

# Evaluation of knowledge of cervical cancer, attitude, and practice of pap smear among women attending tertiary care hospital

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## Abstract

**Background:** The mortality and morbidity rates due to cervical cancer are low in the developed countries compared to the developing countries and this difference can be attributed to the more awareness of pap test and cervical cancer in developed countries

**Objectives:** To study knowledge of cervical cancer, attitude, and practice of pap smear among women attending tertiary care hospital

**Methods: Place of study:** Present prospective study was carried out among 1000 women. The data was collected by history taking and study questionnaires were given to the patients. The women were explained about the purpose of the study. Definitions used for variables were adopted as described by Gamora et al.

**Results:** 59.4% of the women had heard about the disease but 69.9% did not know the cause. Among those who knew the cause, majority i.e., 8.6% said that it was because of STDs. 53.6% heard of pap smear. 50.9% said that it was valuable to have pap test done regularly while 44.5% did not know about the value of pap test. The knowledge, attitude and practices were significantly better in the younger age group of 26-35 and 36-45 years; Literate women, Women belonging to social class I and II (higher social class) compared to women belonging to social class III and IV (lower social class) ( $p < 0.05$ ) and women from urban areas compared to their rural counterparts ( $p < 0.05$ ).

**Conclusion:** The overall knowledge, attitude and practices were poor in the present study. It was significantly associated with younger age, literacy, higher social class and urban residence.

**Key words:** Cervical cancer, pap smear test, knowledge, attitude, practices

## Introduction

Among malignancies of women, most common is cervical cancer. Globally it is more common among women from developing countries compared to the developed countries<sup>[1]</sup>.

In India, it is the leading cause of death among middle aged women. As per World Health Organization, cervical cancer incidence is 30-44.9 per one lakh women and 20% of global cervical cancer cases are seen in India<sup>[2]</sup>. Every year about one lakh new cases occur in India and contributes to one fifth of all female deaths<sup>[3]</sup>. As per the National Cancer Registry Program, the proportion of cervical cancer is about 13.1-35 per one lakh population<sup>[4]</sup>.

The cases of cervical cancer show high rates of morbidity and mortality. Hence early diagnosis and appropriate treatment is the best solution. Human Papilloma virus (HPV) is the primary cause. Globally most common sexually transmitted infection is HPV. Some of the common risk factors of cervical cancer is multiple sexual partners, poor genital hygiene, smoking etc. Level of awareness about the disease helps prevention and control of cervical cancer<sup>[5]</sup>.

For early diagnosis, effective method is the Papanicolaou (Pap) test which helps to reduce the morbidity and mortality associated with the cancer<sup>[6]</sup>. This test is also cost effective, reliable and easy to carry out. One meta-analysis study has shown that

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the sensitivity and specificity of the pap test is 30-87% and 86-100% respectively. Hence this test has been included in the Indian National Cancer Screening Program<sup>[7]</sup>.

The mortality rates due to cervical cancer are low in the developed countries compared to the developing countries and this difference can be attributed to the more acceptance of pap test in developed countries. The relation between frequent use of pap testing and decreased mortality is shown by various studies<sup>[8, 9]</sup>.

In India, even when the pap test is available, the morbidity and mortality associated with cervical cancer is high. This can be attributed to lower knowledge about the disease and the test. Hence present study was undertaken to study the knowledge, attitude and practices related to the cervical cancer and pap test and factors determining them.

### Materials and Methods

Prospective observational study was carried out at Ayaan Institute of Medical Sciences, Kanakamamidi Village, Moinabad, Hyderabad. A total of 1000 women were included in the present study. Institutional Ethics Committee permission was obtained before the study by submitting the protocol. Informed consent was taken from all participating women. Health education was given after data collection to increase the awareness about the cervical cancer and pap test. All women attending Gynaecology OPD and Wellness Clinic between 25-65 years and are sexually active were included in the study. Women above 65 years and less than 25 years, Hysterectomized patients, Unmarried/sexually not active woman were excluded from the study.

### Data collection methods:

The data was collected by history taking and study questionnaires were given to the patients. The women were explained about the purpose of the study. Informed consent was taken and pre tested, pre designed study questionnaire was given to them. In the present study, definitions used for variables were adopted as described by Gamarra et al<sup>[6]</sup> A woman is considered to have adequate knowledge if she heard about the pap test and the cervical cancer and knows the ways of prevention. A woman is considered to have adequate attitude if she thinks that it is necessary to undergo the screening test and having inadequate attitude if she thinks that it is not necessary to undergo the pap test. A woman is considered to have adequate practice who underwent the pap test in the last three years before the data collection in the present study and considered as having inadequate practice if she had undergone the

pap test more than three years before this study or never had undergone the pap test.

