine

Overall acceptance of HPV vaccine among the population studied was 67.8%. Females seemed to be more ready to accept the vaccine and recommend it to others. Educational level of the subject did not make any bias as far as the acceptance of this concept was concerned.

Sources Of Information

Most common source of information for our study population was medical school teaching (42.9%). Other sources in order were internet (29.9%), friends (16.8%), newspaper (16.8%), books (14.6%) and television (11.7%). (Figure 1). About 14% of our study participants had been questioned by

friends or family about HPV vaccination

DISCUSSION

Majority of participants in our study were well aware of the preventable nature of cervical cancer. Most of them knew about its viral etiology.

A study conducted by Saha et al in Kolkata, India revealed a very low level of awareness among the graduate and postgraduate students about this important public health issue.

Another recently published questionnaire-based study conducted to find out awareness about the risk factors for cervical cancer among the educated youth in India, Sri Lanka and Nepal.

The average awareness in this regard was found to be 66% in India, 58.8% in Nepal and 57.7% in Srilanka.

The difference is because the population studied by us are students in medical profession, which is not the reflection of general population.

Awareness regarding the availability of vaccine against cervical cancer in a study conducted among women attending routine gynecological care in Belgium was only 50% ; whereas in our cohort of medical students it was 75.6%.

Females had a better awareness regarding availability of vaccine, target population for vaccination and about the catch-up program.

We found that medical teaching had a definitive impact on the understanding of this important public health issue, with regards to aetiology, of cervical cancer, availability of the vaccine and its protective efficacy. However, there were comparable awareness regarding target population for vaccination and vaccine dosage among the controls.

Overall acceptance of HPV vaccine among the population studied was 67.8%. Females seemed to be more ready to accept the vaccine and recommend it to others.

For our study population the most common source of information was medical school teaching followed by internet, friends, newspaper, books and television respectively.

The major obstacles to implementation of HPV vaccine programs in our country included cost, acceptability, lack of public awareness and infrastructure, concern about unknown side-effects and social and religious

Majority of participants agreed that most important obstacle in implementation of HPV vaccination program in our country is inadequate information. Even though this subject is the part of medical curriculum 86.2% wanted to be educated by experts immediately following the questionnaire session, which shows the potential of education programs where interrogation is followed by teaching.

As per our knowledge present study is the first initiative to find out the level of awareness about one of the currently most discussed topic of cervical cancer vaccine, among the future health care providers.

The other strength of our study was that we did not stop at just finding out the awareness and attitude rather in our second session we tried to educate and inform them.

This kind of informative session to the receptive minds immediately following the interrogative session, in our opinion will have a positive impact.

However the study had some limitations. The study was based on convenience sampling. In the bigger picture all health workers need to be educated about how to help patients to understand the advantages and limitations of this newly popularized cervical cancer prevention strategy.

However, as mentioned earlier a total of 23 questionnaires were incomplete and were excluded from the final analysis. Among these 18 (13 males and 5 female participants) and were from the control group 5 (all males) were from the test group, which might have causes some attrition bias in the final results.

These limitations of this study should be considered before interpreting the findings. To conclude HPV vaccine for primary prevention of cervical cancer is a relatively new concept. This concept will be amalgamated in practice only with its increased understanding by the provider and the recipient. Health professional will be able to play a pivotal role in popularizing this strategy. Our academic curriculum in the medical schools needs to focus more on such high priority practical upcoming issues.

Questionnaire:

The questionnaire was divided into three key aspects for ease of the study and the control group.

The first aspect being the basic introduction and information regarding the vaccine, its availability, and age groups prevalent for administration of the same.

Out of which only 84.8% were well aware about its aetiology, nature of infection, prevalence and it's existence. However, 15.2% of the students were either confused about its prevention and prevalence or unaware about the nature of the infection.

The next aspect being studied was a rather detailed investigation regarding the HPV Vaccine, doses to be taken and eligibility of the population targeted for administration of the vaccine. Out of the 618 students being studied, only 68.9 were aware about the target group for the vaccine. However, only 25.2% of 618 students were aware about the fact that even men need to be vaccinated against HPV, which seemed alarming.

The last aspect involved willingness and interest to take the vaccine and also be aware and informed rightly regarding the same. Out of 618 students, 507 students (68.4%) were willing to take the vaccine, at a lower cost and also were keen to learn more about HPV and the types, doses and course of vaccine.

Awareness about cervical cancer prevention through HPV vaccination.

Awareness regarding

1. Preventable nature of cervical cancer 84.8%

2. Etiology of cervical cancer	89.2%
3. Availability of vaccine	75.6%
4. Target population for vaccination	68.9%
5. Need to vaccinate men	25.2%
6. Catch up program	82.4%
7. Vaccine dosage	40.3%
8. Protective efficacy	76.4%

Demographic characteristics of the population studied.

Participant characteristics

Number of Participants

(n = 650)

1. Sex

Male 43.4%

Female 56.6%

2. Education level

Non-clinical 55.2%

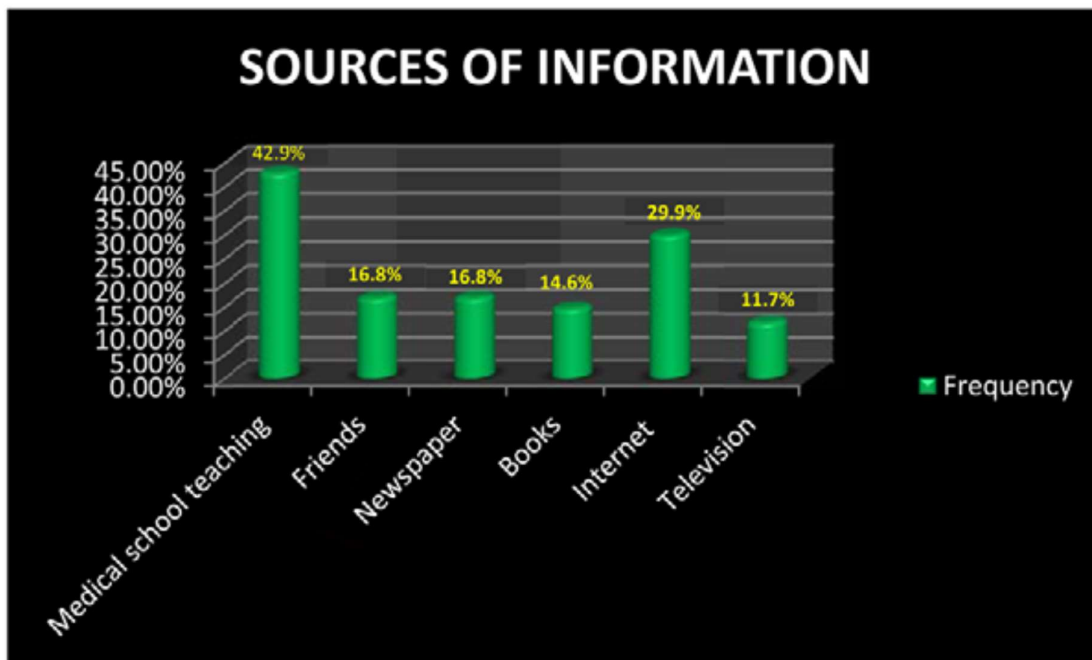
Clinical 44.8%

3. Age

17–19 years 36.4%

20–22 years 49.4%

23 &above 14.2%



According to the belief of our study population thought lack of awareness and increasing number of misguided information circulating among the target population was an enormous issue tackled during the analysis. However more than half (56.7%) agreed that most important problem is inadequate information.

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