

## Analysis of Awareness Regarding Cervical Cancer, its Prevention and Early Detection Methods among General Female Population

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### Abstract

**Introduction:** Cervical cancer is the second most common cancer in Indian women. India bears about one-fifth of the world's burden of cervical cancer. HPV infection has proven to be the culprit in causing 70% of the cases. Through robust screening programs, developed countries have proven that cervical cancer is preventable with the help of various primary and secondary preventive strategies available today. **Aim:** Assessment of awareness regarding cervical cancer, its prevention and early detection methods among general female population. **Methodology:** This prospective observational study was conducted through convenience sampling in 506 women (Age: 15-65years) who attended Obstetrics-Gynaecology OPD at Bharati Vidyapeeth Hospital, a tertiary care center in Pune, India. The duration of the study was from September 2016-february 2017. A pre-validated closed-ended self-administered questionnaire was used in English and Marathi for data collection. **Result:** Out of 506 women, 52.6% were aware of cervical cancer. Majority of the women did not know the cause of cervical cancer and had not heard of HPV. 61.7% were not aware of the risk factors. 76.1% did not know about the symptoms of cervical cancer. Only 30.2% women were aware of various screening tests available. Only 5% had opted for one of the screening tests in their lifetime and 2.4% had taken the HPV vaccine. **Conclusion:** Despite being

the second most common cancer, a killing disease in Indian women, majority are not aware of the risk factors and preventive measures of cervical cancer. Hence, nationwide public awareness campaigns are still the need of the hour. **Clinical significance:** Our study is an eye opener about apathy and lack of awareness about this disease still prevalent around. It highlights the need of continuous efforts still needed to make the women aware and come forward for vaccination and screening tests to reduce the burden.

**Keywords:** Cervical Cancer; Cervarix; Pap Smear; HPV.

### Introduction

Cervical cancer is the fourth most common cancer occurring in women worldwide [1] and the second most common in Indian women with an Incidence around 23% [2]. Over 530,000 new cases and 275,000 deaths are reported annually, worldwide [3]. India bears about one-fifth of the world's burden of cervical cancer [4].

Sexually transmitted human papilloma virus (HPV) infection is said to have around 70% association with cervical cancer. HPV 16 and HPV 18 are the two most common strains associated with 50% and 20% of cancers [5]. A long precancerous phase manifested as cervical intraepithelial neoplasia, can be detected with screening methods.

Two strategies to fight against this disease burden are primary and secondary prevention. The HPV vaccination is a method of primary prevention. Currently, there are two vaccines available in India which are safe and efficacious, Gardasil and Cervarix. The Indian Academy of Pediatrics

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Committee on Immunization (IAPCOI) recommends offering HPV vaccine to all females who can afford the vaccine (Category 2 of IAP categorization of vaccines). As protection is better seen when the vaccine is given before infection with HPV, the vaccine should preferably be given prior to first sexual contact [6]. For secondary prevention, various screening tests are available like Pap smear, VIA, Colposcopy, etc. [6]. Early detection can easily decrease the number of advanced cervical cancer cases, the financial burden of treating advanced cases and the loss of life secondary to the disease.

Lack of knowledge, poor infrastructure and limited finances make progress in the foreseeable future questionable [6]. Hence, this study was conducted to find out and assess the current knowledge and awareness of cervical cancer and its prevention and early detection methods among the general female population.

#### *Aim*

To analyze the awareness regarding cervical cancer, its prevention and early detection methods among general female population.

#### *Objectives*

- To assess awareness about cervical cancer among general female population.
- To assess the awareness of vaccination for cervical cancer.
- To find out the awareness of available screening tests for cervical cancer.

### **Methodology**

#### *Source of Study and Sample Size*

This prospective observational study was conducted in 506 women in the age groups of 15-65 years, who attended Ob-Gyn OPD for check-up or treatment at Bharati Vidyapeeth Hospital, a tertiary care center. The duration of the study was from September 2016- February 2017.

#### **Sampling Method**

Convenience sampling of women who came to the Ob-Gyn OPD and participated willingly

#### *Inclusion Criteria*

- All the female patients who came to OBGYN

OPD, i.e. all ANC, PNC and patients with gynecological diseases or complaints were included.

