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Original Research Article

## Knowledge, attitudes and practices related to cervical cancer screening in adult women: a hospital based cross-sectional study

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### ABSTRACT

**Background:** The Pap smear is a reliable, inexpensive and effective screening test for cervical cancer; the second most common cancer among women worldwide. We aimed to determine women's knowledge, attitudes and practice towards Pap smear and barriers for the screening in a public hospital.

**Methods:** It was a hospital based cross sectional study on 300 women who were interviewed face-to-face with a structured questionnaire regarding their socio demographic features (8 questions), knowledge (20 questions), attitudes (7 statements) and practice (undertook test or not) towards Pap smear.

**Results:** A total of 320 women were approached for interview of which 300 responded of which 33.33% had heard of cervical cancer. At least one symptom and one risk factor were known to 13.33% and 20% participants. Only 31.33% participants had heard, and 6.67% actually underwent screening test, however, 76.25% of the participants expressed a favourable attitude for screening.

**Conclusions:** Education level influences attitude towards screening and actual practice depends on age, income, and marital status. This study shows that despite the fact that women had suboptimal level of knowledge regarding cervical cancer, their attitude is favourable for screening. The knowledge and practice of women was inadequate and needs to be promoted.

**Keywords:** Cervical cancer, Knowledge, Attitude, Practice, PAP smear

### INTRODUCTION

Cervical cancer is the second most common cancer in India in women accounting for 22.86% of all cancer cases in women and 12% of all cancer cases in both men and women.<sup>1</sup> In India, one woman dies of cervical cancer every 8 minutes.<sup>2</sup> Every year, 122,844 women in India are diagnosed with cervical cancer and 67,477 die from the disease.<sup>3</sup>

Cervical cancer is a malignant neoplasm arising from cells originating in cervix uteri. It is usually asymptomatic initially due to a long preinvasive state and has a bimodal peak: 35-39 years, 60-65 years. The main causative agent for cervical cancer is Human papilloma virus (HPV)

infection, with type 16, 18 carrying high risk, and type 6, 11, low risk. Infection with HPV type 16 and 18 causes 75% of cervical cancer globally.<sup>4</sup> Other causes are factors increasing the risk of sexually transmitted diseases (STDs) i.e. multiparity, multiple sex partners, coitus before the age of 18, poor personal hygiene, poor socio-economic status, smoking, long term oral contraceptive pills (OCP) usage, immunosuppressed individuals.<sup>5</sup>

The most common symptoms of cervical cancer are bleeding per vaginum- intermenstrual bleeding, post coital bleeding, or discharge- creamy, dirty brown, offensive in early stages and deep pelvic pain, urinary incontinence, dysuria, frequency, rectal pain, low backache/flank pain

(hydronephrosis), weight loss, anorexia, malaise in advanced stage.

However, the silver lining in this grim scenario is that cervical cancer is preventable: primary prevention-vaccination against HPV, secondary prevention- screening (Pap smear).

Vaccines against cervical cancer are available in Indian markets, but the main limiting factor for its prevalent usage is its cost, especially in a developing country like India. Therefore, we need to put more of our efforts and resources towards secondary prevention. Experience from developed countries have also shown that well planned, organized cervical cancer screening programs and augmentation of the health care services to treat the disease at pre-cancer stage can significantly reduce the burden of cervical cancer.

Detection and treatment of cervical pre-cancer is much less expensive than treatment of invasive cancer and cervical cancer screening is one of the most cost-effective public health interventions if organized properly. However, the success and benefits of screening at a national level as a public health program to control and prevent cervical cancer depend to a great extent on the level of awareness of the potential beneficiaries.

### **Pap smear**

It is an effective and easy way of screening for cervical cancer. The advised time for initiation is at 21 years of age (regardless of age of first intercourse). Ayre's spatula and endocervical brush is the instrument used for taking the sample and 95% ethyl alcohol and ether are used as fixatives. First slide prepared by ayre's spatula over the portio vaginalis of cervix and the second slide prepared from the endocervix using the endocervical brush. Control slides prepared from posterior fornix of vagina.

