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LEARNER'S PERSPECTIVE

Knowledge and Awareness about Preventive Health Seeking Behavior and Acceptability of Cervical Cancer Vaccine in Urban Women in Comparison with School Students

Hema Divakar

ABSTRACT

Background: In India, cervical cancer is the single largest killer of middle-aged women, followed by breast cancer. Though the effective screening test is available, most of the women in developing and underdeveloped countries do not have access to Pap (papanicolou) smear screening due to poor literacy and low level of awareness both early detection and screening remain a major area of concern for health care persons.

Objective: To explore knowledge and awareness about preventive health seeking behavior and acceptability of cervical cancer vaccine in urban women in comparison with school students.

Materials and methods: This was a prospective study conducted to compare the awareness between 236 urban women attending the antenatal, gynaec and postdelivery outpatients and inpatients and 132 students aged between 12 to 14 years. A questionnaire was designed to tap the information about cervix-related questions, cancer cervix awareness and also about the Pap test and HPV vaccine.

Results: Overall 29.55% and urban women 19.07% did not know about the cervix. Overall, 79.55% students and 74.15% of urban women did not know about symptomatology of cervical cancer. Overall, 34.09% of students and 38.98% of women did not know about prevention of cervical cancer. Out of the total participants, 35.61% of students and 44.07% of women knew that death will happen, if cancer cervix was not treated or controlled for a long period.

Conclusion: Attempts to educate parents/peers and students themselves would intensify the awareness and improve the usage of the HPV vaccines in the desired cohort.

Keywords: Pap test, HPV vaccination, Awareness, Socio-demographic parameters, Screening.

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BACKGROUND

Cervical cancer is the second most common cancer among women and is the primary cause of cancer-related deaths in developing countries.[1] It is a global health problem, every year around 500,000 women develop cervical cancer and almost 280,000 of them die from the disease.[2] Globally, it is the second most common cancer and 80% of these cases occurring in developing and undeveloped countries.[3]

In India, cervical cancer is the single largest killer of middle-aged women, followed by breast cancer. The incidence of cervical cancer in Indian women population varies between 30.0 and 44.9.[2] In India more than 100,000 new cases are detected every year causing 20% of female deaths.[4] Studies have shown that human papillomavirus (HPV) infection is responsible for more than 90% of the cases of invasive cervical cancer worldwide, and it is related to 80% of precancerous changes in the cervix.[5] Cervical cancer can be prevented by early diagnosis and treatment. Population-based screening program utilizing exfoliative cervical cytology, the papanicolaou (Pap) test has reduced the cervical cancer morbidity and mortality in developed countries.[6,7] Screening test for cervical infection of HPV, the primary cause of cervix cancer, has proved to be more effective.[8] Two vaccines had been developed in recent years to prevent cervical cancer caused by HPV-16 and HPV-18. Both vaccines gave 100% efficacy in women who were not infected by HPV-16 and 18 but they are only prophylactic and do not protect against all oncogenic HPV.[9]

Though the effective screening test is available, most of the women in developing and underdeveloped countries do not have access to Pap smear screening. In India, due to poor literacy and low level of awareness both early detection and screening remains a major area of concern for health care persons. This ultimately becomes a barrier toward formulation of a comprehensive policy to tackle the risk of cervical cancer.

The success and benefit of a public health program depends on the awareness of the potential beneficiaries about different basic aspects of the disease. Various studies tried to assess women's awareness and knowledge level about cervical cancer.[10-13] However, very less information is available on knowledge base of the Indian women on cancer of the uterine cervix.

The aim of this study was to explore knowledge and awareness about preventive health seeking behavior and acceptability of cervical cancer vaccine in urban women in comparison with school students. Additionally, we attempted to identify and analyze a probable relationship between the overall knowledge level and a few sociodemographic parameters.

The outcome measurement of this short study may provide inputs toward designing suitable information, education and communication (IEC) strategies to inform and educate the women on prevention of cervical cancer and thus augment the national cancer control program.

MATERIALS AND METHODS

This was a prospective study conducted to compare the awareness among 236 urban women attending the antenatal, gynaec and postdelivery outpatients and inpatients and 132 students aged between 12 to 14 years. A questionnaire was designed to tap the information about cervix related questions, cancer cervix awareness and also about the Pap test and HPV vaccine. The study intended to check whether they would want to receive the vaccine and also to check the attitude on preventive health care.