### Statistical analysis:

The data was entered in the Microsoft Excel worksheet and analysed using proportions. Chi square test was applied using Open epi statistical software. P value less than 0.05 was taken as statistically significant.

### Results:

**Table 1: Distribution of study subjects as per knowledge about cervical cancer**

Knowledge questions	Response	Number	Percentage
Heard of cervical cancer	Yes	594	59.4
	No	406	40.6
Do you know cause of cervical cancer?	Yes	301	30.1
	No	699	69.9
Which among the following do you think is the cause of cervical cancer?	Don't know	699	69.9
	Multiple partners	33	3.3
	Multi-parity	12	1.2
	STDs	86	8.6
	Family history	78	7.8
	Lack of hygiene	18	1.8
	Smoking	12	1.2
	Sex at an early age	07	0.7
Have you heard of HPV vaccination?	Yes	135	13.5
	No	865	86.5
Do you know about screening of Cervical cancer?	Yes	444	44.4
	No	556	55.6

Table 1 shows knowledge of women about the cervical cancer. 59.4% of the women had heard about the disease but 69.9% did not know the cause. Among those who knew the cause, majority i.e. 8.6% said that it was because of STDs.

**Table 2: Distribution of study subjects as per attitude about cervical cancer**

Attitude	Response	Number	Percentage
Have you heard of pap smear?	Yes	536	53.6
	No	464	46.4
Is it valuable to have pap test regularly?	Don't know	445	44.5
	No	46	4.6
	Yes	509	50.9

Table 2 shows distribution of study subjects as per attitude about cervical cancer. 53.6% heard of pap smear. 50.9% said that it was valuable to have pap test done regularly while 44.5% did not know about the value of pap test.

**Table 3: Distribution of study subjects as per practice about cervical cancer**

Practice	Response	Number	Percentage
Have you had pap smear done before?	No	741	74.1
	Yes	259	25.9
How often do you think pap smear is recommended?	Don't know	597	59.7
	Once a year	310	31.0
	Once a while	93	9.3
Is pap test painful?	No	449	44.9
	Yes	551	55.1
How do you think is the chance of cure for cervical cancer?	Don't know	234	23.4
	Bad	308	30.8
	Good	458	45.8

Table 3 shows distribution of study subjects as per practice about cervical cancer. 74.1% never undergone the pap smear before. 31% said that pap test should be done at least once a year. 55.1% said that the pap test is painful. Regarding chance of cure for cervical cancer, 45.8% told that there is a good chance of cure.

**Table 4: Association between age and knowledge, attitude and practices of cervical cancer**

Knowledge	Response	Age (years)				Chi square	P value
		26-35	36-45	46-55	56-65		
Heard of cervical cancer	No	37 (14.02)	119 (27.36)	199 (73.46)	51 (95.18)	290.19	< 0.001
	Yes	213 (85.98)	310 (72.64)	69 (26.54)	02 (4.82)		
Knows cause of cervical cancer?	No	135 (53.66)	267 (62.01)	244 (90.77)	53 (100)	121.33	< 0.001
	Yes	115 (46.34)	162 (37.99)	24 (9.23)	00		
Heard of HPV vaccination?	Did not hear	204 (81.1)	365 (85.11)	243 (90.77)	53 (100)	18.89	< 0.001
	Heard	47 (18.9)	64 (14.89)	24 (9.23)	00		
Do you know about screening of Cervical cancer?	No	111 (42.38)	177 (40.12)	217 (79.23)	51 (95.18)	149.66	< 0.001
	Yes	139 (57.62)	252 (59.88)	51 (20.77)	02 (4.82)		
<b>Attitude</b>							
Have you heard of pap smear before?	Yes	167 (60.67)	285 (62.92)	81 (20.77)	13 (4.82)	172.12	< 0.001
	No	80 (39.33)	141 (37.08)	194 (79.23)	39 (95.18)		
Is it valuable to have pap smear regularly?	Don't know	75 (27.74)	107 (23.71)	208 (75.77)	50 (95.18)	282.89	< 0.001
	No	8 (3.05)	25 (5.78)	18 (6.54)	00		
	Yes	167 (69.21)	298 (70.52)	42 (17.69)	02 (4.82)		
<b>Practice</b>							
Done pap smear before	No	184 (76.83)	235 (56.53)	223 (86.15)	49 (95.18)	92.06	< 0.001
	Yes	72 (23.17)	184 (43.47)	49 (13.85)	04 (4.82)		
Knows about frequency of pap-smear	No	115 (46.04)	186 (43.47)	231 (86.15)	50 (95.18)	168.93	< 0.001
	Yes	135 (53.96)	243 (56.53)	37 (13.85)	03 (4.82)		