Pap smear test has been credited with dramatically reducing the number of cases of cervical cancer in developed countries.<sup>6</sup> It has been found that in many developed countries the annual incidence and prevalence of cervical cancer has decreased by 50-70% after introduction of population-based screening.<sup>7</sup>

In India, however, there are still several barriers to cervical cancer screening uptake by women and >95% women in India have never been screened for cervical cancer.<sup>8</sup>

The present study aims to provide inputs toward designing suitable information, education, and communication strategies to address various issues standing in our way to fight cervical cancer. The objectives of the study are to determine women's knowledge, attitudes and practice towards Pap smear and to determine barriers for the cervical cancer screening in a public hospital.

## **METHODS**

It was a questionnaire based cross-sectional hospital study carried out on 300 women visiting the outpatient department in Pannadhaya Zanana Hospital, associated with R.N.T. Medical College, Udaipur. The period of study was August and September 2017 with non-random sampling i.e. sequential inclusion of women who met the study criteria. Data were collected via face-to-face interviews by one trained interviewer using a structured questionnaire. The questionnaire included demographic characteristics (8 questions), knowledge (20 questions), attitudes (7 statements) and practice 9 undertook test or not towards Pap smear.

The sociodemographic characteristics included age, educational status, occupation, marital status, age of marriage, number of children borne, preferred mode of contraception and per capita family income. The knowledge was assessed using a 20 points scale which had dichotomous response, that is, correct and incorrect. Each correct response was scored as 1 and incorrect as 0. A score 50% ( $\geq 10$  correct responses) was considered as optimal.

Attitude was assessed by 7 statements regarding cervical cancer screening and risk factors responses to which were categorized as 3-point scale disagree, neutral, and agree. Attitude was considered as favorable for screening if four or more "agree" responses were obtained. Those who had been screened for cervical cancer through pap-smear were regarded as having good practice.

### **Inclusion criteria**

The inclusion criteria for the study were as follows: women >15 years of age and women giving consent for participation in the study.

### **Exclusion criteria**

The exclusion criteria for the study were as follows: women not giving consent for participation in the study and a verbal consent was taken from all women before starting the questionnaire.

## **RESULTS**

Of the 320 patients approached for the study, 300 responded in favor of participating, making the response rate 93.75%. The sociodemographic profile of study subjects is mentioned in (Table 1, 2).

Majority of women i.e. (41%) belonged to 26-35 years of age, followed by 21.5% in 36-45 years of age. Most women were married (93%), had primary level of education (41%), and the most common parity was 2 (47%). The preferred mode of contraception for most women in our study was female sterilization (34%). Most

study subjects were married before 21 years of age (51.7%).

**Table 1: Socio-demographic profile of study subjects.**

Characteristic	Number (%)
<b>Age in years</b>	
15-25	21 (7)
26-35	123 (41)
36-45	62 (21.5)
46-55	54 (18)
>55	37 (12.5)
<b>Educational Status</b>	
No formal education	51 (17)
Primary education	123 (41)
Secondary education	69 (23)
Graduate	33 (11)
<b>Marital status</b>	
Married	279 (93)
Unmarried	21 (7)

**Table 2: Socio-demographic profile of study subjects.**

Characteristic	Number (%)
<b>Age at marriage</b>	
<21 years	161 (51.7)
21-26 years	83 (27.8)
>27 years	63 (21)
<b>Occupation</b>	
Housewives	204 (68)
Working	21 (7)
Others	75 (25)
<b>Per capita family income</b>	
<1000	79 (26.5)
1001-5000	44 (14.5)
5001-10000	36 (12)
10001-15000	72 (24)
>15000	139 (44.6)
<b>Preferred mode of contraception</b>	
Female sterilization	112 (34)
Male sterilization	3 (1)
OC Pills	30 (10)
IUD	6 (2)
Condoms	36 (12)
Non user	142 (28.5)
Menopausal	37 (12.5)

In our study, only 33.33% women had heard of cervical cancer, 29.2.5% of women knew about at least one symptom of the same, most common symptoms known was intermenstrual bleeding. Knowledge of risk factors was limited to 27.7% of women, with multiple sexual partners being the most common risk factor known to study participants. 27.7% of women had heard about screening for cervical cancer i.e. Pap smear. Coming to knowledge regarding pap smear, 15% of women knew

when they should get screening done and the same percentage knew where they could get it done. A mere 1% was aware of a vaccine for prevention of cervical cancer.

