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A cross sectional hospital based survey in North India on the knowledge, attitude and practices towards cervical cancer screening among rural women

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Abstract
Cervical cancer is second most common cancer in women after breast cancer. India contributes 25% to global burden. Cervical cancer related deaths in India are due to late diagnosis. Knowledge and early screening is most effective method of cervical cancer prevention. Lack of awareness, negative attitude and poor screening are major causes increasing its incidence.
Aim: To assess the knowledge, attitude and practices among the rural population towards cervical cancer screening and prevention.
Method: Hospital based cross sectional study of 200 subjects attending the Gynecology OPD in a secondary care hospital enrolled after informed consent.
Statistical Analysis: descriptive statistics were used.
Results: 78% subjects had heard about cervical cancer. 54% women knew about symptoms and 33% had good knowledge of the risk factors. 60% women knew about screening methods. More than half (52%) had a positive attitude towards screening but only 22% were practicing screening.
Conclusion: Women have good knowledge of cervical cancer screening and prevention, still there are many who need education. Women who have knowledge, do not transform it into practice. There is a need for more educational programs for different strata of society for changes.

Keywords: cervical cancer, knowledge, attitude, practice

Introduction
Cervical cancer is the second most common cancer in the women around the world [1]. It is second only to breast cancer. India contributes 25% to the global burden. According to National Institute of Cancer Prevention and Research, one woman in India, loses the battle to Cervical cancer every 8 minutes [2]. Cervical cancer causes 10% of all cancer related deaths in India. The stage at diagnosis is the main factor for the outcome and 5-year survival rates. The average 5 year survival after diagnosis is 48%. In India, most of the cases are diagnosed at a much advanced stage, and hence have a poor survival rate. The main reason for delayed diagnosis is lack of awareness amongst women regarding the screening and prevention of cervical cancer. Screening for cervical cancer is essential as the women are mostly asymptomatic until the disease has far progressed. The screening methods not only make earlier diagnosis of cancer of cervix but also help in catching the premalignant lesions of the cervix. The most common symptoms are inter-menstrual bleeding, persistent back pain, pelvic pain, foul smelling discharge, bleeding after intercourse, urinary urgency, weight loss etc. Cervical cancer is caused by Human Papilloma Virus (HPV) infection, particularly HPV 16 and 18. HPV 16 and 18 cause 75% of the cases globally [6]. Other risk factors include multiple partners, early age of marriage, multiple child births and HIV infection.
Although there have been many advances like Pap smear test and HPV DNA analysis in the screening modalities for cervical cancer, there have been multiple hurdles for the same. The major problems include lack of awareness and misconceptions regarding female cancers and gynecological diseases and socio-economic limitations. According to latest guidelines issued by the American College of Obstetricians and Gynecologists, women between 21-29 years of age should have a Pap test done every 3 years, and those between 30-65 years should have co-testing (Pap smear and HPV DNA testing) every 5 years [3]. The prevention and control of disease depends upon awareness, knowledge, preventive measures and screening procedures [4].

There is lack of information regarding knowledge, attitude and practice towards cervical cancer and its screening and hence this study was conducted.

Aim

to assess the knowledge, the practice and the overall attitude of women regarding cervical cancer and screening in women attending the department of Obstetrics and Gynecology at a secondary care hospital and to assess the relationship of these with socio-demographic characters of the population.

Materials and methods

It is a hospital based cross-sectional study conducted over a period of 3 months in the outpatient department of Obstetrics and Gynecology in a secondary care hospital between September 2020 and November 2020. 200 parous women were included in the study which were over 18 years of age and were willing to participate in the study. All women who participated in the study were assessed using a pre-formed questionnaire about cervical cancer, its screening and prevention.

The questionnaire comprised of 4 parts: socio-demographic characters, knowledge, practice and attitude. The demographic details included age, residence (rural/urban), education, occupation and socio-economic stage using modified Kuppuswamy's scale [5].

(A) Knowledge regarding the disease was identified using a questionnaire which had ten questions and each question was awarded 1 mark for appropriate knowledge and nil for either misconceptions or no knowledge.