#### *Exclusion Criteria*

- Acutely and severely ill patients were not included.
- Women above the age of 65 years and below 15 years
- Already diagnosed cases of gynecological malignancies were excluded

#### *Study Design*

After the study protocol was approved by the ethics committee of BHRC, a pre-validated closed -ended self-administered questionnaire was used in English and Marathi for data collection as per the preference of the individual. Patients were informed about the nature of the study and what was required of them. They were assured about the confidentiality of the information provided by them and an informed written consent to participate in the study was obtained. The participants were required to fill up the complete questionnaire and in case of any difficulty in understanding the questions, the investigator helped them in understanding the questions. The completeness and consistency of the filled up questionnaires was checked by the investigator. Blinding of patients was not required as no interventions were made. All the questions included aimed to assess and analyze the awareness of cervical cancer, its prevention and early detection methods among the females.

#### *Statistical Analysis*

The data collected was analyzed using SPSS software and the qualitative data variables expressed the frequencies and percentages.

### **Results**

The study comprised of 506 women, majority of which belonged to the age group of 20-40 years. Table 1 shows that 87.7% of the study population was educated with secondary and diploma degrees, and majority belonged to lower and lower-middle socio-economic status. As per Table 2, majority of the women did not know the cause of cervical cancer. 21% women thought that cervical cancer is a sexually transmitted disease, 10% said it was a genital tract

infection and 1.2% thought that it was due to both. It was also found that majority of the women, i.e., 87% had not heard of the causative agent (HPV) and 76.1% did not know about the symptoms of cervical cancer (Table 2). 14.2% and 4.7% thought that abnormal menstrual bleeding patterns and bleeding after menopause, respectively could be the presenting complaints. Table 3 shows that 61.7% were not aware of the risk factors like multiple sex partners (17.6%), sex at early age (16.2%), viral infections like HSV, HPV (15.8%), having too many children (5.3%), family history (5.3%) and smoking

(3.3%). Though 66.8% were not aware of prevention of cervical cancer, 15.4% thought that using condoms could help in prevention. Table 4 shows that 30.2% women were aware of various screening tests available and only 10.6% knew about PAP smear and 2.7% about VIA, but only 3% took the PAP test and 1.2% VIA. 94.9% did not undergo any test. As per Table 6, 84% women did not know about the availability of vaccination against HPV. Where majority did not know about the vaccine or its route of administration only 11.7% knew it was given parentally and 7.3% said it should be given between

**Table 1:** Demographic data of the patients

		Frequency (n)	Percentage (%)
Education of the patient	No education	14	2.8
	Primary	48	9.5
	Secondary	175	34.5
	Diploma/degree & above	269	53.2
Occupation	Labor	47	9.3
	Office work	72	14.2
	Business	46	9.1
	Unemployed	341	67.4
Marital status	Married	450	88.9
	Unmarried	56	11.1
Education of husband	No education	13	2.6
	Primary	44	8.7
	Secondary	177	35.0
	Diploma/degree & above	220	43.5
	N/A	52	10.3
Occupation of husband	Labor	152	30.0
	Office work	135	26.7
	Business	142	28.1
	Unemployed	23	4.5
	N/A	52	10.3
Total family income	<1000	13	2.6
	1000-5000	61	12.1
	5000-10000	190	37.5
	10000-20000	138	27.3
	>20000	104	20.6
Age at marriage	<15years	15	3.0
	15-18years	39	7.7
	>18years	398	78.7
	Unmarried	54	10.7

**Table 2:** Awareness of cervical cancer, its prevention and early detection methods

Aware or not aware :	Response	Frequency (n)	Percentage(%)
Are you aware of cervical cancer?	Yes	266	52.6
Are you aware of the cause of cervical cancer?	Yes	199	23.5
Have you heard of HPV?	Yes	66	13.0
Are you aware of the screening tests?	Yes	153	30.2
Are you aware of HPV vaccine?	Yes	81	16.0
Have you received HPV vaccine?	Yes	12	2.4
Have your family members taken the vaccine?	Yes	15	3.0
	No	491	97.0

**Table 3:** Awareness of the various risk factors

	Risk factors	Frequency (n)	Percentage (%)
a.	Multiple sex partners	89	17.6
b.	Sex at early age	82	16.2
c.	Having too many children	28	5.5
d.	Family history of cervical cancer	27	5.3
e.	Viral infections like HPV, HSV, HIV	80	15.8
f.	Smoking	17	3.4
g.	None	312	61.7