**Table 3: Details of responses of knowledge of study participants.**

Variable	n=300 (%)
<b>Heard of cervical cancer?</b>	100 (33.33)
<b>Knowledge of symptoms</b>	
Bleeding between periods	87 (29.2)
foul smelling vaginal discharge	69 (23)
Postmenopausal bleeding	14 (4.7)
Periods heavier or longer than usual	13 (4.2)
<b>Knowledge of cervical cancer screening</b>	
Utility of screening	31 (10.2)
Age of screening	45 (15)
Screening frequency	23 (7.5)
Vaccine availability	14 (4.7)
Age for HPV vaccine	3 (10)
Place where screening can be done	45 (15)
<b>Knowledge of risk factors</b>	
Viral (HPV) infection	3 (1)
Multiple sexual partners	83 (27.7)
Early age of coitus	49 (15.5)
Multiple pregnancies (>5)	29 (9.5)
Tobacco/smoking	35 (11.70)
History of STDs	21 (7)
Poor menstrual hygiene	51 (17)
Prolonged use of birth control pills	67 (22.50)
Heard of cervical cancer screening i.e ap smear?	83 (27.7)

Taking into account the above, the knowledge of study participants regarding cervical cancer and cervical cancer screening i.e. Pap smear was poor in 82% and 87% respectively. The same is shown in table 4.

When the demographic data is taken into account, education seems to play a role in the level of knowledge. Among women who have had college education, 14.5% women had satisfactory knowledge as opposed to none among the women with only primary or no education ( $p < 0.05$ ). Similarly, 13.3% of employed women had adequate knowledge as opposed to 4.67% of women who were not working ( $p < 0.05$ ). Women who got married after 21 years of age had adequate knowledge (9.6%) more commonly than women who got married before attaining 21 years of age; however, this finding was not statistically significant.

As far as attitude of the participants is concerned, 47.7%, 41% and 41% women respectively thought that going for Pap smear might be embarrassing/unpleasant and that it needs not to be done if one does not have any symptoms, or the doctor didn't prescribe it. Details of responses regarding Attitude of study subjects is given in table 6.

**Table 4: Details of knowledge of study participants.**

Cervical cancer	n (%)
Poor knowledge (<10 correct answers)	245 (82)
Satisfactory knowledge (>10 correct answers)	54 (18)
<b>Cervical cancer screening</b>	
Poor knowledge (<10 correct answers)	261 (87)
Satisfactory knowledge (>10 correct answers)	39 (13)

**Table 5: Comparison between level of knowledge of cervical cancer screening and socio demographic features of study participants.**

Demographic feature	Poor knowledge	Satisfactory knowledge
<b>Occupation</b>		
Employed	90 (33.7)	40 (13.3)
Housewives	155 (51.8)	14 (6.67)
<b>Education</b>		
Some schooling	177 (59)	0
Graduate	68 (22.67)	43 (14.5)
<b>Age at marriage</b>		
<21 years	141 (47)	15 (4.8)
>21 years	104 (38.6)	29 (9.6)

**Table 6: Details of response of attitude of study participants.**

Variables	n=300 (%)
It would be painful to have Pap smear	33 (10.9)
Having Pap smear is embarrassing/unpleasant	143 (47.7)
Pap smear is not necessary without any signs and symptoms	123 (41)
It is difficult to get to a Pap smear clinic	34 (11.4)
I won't have cervical cancer as I don't have the risk factors	32 (10.2)
I'm afraid something wrong will get detected if I go for a Pap smear	25 (8.3)
I don't need pap smear as my doctor didn't advice it	123 (41)

However, after explaining about the pathogenesis of cervical cancer and possible benefits of its screening, another question was asked: would you wish to be screened for cervical cancer if a free screening was offered? 76.25% of women agreed to it, showing the attitude to be favorable.