Table 4 shows association between age and knowledge, attitude and practices of cervical cancer. The knowledge was significantly better in the younger age group of 26-35 and 36-45 years compared to older age groups. Similarly, the positive attitude and good practices were significantly better in the younger age compared to older age group ( $p < 0.05$ )

**Table 5: Association between literacy and knowledge, attitude and practices of cervical cancer**

Knowledge	Response	Illiterate	Literate	Chi square	P value
Heard of cervical cancer	No	96 (100)	310 (34.3)	155.36	< 0.001
	Yes	00	594 (65.7)		
Knows cause of cervical cancer?	No	96 (100)	603 (66.7)	45.72	< 0.001
	Yes	00	301 (33.3)		
Heard of HPV vaccination?	Did not hear	96 (100)	769 (85.1)	16.57	< 0.001
	Heard	00	135 (14.9)		
Do you know about screening of Cervical cancer?	No	96 (100)	460 (50.9)	84.80	< 0.001
	Yes	00	444 (49.1)		
<b>Attitude</b>					
Have you heard of pap smear before?	Yes	00	536 (59.3)	155.36	< 0.001
	No	96 (100)	368 (40.7)		
Is it valuable to have pap smear regularly?	Don't know	96 (100)	349 (38.6)	132.44	< 0.001
	No	00	46 (5.1)		
	Yes	00	509 (56.3)		
<b>Practice</b>					
Done pap smear before	No	96 (100)	645 (71.3)	37.11	< 0.001
	Yes	00	259 (28.7)		
Knows about frequency of pap-smear	No	96 (100)	408 (45.1)	71.68	< 0.001
	Yes	00	496 (54.9)		

Table 5 shows association between literacy and knowledge, attitude and practices of cervical cancer. Literacy was found to be a significant predictor of good knowledge, attitude and practices related to cervical cancer and pap test as better knowledge, attitude and practices were seen significantly better in literates compared to illiterate women ( $p < 0.05$ )

**Table 6: Association between socioeconomic status (SES) and knowledge, attitude and practices of cervical cancer**

Knowledge	Response	SES 1&2	SES 3&4	Chi square	P value
Heard of cervical cancer	No	69 (11.2)	337 (88.2)	581.21	< 0.001
	Yes	549 (88.8)	45 (11.8)		
Knows cause of cervical cancer?	No	328 (53.1)	371 (97.1)	217.68	< 0.001
	Yes	290 (46.9)	11 (2.9)		
Heard of HPV vaccination?	Did not hear	483 (78.2)	382 (100)	96.47	< 0.001
	Heard	135 (17.8)	00		
Do you know about screening of Cervical cancer?	No	185 (29.9)	371 (97.1)	431.65	< 0.001
	Yes	433 (70.1)	11 (2.9)		
<b>Attitude</b>					
Have you heard of pap smear before?	Yes	165 (26.7)	371 (97.1)	470.73	< 0.001
	No	453 (73.3)	11 (2.9)		
Is it valuable to have pap smear regularly?	Don't know	91 (14.7)	354 (92.7)	602.37	< 0.001
	No	29 (4.7)	17 (4.5)		
	Yes	498 (80.6)	11 (2.8)		
<b>Practice</b>					
Done pap smear before	No	359 (58.1)	382 (100)	216.05	< 0.001
	Yes	259 (41.9)	00		
Knows about frequency of pap-smear	No	176 (28.5)	328 (85.9)	359.75	< 0.001
	Yes	442 (71.5)	54 (14.1)		

Table 6 shows association between socioeconomic status (SES) and knowledge, attitude and practices of cervical cancer. Women belonging to social class I and II (higher social class) have shown significantly better knowledge, attitude and practice components related to cervical cancer and pap test compared to women belonging to social class III and IV (lower social class) ( $p < 0.05$ ).

**Table 7: Association between residence and knowledge, attitude and practices of cervical cancer**

Knowledge	Response	Urban	Rural	Chi square	P value
Heard of cervical cancer	No	82 (13.1)	324 (86.2)	518.86	< 0.001
	Yes	542 (86.9)	52 (13.8)		
Knows cause of cervical cancer?	No	301 (48.2)	376 (100)	259.47	< 0.001
	Yes	323 (51.8)	00		
Heard of HPV vaccination?	Did not hear	135 (21.6)	376 (100)	94.04	< 0.001
	Heard	489 (78.4)	00		
Do you know about screening of Cervical cancer?	No	180 (28.8)	376 (100)	210.39	< 0.001
	Yes	444 (71.2)	00		
Attitude					
Have you heard of pap smear before?	Yes	464 (74.4)	00	626.39	< 0.001
	No	160 (25.6)	376 (100)		
Is it valuable to have pap smear regularly?	Don't know	130 (20.8)	315 (83.8)	357.26	< 0.001
	No	25 (4.1)	23 (6.1)		
	Yes	475 (76.1)	38 (10.1)		
Practice					
Done pap smear before	No	365 (58.5)	376 (100)	210.61	< 0.001
	Yes	259 (41.5)	00		
Knows about frequency of pap-smear	No	221 (35.4)	376 (100)	406.75	< 0.001
	Yes	403 (64.6)	00		