Table 1: knowledge about cancer of cervix

S. No.	Knowledge about	1 mark	Zero marks
1.	Awareness of Ca cervix	Yes	No
2.	Symptoms	Any 2	≤1
3.	Risk factors	Any 2	0
4.	Prevention method	Any 1	0
5.	Screening methods	Yes	No
6.	Description about screening methods	Yes	No
7.	Eligibility for screening	Yes	no
8.	Frequency of screening	Yes	No
9.	Awareness about Vaccination	Yes	No
10.	Treatment available	Yes	No

Score of (a) 8 – 10 was considered good knowledge
(b) 5 – 7 = moderate knowledge
(c) <5 = Poor knowledge

(B) Attitude was assessed using 8 statements related to cervical cancer, its screening a management. The responses were assessed using Likert scale.

In Likert scale the responses ranged from: strongly agree (5), agree (4), neither agree nor disagree (3), disagree (2), strongly disagree (1).

Table 2: Attitude regarding Cervical Cancer screening.

S. no.	Statement
1.	Cervical cancer is highly prevalent in India
2.	Any adult woman including you can acquire this
3.	Cervical cancer does not spread via contact
4.	Symptoms like inter-menstrual bleeding and foul smelling vaginal discharge need consultation by a doctor
5.	Screening helps prevent it
6.	Screening is not harmful
7.	Screening is not expensive
8.	HPV vaccination can prevent cancer

Maximum score expected is 40 from all statements and minimum is 8. A score of ≥20 was considered a positive attitude and <20 as a negative attitude.

(C) Practice was assessed by response towards screening in last 3 years. If patient had undergone screening in last 3 years, it was considered as regular, more than 3 years since last screen were considered irregular and the ones who were never screened as no practice.

Table 3: Practices followed for Cervical cancer screening

S. No.	Practice
1.	Regular practice (screened within 3 years)
2.	Irregular practice (last screen more than 3 years ago)
3.	No practice (never screened)

Statistical analysis: Epi- info software was used to analyze collected data. Frequencies and proportions were used to represent the socio-demographic profile, knowledge, attitude and practice for carcinoma of the cervix and its screening procedures in the study population.

Results

Among the 200 women who answered the questionnaire, most were between 36 to 45 years of age (52%). Majority of the women were multi-parous. The study population comprised of 84% women belonging to the rural area. Amongst the subjects 13% women had received no formal education, 53% were having matriculate certificate and the rest were graduate. 82% of the study population constituted of home-makers. 32% women belonged to lower class, 42% into the lower middle class and 26% to the upper middle class according the modified Kuppuswamy's scale.

Table 4: Demographic characteristics of the study population

Characteristics	Categories	Frequency	Percentage (%)
Age	18-25	12	6
	26-35	56	28
	36-45	104	52
	46-55	23	11.5
	56-65	3	1.5
	>65	2	1
Residence	Rural	168	84
	Urban	32	16
Educational status	Graduate or above	68	34
	Matriculate	106	53
	No formal education	26	13
Occupation	Home maker	164	82
	Farmer	22	11
Socio economic class	Upper middle	52	26
	Lower middle	84	42
	Lower	64	32

78% (156) women had heard about the cervical cancer and majority of them 41% had heard from friends and family members, 12% from media and rest 25% from medical personnel. Regarding knowledge about signs and symptoms of the cancer of the cervix, only 54% of the women knew about 2 or more symptoms. The most frequently known symptom was post menopausal bleeding (52%). 40% women knew about foul smelling discharge from vagina and irregular spotting. Only 33% of the women had a good knowledge about the risk factors contributing to cervical cancer. When enquired about preventive methods for cervical cancer, 48% women had some knowledge about preventive methods. Out of these 200 women 60% of

them knew about screening methods mostly Pap smear only. 26 % women amongst the study group gave correct description of the screening methods. 29% knew that women over 25 years of age need screening and only 14% of them knew that screening was done 3 yearly. 86 women (43%) had a fairly good knowledge about HPV vaccination.

Table 5: Knowledge about cervical cancer

Variable	Frequency	Percentage (%)
Awareness about cervical cancer	156	78
Source of knowledge		
Friends and family	82	41
Media	24	12
Medical professionals	50	25

Table 6: Knowledge of symptoms of cervical cancer:

Knowledge of symptoms of cervical cancer (2 or more)	**108**	**54**
Foul smelling discharge	80	40
Bleeding in between periods	80	40
Post-menopausal bleeding	104	52
Bleeding after intercourse	32	16
Severe back pain	20	10
Urinary urgency	12	6
Do not know or other	92	46

Table 7: Knowledge of risk factors:

Knowledge of risk factors (at least 2)	66	33
Multiple sexual partners	32	16
Early age at intercourse	34	17
Parity	40	20
Poor menstrual hygiene	68	34
Cigarette smoking	14	7
Infection with HPV	12	6
Do not know or others	134	67

Table 8: Knowledge of preventive methods:

Prevention method (any 1)	96	48
Use of barrier contraception	56	28
HPV vaccination	21	10.5
Avoid early marriages and child birth at young age	7	3.5
Avoid multiple sexual partners	12	6

Table 9: Knowledge of cervical cancer screening

Screening methods (any 1)	120	60
Pap smear	118	59
No knowledge	80	40
Correct description of screening methods		
Yes	52	26
No	148	74

Table 10: Knowledge about eligibility for screening:

Eligibility for screening		
Age 25 years or above	48	29
Elderly women	30	15
Multiple sexual partners	72	36
Do not know or others	40	20

Table 11: Screening frequency:

Frequency of screening		
Annual	6	3
3 yearly	28	14
5 yearly	60	30
Once only	68	34
Do not know	38	19

Table 12: Knowledge about HPV vaccination:

Knowledge about HPV vaccination		
Yes	86	43
No	114	57

Table 13: Knowledge about treatment of cervical cancer:

Treatment available		
Surgery	142	71
Chemo-radiation	128	64
No knowledge	58	29

On assessing the attitude towards screening and prevention of the same, 62% had a positive attitude towards it but only 22% were practicing the screening procedure. The 22% women who had been previously screened, they were screened once only and had no information regarding the protocol for screening.

Table 14: Attitude towards screening

S. no.	**Statement**	**Strongly agree (5)**	**Agree (4)**	**Neither agree nor disagree (3)**	**Disagree (2)**	**Strongly disagree (1)**
1.	Cervical cancer is highly prevalent in India	78	106	12	3	1
2.	Any adult woman including you can acquire this	32	88	61	12	7
3.	Cervical cancer does not spread via contact	17	38	97	43	35
4.	Symptoms like inter-menstrual bleeding and foul smelling vaginal discharge need consultation by a doctor	89	13	25	34	39
5.	Screening helps prevent it	68	70	16	19	27
6.	Screening is not harmful	47	28	24	51	50
7.	Screening is not expensive	44	61	31	42	22
8.	HPV vaccination can prevent cancer of cervix	68	56	10	56	10

Table 15: Cervical cancer screening practices

Practice towards cervical cancer screening	**n = 200**	**Percentage**
Screened in last 3 years	12	6
Screened >3 years ago (irregular)	32	16
Never screened	156	78

Discussion

The present study explored the knowledge, attitude and practice among women attending the obstetrics and gynecology department in a tertiary care hospital in northern India, with a resource limited setting. Here the responders were mostly from the lower middle socio-economic strata, and many of them had no formal education.

The study found out that more than three-fourths of the population had heard about cervical cancer, which was similar to the studies conducted by Chande HM *et al*. [6] and Abdullahi *et al*. [7] The results of this study are in contrast with other studies conducted in southern India by G.Narayana *et al*. [8] and in other under-developed countries by Anorlu, [9] Yifru and Asheber [10] in which more than one fourth of the population had no information regarding cervical cancer.

This study found out that more than half of the study population knew about the signs and symptoms of the disease, which are consistent with the findings of Mukama *et al*[11] and with G. Narayana *et al*. [8] Still there is lack of awareness regarding the risk factors for the same.

Around two thirds of the women showed a positive attitude towards cervical cancer and more than half of the about its screening, which is again consistent with findings of G. Narayana *et al*. [8] Despite positive attitude among women, there is a huge difference between attitude and practice. Less than one fourth of the women had been screened in the last 3 years and no one had been screened more than once. None of the women knew about the screening protocol and the need for repeated screening.

Younger women i.e. between the ages 30-35 years had a positive attitude and good knowledge about signs, symptoms and screening methods. Similar findings were in the study conducted by Ogunbode and Ayinde [12]

Strengths and Limitations: There is need to conduct such studies at greater levels with larger sample size as these data are useful to design educational programs regarding cervical cancer. The major limitation was a smaller sample size and a shorter time frame.

Conclusion

The study concludes that though women have fairly good knowledge and attitude towards cervical cancer and its screening, there is a need to bridge the gap between knowledge and practice. There also is a need to educate the masses about preventive HPV vaccination.

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