Nevertheless, the practice of Pap smear was still poor, only 6.67% of the study participants had ever been screened for cervical cancer.

## DISCUSSION

Overall, the knowledge of study participants was inadequate, practice poor but the attitude was optimistic. Only 13% women had adequate knowledge regarding Pap smear screening, and only 6.67% had actually practiced it.

In a study on Vietnamese women born in Australia, 87% of the women heard about Pap smear and 75% had a Pap smear.<sup>9</sup> This percentages in a study on the American women-Vietnamese in California were reported 74% and 76%, respectively.<sup>10</sup> Idestrom and colleagues in Sweden reported that 95% of the subjects were aware of the Pap test for cervical cancer screening.<sup>11</sup> These findings are in stark contrast of our study where only 27.7% of women had heard of pap smear, and 6.67% actually undergone it. However, the findings of adequate knowledge in 13% women found in our study is comparable to 11% found in a study in Bhopal by Bansal et al, in Cameroon by Tebeu et al and in Ethiopia by Yifru and Asheber.<sup>12-14</sup> Similarly, in the study by Roy et al in Kolkata, poor knowledge (84%) about cervical cancer and its screening has been reported from a study conducted on women who attended the hospitals.<sup>15</sup> This might be attributed to lower socio demographic profile of the participants and lower level of awareness in developing country compared to developed ones.

However, good knowledge has been reported from three studies conducted on nurses.<sup>16-18</sup> Obviously, nurses being health care providers would have better knowledge.

On the other hand similar to our study, community based studies have reported that 2-6.9% of women ever got tested.<sup>8,19</sup> Seow et al believe the means of increasing the acceptance of the Pap smear are culture-specific and must address the appropriate health beliefs and attitudes. Such efforts should include not only influencing awareness and perceptions through public education but also reducing barriers by creating an appropriate environment for the delivery of this important health service.<sup>20</sup>

Coughlin and colleagues reported that reasons for not receiving a Pap smear by women in U.S included lack of physician recommendation, haven't had any problems and too painful and unpleasant to be tested.<sup>21</sup> This study documented that common reason for non-participation was no physicians' and other health providers' recommendation and lack of knowledge about Pap smear. These finding are almost consistent with results of the study in Kerman.<sup>22</sup> Some studies have shown that physician recommendation to do a cancer screening test is one of the strongest independent predictors of a woman's decision to be screened.<sup>23</sup> This is also consistent with our results.

Intermenstrual bleeding was the, most common mentioned symptom; this finding is similar to study done in Kerala<sup>8</sup> and Ahmedabad.<sup>16</sup> The most common risk factor mentioned was multiple sexual partners. John et al have

reported similar findings in his dissertation submitted to the Muhimbili University of Health and Allied Sciences, Songea in 2011 and The University of Iowa in 2012, respectively.<sup>24,25</sup>

## CONCLUSION

Our study shows a poor level of knowledge among the population, but a favorable attitude for screening. Only 33.3% women had heard of cervical cancer, but of the other women, once explained about the disease and its screening 76.25% were willing to get screened if offered free of cost. However, only 6.67% women had actually had a Pap smear till date. The main reasons for this lack in practice was lack of awareness about cervical cancer and its screening test and being symptomless. On comparing the demographic profile with level of knowledge, it can be concluded that education does have a positive effect on it. Employed women had higher education. Educated women had higher knowledge than housewives. Women with higher per capita family income had better attitude regarding cervical intermenstrual bleeding was the most common symptom known to women. Multiple sexual partners were the commonest risk factor known. To overcome this lack of knowledge, we need to have population-based screening programs, efficient mass media campaigns, and breaking cultural barriers wherein women in India do not feel shy to discuss the diseases affecting the sexual organs. Strategic communication targeting eligible women, universal availability of screening facilities in public health facilities may increase the uptake of screening.

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