**Table 4:** Awareness of secondary prevention methods

Questions asked:	Response	Frequency (n)	Percentage (%)
Are you aware of the screening tests for cervical cancer?	Yes	153	30.2
	No	353	69.8
Which tests do you know of ?	Pap smear	54	10.6
	VIA	14	2.7
	HPV-DNA test	20	3.9
	None	432	85.4
Which tests did you undergo?	Pap smear	15	3.0
	VIA	6	1.2
	HPV-DNA test	5	1.0
	None	480	94.9

**Table 5:** Awareness of primary prevention

Questions asked:	Response	Frequency (n)	Percentage (%)
Are you aware of HPV vaccine?	Yes	81	16.0
	No	425	84.0
Route of the vaccine	Oral	8	1.6
	Injectable	59	11.7
	Don't know	439	86.7
Age for giving the vaccine	10-20 years	20	3.9
	20-40 years	37	7.3
	>40 years	13	2.6
	Don't know	443	87.5
Have you received HPV vaccine?	Yes	12	2.4
	No	494	97.6
Have your family members taken the vaccine?	Yes	15	3.0
	No	491	97.0

20-40 years. Only 2.4% women had taken the vaccines themselves and 3% women were aware that their family members had taken the vaccine (Table 5).

### Discussion

Cervical cancer is the most commonly occurring preventable cancer in today's world. A lack of effective screening programs for detecting cervical cancer in its precancerous state is the key reason for its higher incidence in developing countries. Analysis of the demographic data of the patients shows that majority of the women included in the study belonged

to lower middle socio-economic class (according to kuppuswamy scale [7]). In the present study, it was found that only 52.6% of the study population was aware of cervical cancer and 30.2% were aware of available screening methods. Similar results were obtained in studies conducted by Jansirani Siddharthar et al. [8] and Sichanh et al. [9].

Awareness of symptoms was seen in 34.9% of the study population and that of the risk factors like early sexual contact, multiple sex partners, family history, smoking and alcohol intake was found to be only 38%. Only 13% women had heard of HPV infection, compared to 36% in a study by Montgomery MP [10] in Karnataka. It is evident that the general female

population has not received adequate information and knowledge. Thus, there is a need to improve this by various methods such as counselling of patients when they come to the OBGYN OPD, awareness camps in the slum and rural areas, etc.

There are various methods available for prevention and early detection of cervical cancer. Preventive measures like safe sexual practices by using condoms can protect the women from initial HPV infection (as per 15.4% women in our study), maintaining hygiene and most importantly vaccination against HPV. Around 16% females were aware of HPV vaccine but only a few had taken the vaccine, compared to 6-32% rate of vaccines as quoted by Dhivya B [11] and Rani A et al. [12] in their studies. 30.2% women were aware of the screening tests like Pap smear and VIA, known to 10.6% and 2.7% respectively, but only 3% took Pap test and 1.2% VIA. Around 95% did not undergo any of the tests. Similar results to our study were seen in the study by Rani A et al. [12] where only 12.06% had heard of Pap test. While counselling patients about cervical cancer, recommending HPV vaccination to all the women in the reproductive age group who are sexually active can help in creating awareness and encouraging them to take the vaccine, as a step towards reducing the incidence of cervical cancer.

#### *Limitation of our Study*

This study was carried out by convenience sampling only in Ob-Gyn OPD so it was not possible to approach each and every patient who attended other departments' OPDs.

#### **Conclusion**

The women who came to this tertiary care set up were mostly from rural areas and were not aware of cervical cancer (47.4%), its cause, symptoms, risk factors and preventive and screening methods. More than half of the women i.e. 77% did not know of HPV or its vaccination (84%). Only 10.6% were aware of Pap test. The reason behind this could be lack of education and knowledge, inaccessible facilities for prevention and early detection, poor socioeconomic status or simply, ignorance. Thus, there is a need to ensure that all the information and services reach the masses on a larger scale by the means of awareness camps and programs by health workers and the media, and educating them about the importance of screening at least once in a life time after the age of 35 years and motivating them in spreading awareness.

#### *Clinical Significance*

Our institute is a tertiary care center with well-established Pap Smear/VIA/Colposcopy protocols in place. VIA is offered free of cost to every walk in patient. We expect the women to be more aware of the primary and secondary prevention strategies.

Our study is an eye opener about apathy and lack of awareness about this disease still prevalent around. It highlights the need of continuous efforts still needed to make the women aware and come forward for vaccination and screening tests to reduce the burden.

#### *Conflict of Interest*

There are no conflicts of interest.

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