Table 7 shows association between residence and knowledge, attitude and practices of cervical cancer. Women from urban areas had significantly better knowledge, attitude and practices related to cervical cancer compared to their rural counterparts ( $p < 0.05$ ).

### Discussion

In the present study, it was found that 59.4% had heard of cervical cancer but only 30.1% knew the cause of it. Only 13.5% heard about HPV vaccination and 44.4% heard about the screening of cervical cancer. 53.6% heard about the pap smear and 50.9% said that it should be done regularly. 25.9% of women had undergone pap test before the study and 31% correctly told that it should be done at regular intervals. It was also found in the present study that the knowledge, attitude and practices were significantly better in younger, literate, urban women belonging to social class I & II compared to older, illiterate, rural women belonging to social class III & IV.

Thus, the overall knowledge, attitude and practices were poor in the women in the present study.

Heena H et al<sup>[10]</sup> carried out a cross-sectional study among 395 healthcare professionals' women. They noted that only 4% had good level of knowledge and 14.7% had fair knowledge which is very low compared to the present study. In their study 86.8% told them that pap test was a useful test while in the present study only 53.9% felt so. In their study 26.2% were found to have already undergone the pap smear test which is half compared to the present study where 50.9% of women had undergone the test before the study.

Ahmed SA et al<sup>[11]</sup> recruited 260 women in a cross-sectional study to evaluate knowledge, attitude and practices related to cervical cancer. The authors noted that 43.5% of women had fair knowledge which is comparable to the present study (59.4%). The authors noted that the prevalence of good attitude was 80.4% which is better compared to the present study (53.6%). Only 15.4% had good practices which is slightly lower compared to the present study (25.9%) Nwankwo KC et al<sup>[12]</sup> found in their study that the awareness about cervical cancer screening was only 15.5% which is very low compared to the present study (53.6%). They also stated that this level of awareness increased with the level of literacy and this finding correlated with present study where we also found that the knowledge, attitude and practices of cervical cancer were significantly better among literate women compared to illiterate women. In their study only 4.2% underwent pap smear test compared to 25.9% of women of the present study. They noted that lack of knowledge and feeling of having no medical problems were the important factors which hindered the use of available cervical cancer screening services.

Bansal AB et al<sup>[13]</sup> carried out a cross-sectional study among 400 women of age 15-45 years at AIIMS, Bhopal. 65.5% heard about the cervical cancer which is slightly more compared to the present study

(59.4%). They also noted 35.25% knew at least one symptom and 39.75% knew one risk factor. In their study only 34.5% heard about the pap smear test while only 9.5% underwent the test compared to 53.6% and 25.9% in the present study. The authors found that age, literacy, and income were significantly associated with better knowledge which is similar to the present study findings.

Yweke AH et al<sup>[14]</sup> studied 583 women in a community based cross-sectional study. They noted that 46.3% had poor knowledge which is comparable to the present study. They found that the prevalence of negative attitude was 34.8%. They noted that the significant risk factors associated with the poor knowledge were poor health seeking behaviour, not received information. Poor knowledge was related with poor attitude.

Narayana G et al<sup>[15]</sup> carried out a hospital based cross-sectional study among 403 women. They found that 74.6% heard about the cervical cancer which is better compared to the present study (59.4%). In their study, 64.2% were aware of the symptoms of cervical cancer, 62.7% were aware about the risk factors, 76.9% about the screening methods and 61.7% about the preventive measures. 62.5% were found to have positive attitude which is better compared to present study (53.6%). But in their study 86.6% were not having practice towards the cervical cancer screening which is high compared to the present study (74.1%).

Ebu NI et al<sup>[16]</sup> carried out a cross-sectional study among 392 women of age 10-74 years. They found that only 31.6% heard about the cervical cancer compared to 59.4% in the present study. They also reported that 93.6% of women had no knowledge on risk factors and 92% were not aware about prevention and treatment. 97.7% never heard about the pap smear test. Only 0.8% underwent the pap smear test compared to 25.9% in the present study.

## Conclusion

The overall knowledge, attitude and practices were poor in the present study. It was significantly associated with younger age, literacy, higher social class and urban residence.

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