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Awareness Of Cervical Cancer, Hpv Vaccine and Willingness to Participate in Screening Programme Among Women in Tertiary Care Center

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ABSTRACT

Background

The Knowledge regarding risk factors, treatment and prevention is important. This study was undertaken in order to assess the awareness of patients regarding risk factor, treatment and prevention of cervical cancer.

AIMS AND OBJECTIVES:

To assess the level of awareness about cervical cancer among women aged 30 to 60 years and its preventive measures in our tertiary care center .

To determine the willingness of women to participate in cervical cancer screening programs and preventive measures

Material and methods

A cross sectional study was undertaken in a tertiary care centre among the women aged between 30 – 6 years. Every case was described in terms of symptoms, indicators, immunizations, and screening techniques. Every case received an educational motivating intervention about pap smear screening and vaccination. The data thus obtained was compiled and analysed using Statistical Package for Social services.

Results

More than half of the cases knew about HPV vaccine, 28.9% knew about age group, 23.3% knew about number of doses and 24.4% were willing to tell others about HPV vaccine. This study revealed that increasing age (28.9%), sexual intercourse at a young age (38.9%), having multiple sexual partners (40.0%), having sexual activity with a man who has had multiple sexual partners (43.3%), having a history of STD (33.3%), having multiple miscarriages (41.1%), and having a history of sexually transmitted diseases (43.3%). Approximately 65.6% of the study subjects obtained the information from friends and family. In terms of having ever used a contemporary contraceptive, being aware of cancer cervix, knowing at least one risk factor, mentioning at least one right sign or symptom, and the possibility of early detection, there was no statistically significant difference between the cases willing and those who were not.

Conclusion

This study highlights a significant lack of awareness and understanding of cervical cancer among women attending a tertiary

care center.

These findings emphasize the urgent need for comprehensive health education initiatives to enhance cervical cancer awareness, correct misconceptions, and increase screening and vaccination uptake.

Keywords: Cervical cancer, Screening, Awareness, Prevention, Willingness

1. INTRODUCTION

Cervical cancer is a significant public health problem, particularly in low- and middle-income countries where screening and preventive measures are often inadequate. In India, cervical cancer is the second most common cancer among women. It has disproportionately high mortality rate due to diagnosis in late-stage. However it can be cured as it has a long pre invasive period. So early detection and treatment is very important in reducing mortality rates. Population based screening with pap smear and HPV DNA testing is a crucial step of secondary preventive measure of cervical cancer.[1.] Primary prevention that is HPV vaccination also plays an important role in cervical cancer.[2.] The most important risk factor associated with cervical cancer is HPV infection. Which is transmitted through sexual contact.[3] Other risk factors are early age at sexual exposure, low socioeconomic status, smoking, high parity, long term use of older generation combined oral contraceptives, multiple sexual partners, immunocompromised women, and auto immune diseases.

Despite the availability of effective screening methods, such as the Pap smear and HPV testing, awareness regarding cervical cancer and screening remains low among women. This study aims to assess the level of awareness about cervical cancer, willingness of women to participate in screening programs and HPV vaccine in the women who are attending tertiary care centre.[4]

The need for the study is the lack of awareness about cervical cancer contributes significantly to its high incidence, presentation at an advanced stage and high mortality rates. Understanding the knowledge gaps and cultural beliefs surrounding cervical cancer is crucial for designing effective public health interventions.[5] By conducting this study, authors aim to identify specific barriers to awareness and screening participation, which can inform targeted educational campaigns and improve screening and HPV vaccine uptake in these communities.

AIMS AND OBJECTIVES:

- To assess the level of awareness about cervical cancer among women aged 30 to 60 years and its preventive measures in our tertiary care center .

To determine the willingness of women to participate in cervical cancer screening programs and preventive measures.

2. MATERIAL AND METHODS

A hospital based cross sectional study was undertaken among all the women between age 30 – 60 years attending OPD of a Tertiary care hospital. Clearance from institutional ethics committee was obtained before the study was started. An informed consent was obtained from all the cases before including them in to the study. All the women aged between 30 – 60 years attending OPD were included in to the study. A total number of 90 cases constituted the sample size. The cases with diagnosis of cervical cancer were excluded from the study. All the cases were explained regarding symptoms, signs, vaccination, screening methods. All the cases were given with educational motivation intervention regarding vaccination and screening with pap smear.

A pretested semi structured questionnaire was developed including socio-demographic information, questions assessing awareness of cervical cancer risk factors and symptoms, questions evaluating willingness to participate in screening program and questions evaluating knowledge and willingness to take and recommend HPV vaccine to others.

The data thus obtained was compiled using Microsoft excel sheet and analyzed using statistical package for social services (SPSS vs 20). Appropriate statistical tests were applied .