RESULTS

The data of women and students was collected and compared and was analyzed, the outcome was as follows:

Awareness about Cervical Cancer

Knowledge levels of urban women and students about the cervical cancer are presented in Table 1. Overall 29.55% and urban women 19.07% did not know about the cervix. Most of the students (70.45%) and 59.75% of women were aware about the occurrence of cervical cancer. However, the level of awareness about the multiple sexual partners as a risk factor for cancer cervix was less known in students (19.70%) than urban women (26.27%). Both students (36.36%) and women (35.17%) were equally aware about the occurrence of cervical cancer by infection. The knowledge levels about the type of women getting cancer were poor in students (21.97%) compare to urban woman (50%).

Awareness about Symptoms of Cervical Cancer

The details of knowledge levels about symptoms and diagnosis of cervical cancer are presented in Table 2. Overall, 79.55% students and 74.15% of urban women did not know about symptomatology of cervical cancer. Only 22% in both groups know the age of occurrence of cervical cancer. About 42.42% of students and 51.27% of urban women knew about Pap test and said it would detect cancer. Only 12.88% of students and 15.25% of urban women were aware prevention of cervical cancer by vaccination.

Awareness about Vaccination

Knowledge about the vaccination and other preventive measures of students and women is presented in Table 3. Overall, 34.09% of students and 38.98% of women did not know about prevention of cervical cancer. Most of the students (61.36%) and urban women (52.97%) were not aware of the importance of Pap smear test for periodical investigation of cervical cancer. Largest proportion of students (61.36%) and of women (52.97%) did know the recommended age group for vaccination.

DISCUSSION

The data focuses on the importance of Indian population to know the seriousness, consequences and the sequel of cancer cervix.

From the results, only 59.75% of women were aware about the occurrence of cervical cancer compare to students (70.45%). Respondents (students, 37.88% and women, 34.32%) also believed that improper personal hygiene was a factor for cervical cancer development (Fig. 1). These referred to keeping the vaginal area clean, proper hygiene especially during menstruation and washing away the partner's semen after sexual intercourse. Poor knowledge and awareness of cervical cancer among women of different demographic and other characteristics has been reported from many countries.[11,13-15] The level of awareness about the risk factors for cancer cervix was less in students and urban women; smoking (1.52 *vs* 9.32%) and multiple sex partners (19.70 *vs* 26.27%). From the earlier studies, 13, 15 and 29% respectively could identify early onset of sexual intercourse, parity and cigarette smoking as risk factors of cervical cancer.[16] Low knowledge levels of public on etiologic involvement of STIs and HPV in cervical cancer was reported from earlier Asian studies.[17,18] Malaysian women aged 21 to 56 years could not identify any of these risk factors[15] and the college students in Ghana had very low (1%) awareness of the link between smoking and cervical cancer.[14]

Many students (79.55%) and urban women (74.15%) did not know about symptomatology of cervical cancer. Very few