3. RESULTS

Table 1. Socio demographic characteristics of study group

	Frequency	**Percent**
Age group		
31 – 40 years	46	51.1

41 – 50 years	30	33.3
51 – 60 years	14	15.6
Education		
Illiterate	56	62.2
1 – 5 years	22	24.4
> 5 years	12	13.3
Age at marriage		
18 – 21 years	52	57.8
> 21 years	38	42.2
Per capita income		
≤ 500	27	30.0
501 – 1000	41	45.6
> 1000	22	24.4
Use of modern methods of family planning		
Ever user	49	54.4
Never used	41	45.6

This study had shown that, majority of the subjects belonged to age group of 31 – 40 years, illiterates and low per capita income of Rs. 501 – 1000. Age at marriage of majority of cases was 18 – 21 years. About 54.4% of the subjects ever used modern methods of family planning. This indicates **high rate of early marriage,** which may be contributing factor to early sexual exposure and increased risk of HPV infection, underlining need for early preventive education and screening efforts.

Socio economic and educational barriers contribute to poor awarness and low uptake of preventive measures such as HPV vaccination and screening.

Table 2. Respondents knowledge about various aspects of cancer cervix

Responses	**Number (percentage of correct response)**
Risk factor	
Increasing age	26 (28.9)
Sexual intercourse at young age	35 (38.9)
Having multiple sexual partners	36 (40.0)
Having frequent sexual activity with the same man	9 (10.0)
Having sexual activity with a man who has had multiple sexual partners	39 (43.3)
Nonmaintenance of menstrual hygiene	48 (53.3)
Having a history of a sexually transmitted disease	30 (33.3)
Having several miscarriages	37 (41.1)
Giving birth to many children	22 (24.4)
Smoking/consumption of tobacco	10 (11.1)

Lack of Pap smear testing	3 (3.3)
Signs and symptoms	
Mentioned at least one sign or symptom correctly	41 (45.6)
Bleeding between the cycles	36 (40.0)
Bleeding after intercourse	29 (32.2)
Postmenopausal bleeding	40 (44.4)
Discomfort during intercourse	41 (45.6)
Abnormal vaginal discharge	18 (20.0)
Pelvic pain	9 (10.0)
Early detection measures	
Early detection possible	10 (11.1)
Early detection through Pap smear	6 (6.7)
Early detection through clinical examination	9 (10.0)
Source of information	
Friends and relatives	59 (65.6)
Health care personnel	25 (27.8)
Print media	23 (25.6)
Television	15 (16.7)
Radio	10 (11.1)
HPV Vaccine	
Do you know about HPV vaccine?	20 (22.2)
What age group is HPV vaccine giver?	14 (15.6)
How many doses of HPV vaccine must be given?	12 (13.3)
What cancers can HPV vaccine prevent?	14 (15.6(
Are you willing to take the vaccination?	67 (74.4)
SCREENING AND EARLY DETECTION	
Cervical cancer can be detected early	25(27.8%)
Know about pap smear test	18(20.2%)
Know about HPV dna test	10(11.1%)
Ever undergone screening methods	7 (7.8%)

This study had shown that, increasing age (28.9%), sexual intercourse at young age (38.9%), having multiple sexual partners (40.0%), having frequent sexual activity with same man (10.0%), having sexual activity with a man who has gad multiple sexual partners (43.3%), non maintainence of menstrual hygiene (53.3%), having a history of sexually transmitted disease (33.3%), having several miscarriages (41.1%), Giving birth to many children (24.4%), smoking/ consumption of tobacco (11.1%) and Lack of pap smear testing (3.3%) was the knowledge regarding risk factors. The knowledge regarding signs and symptoms had shown that, 45.6% mentioned at least one sign or symptom correctly, 40.0% expressed bleeding between the cycles, 32.2% as bleeding after intercourse, 44.4% as posmenopausal bleeding, 45.6% as discomfort during intercourse, 20.0% mentioned abnormal vaginal discharge and 10.0% mentioned it as pelvic pain. About 11.1% of the subjects expressed

early detection is possible, 6.7% expressed early detection through Pap smear and 10.0% expressed as early detection through clinical examination.

About 65.6% of the study subjects obtained the information from friends and relatives, 27.8% by health care personnel, 25.6% by print media, 16.7% by television and 11.1% by radio. About 22.2% of the cases had knew about HPV vaccine, 15.6% knew about age group, 13.3% knew about number of doses, 15.6% of the cases knew about other cancers prevented by HPV vaccine, 74.4% were willing to take and 24.4% were willing to tell others about HPV vaccine.

- Overall awarness of key risk factors and early signs of cervical cancer was poor.
- Participants underestimated significant risk factors such as post coital bleeding (32%), frequent sexual activity with the same man (10%).
- instead focusing on non specific and unrelated symptoms like post menopausal bleeding (40%), abnormal vaginal discharge (20%), having several miscarriages (41%).
- This reflects a critical gap in health literacy, emphasizing the urgent need for targeted education programs to correct misconceptions and improve early detection.
- **Awarness of HPV vaccination is very low**: only 22.2% knew about vaccine, even fewer knew correct age group(15.6%) or number of doses(13.3%).
- Large majority (74.4%) **expressed willingness** to take HPV vaccination.
- With the write education and access, HPV vaccination coverage could be significantly improved in population.
- Significant majority were **unaware of cervical cancer screening** options and tests.
- Only 7.8% had ever undergone any screening, indicating very poor uptake of preventive services.
- These findings call for urgent public health interventions focused on education, accessibility, affordability of cervical cancer screening.

Table 3. Willingness to participate in a screening program with different characteristics

	Willing n (%)	**Not willing n (%)**	**χ^2 value**	**P value, Sig**
Age group				
31 – 40 years	34 (50.0)	12 (54.5)	0.517	0.772, NS
41 – 50 years	24 (35.3)	6 (27.3)		
51 – 60 years	10 (14.7)	4 (18.2)		
Education				
Illiterate	43 (63.2)	13 (59.1)	0.143	0.931, NS
1 – 5 years	16 (23.5)	6 (27.3)		
> 5 years	9 (13.2)	3 (13.6)		
Per capita income				
≤ 500	20 (29.4)	7 (31.8)	1.94	0.379, NS
501 – 1000	29 (42.6)	12 (54.5)		
> 1000	19 (27.9)	3 (13.6)		
Use of modern methods of family planning				
Ever user	30 (44.1)	11 (50.0)	0.232	0.630, NS
Aware of cancer cervix	35 (51.5)	13 (59.1)	0.388	0.533, NS
Knowledge of at least one risk	31 (45.6)	10 (45.5)	0.000	1.0, NS

factor				
Mentioned at least one correct sign or symptom	46 (67.6)	13 (59.1)	0.539	0.463, NS
Early detection possible	3 (4.4)	22 (100.0)	75.706	0.000, Sig

About 50.0% of the cases who were willing for screening were aged between 31 – 40 years and this difference was not statistically significant. About 63.5% of the cases who were willing were illiterates, 42.6% had per capita income of Rs. 501 – 1000. There was no statistically significant difference between the cases who were willing and not willing regarding ever user of modern contraceptive, awareness of cancer cervix, knowledge of at least one risk factor, mentioned at least one correct sign or symptoms and early detection possible.

- Most participants (77.7%) **showed willings to participate** in cervical cancer screening if available nearby.
- Lack of information (62.2%) was the most common reason influencing decision making.
- This highlights the **importance of community level education** and awarness programmes to bridge information gap and promote screening uptake.

4. DISCUSSION

This study was mainly undertaken in order to assess the awareness of cervical cancer in cases attending OPD of a tertiary care centre. This study had shown that about 53% of the subjects had awareness on cervical cancer indicating the awareness was poor.

The findings of the study indicated that the knowledge of study subjects was poor about the risk factors which is similar to the study results of Patra et al[6], Siddhartha et al[7] and Tripathi et al[8]. This study results had shown that, only 11.1% of the study subjects expressed that the early detection of cervical cancer is possible. Only 6.7% of the cases had awareness that Pap smear is used as a screening technique. This result was similar to the study conducted by Patra et al and Wong et al[9].

The information regarding cervical cancer was obtained by friends and relatives in 65.6% of the study subjects in this study. Other sources included health care personnel, print media, television and radio. A study from Mangalore also reported similar results.[10]

This study had noted the willingness to participate in cervical cancer screening program was higher in subjects aged between 31 – 40 years, illiterates and with per capita income between Rs. 501 – 1000 and ever user of modern contraceptive methods. The willingness was also higher in study subjects with knowledge of at least one risk factor, mentioned at least one correct sign or symptom and early detection can be possible. These study results were similar to the study conducted in other parts of India.[11, 12]

Research on a variety of knowledge-related topics has shown that women's willingness to take part in cervical cancer screening programs seems to be significantly influenced by their level of ignorance about the disease.

There is no national program on screening of cancer cervix in India. Hence it must be included as a strategy and increased number of screening programs can increase the willingness to participate in cervical cancer screening programs.

5. CONCLUSION

- This study highlights a **significant lack of awareness** and understanding of cervical cancer among women attending a tertiary care center.
- Knowledge regarding the causes, risk factors, and specific signs and symptoms of cervical cancer was found **to be poor and nonspecific**.
- Awareness of the advantages of early screening, the importance of Pap smear and HPV DNA testing, and preventive measures such as HPV vaccination **was also notably low**.
- Despite this, the majority of participants **expressed willingness** to undergo screening and receive the HPV vaccine, indicating that with the right education and outreach, participation in **preventive programs could improve.**

These findings emphasize the urgent need for comprehensive health education initiatives to enhance cervical cancer awareness, correct misconceptions, and **increase screening and vaccination uptake.**

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