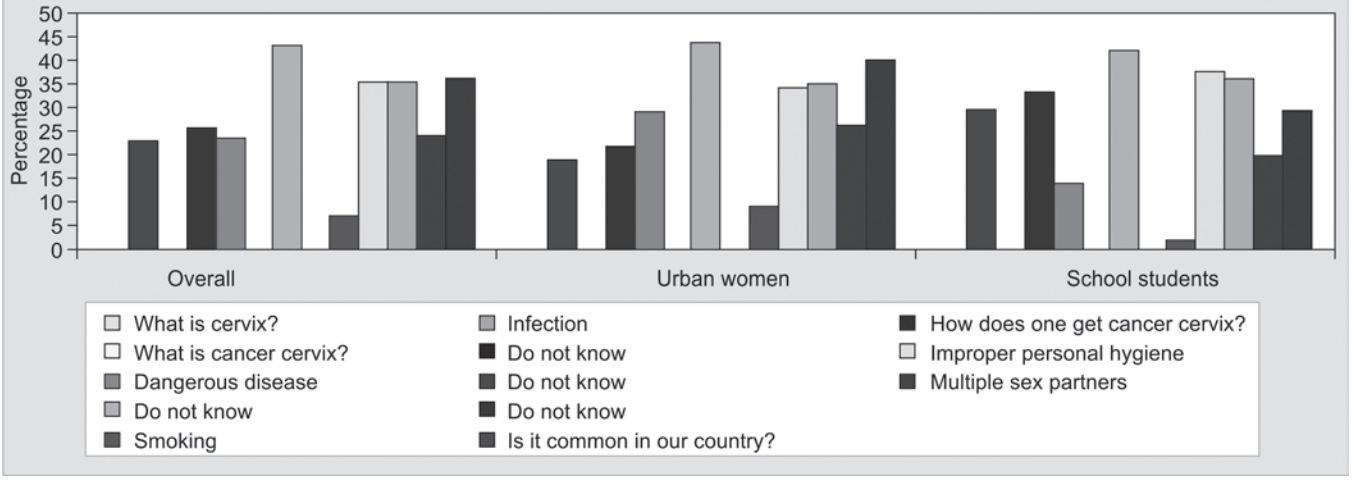

Fig. 1: Knowledge about cervical cancer

Table 1: Awareness about cervical cancer

Characteristics	*Overall*	*%*	*Urban*	*%*	*School*	*%*
What is cervix?						
Mouth of uterus	252	68.48	171	72.46	81	61.36
Part in the abdomen	17	4.62	11	4.66	6	4.55
Do not know	84	22.83	45	19.07	39	29.55
Uterus	14	3.80	8	3.39	6	4.55
What is cancer cervix?						
Infection of the cervix	180	48.91	114	48.31	66	50.00
Do not know	95	25.82	51	21.61	44	33.33
Ordinary disease	4	1.09	0	0.00	4	3.03
Dangerous disease	87	23.64	69	29.24	18	13.64
Is cancer cervix same as cancer uterus?						
Do not know	163	44.29	102	43.22	61	46.21
Yes	49	13.32	27	11.44	22	16.67
No	155	42.12	106	44.92	49	37.12
Is it common in our country?						
Do not know	160	43.48	104	44.07	56	42.42
Yes	168	45.65	107	45.34	61	46.21
No	39	10.60	24	10.17	15	11.36
How does one get cancer cervix?						
Early marriage						
Yes	12	3.26	10	4.24	2	1.52
No	356	96.74	226	95.76	130	98.48
Smoking						
Yes	24	6.52	22	9.32	2	1.52
No	344	93.48	214	90.68	130	98.48
Improper personal hygiene						
Yes	131	35.60	81	34.32	50	37.88
No	237	64.40	155	65.68	82	62.12
Hereditary						
Yes	19	5.16	9	3.81	10	7.58
No	349	94.84	227	96.19	122	92.42
Infection						
Yes	131	35.60	83	35.17	48	36.36
No	237	64.40	153	64.83	84	63.64
Multiple sex partners						
Yes	88	23.91	62	26.27	26	19.70
No	280	76.09	174	73.73	106	80.30
Do not know						
Yes	134	36.41	95	40.25	39	29.55
No	234	63.59	141	59.75	93	70.45
Cancer cervix occurs in which type of women?						
Rich						
Yes	12	3.26	4	1.69	8	6.06
No	356	96.74	230	97.46	126	95.45
Poor						
Yes	32	8.70	17	7.20	15	11.36
No	336	91.30	230	97.46	106	80.30
House wife						
Yes	53	14.40	33	13.98	20	15.15
No	315	85.60	203	86.02	112	84.85
Sex worker						
Yes	154	41.85	88	37.29	66	50.00
No	214	58.15	148	62.71	66	50.00
Any woman						
Yes	147	39.95	118	50.00	29	21.97
No	227	61.68	116	49.15	111	84.09

Table 2: Symptoms and diagnosis

Characteristics	*Overall*	*%*	*Urban*	*%*	*School*	*%*
A patient with cancer cervix may have						
No symptoms						
Yes	28	7.61	13	5.51	15	11.36
No	340	92.39	223	94.49	117	88.64
Profuse bleeding						
Yes	88	23.91	61	25.85	27	20.45
No	280	76.09	175	74.15	105	79.55
Kidney problems						
Yes	1	0.27	0	0.00	1	0.76
No	367	99.73	236	100.00	131	99.24
Which age group is likely to get cancer cervix?						
Any age group	116	31.52	82	34.75	34	25.76
Do not know	140	38.04	81	34.32	59	44.70
Menopause	29	7.88	19	8.05	10	7.58
Reproductive age group	82	22.28	53	22.46	29	21.97
How is cancer cervix detected?						
Blood test						
Yes	99	26.90	56	23.73	43	32.58
No	269	73.10	180	76.27	89	67.42
Pap test						
Yes	177	48.10	121	51.27	56	42.42
No	191	51.90	115	48.73	76	57.58
Scanning						
Yes	86	23.37	62	26.27	24	18.18
No	282	76.63	174	73.73	108	81.82
HPV testing						
Yes						
No	368	100.00	236	100.00	132	100.00
Can not be detected						
Yes	15	4.08	6	2.54	9	6.82
No	353	95.92	230	97.46	123	93.18
Can cancer cervix be prevented?						
Do not know	135	36.68	80	33.90	55	41.67
Yes	226	61.41	153	64.83	73	55.30
No	6	1.63	2	0.85	4	3.03
Can cancer cervix be cured fully?						
Only be controlled	74	20.11	38	16.10	36	27.27
Do not know	185	50.27	124	52.54	61	46.21
Yes	101	27.45	71	30.08	30	22.73
No	7	1.90	2	0.85	5	3.79
If yes to above question, how can it be prevented?						
Vaccine						
Yes	53	14.40	36	15.25	17	12.88
No	315	85.60	200	84.75	115	87.12
Pap smear						
Yes	16	4.35	7	2.97	9	6.82
No	352	95.65	229	97.03	123	93.18
Safe sex						
Yes	13	3.53	10	4.24	3	2.27
No	355	96.47	226	95.76	129	97.73
Do not know						
Yes	25	6.79	24	10.17	1	0.76
No	343	93.21	212	89.83	131	99.24

Table 3: Preventive measures

Characteristics	*Overall*	*%*	*Urban*	*%*	*School*	*%*
What do you think one should do to keep cancer cervix under control?						
Oral drugs						
Yes	6	1.63	6	2.54	0	0.00
No	362	98.37	230	97.46	132	100.00
Alternate medicines (herbs)						
Yes	4	1.09	1	0.42	3	2.27
No	364	98.91	235	99.58	129	97.73
Exercise						
Yes	10	2.72	7	2.97	3	2.27
No	358	97.28	229	97.03	129	97.73
Doctor's advice						
Yes	220	59.78	139	58.90	81	61.36
No	148	40.22	97	41.10	51	38.64
Do not know						
Yes	137	37.23	92	38.98	45	34.09
No	231	62.77	144	61.02	87	65.91
Are you aware of the importance of a Pap smear test which is a periodical investigation?						
Do not know	206	55.98	125	52.97	81	61.36
Yes	85	23.10	58	24.58	27	20.45
No	76	20.65	52	22.03	24	18.18
What is the recommended age group for taking the vaccine?						
Adolescence	26	7.07	11	4.66	15	11.36
Any age group	62	16.85	42	17.80	20	15.15
Do not know	200	54.35	124	52.54	76	57.58
Menopause	16	4.35	12	5.08	4	3.03
Reproductive age group	63	17.12	42	17.80	21	15.91
If the doctor suggests following treatment, what would be your first choice?						
Do not know	163	44.29	98	41.53	65	49.24
Hysterectomy	9	2.45	4	1.69	5	3.79
Oral drugs	13	3.53	11	4.66	2	1.52
Vaccination (3 doses)	182	49.46	122	51.69	60	45.45
What happens, if cancer cervix is not treated or controlled over a long period of time?						
Kidney problems						
Yes	4	1.09	1	0.42	3	2.27
No	364	98.91	235	99.58	129	97.73
No child bearing potential anymore						
Yes	37	10.05	27	11.44	10	7.58
No	331	89.95	209	88.56	122	92.42
Death						
Yes	151	41.03	104	44.07	47	35.61
No	217	58.97	132	55.93	85	64.39
I do not know						
Yes	177	48.10	105	44.49	72	54.55
No	191	51.90	131	55.51	60	45.45

respondents mentioned that cervical cancer was usually asymptomatic (5.51 *vs* 11.36%). Only 20.45% of students and 25.85% of women were able to correctly list other signs and symptoms of cervical cancer, such as profuse bleeding. Most women (48.73%) and students (57.58%) failed to realize that the Pap smear is a cervical screening procedure (Fig. 2). None,

however, understood the concept of precancerous lesions and cervical abnormalities. Neither did they know that the Pap smear can detect abnormal or precancerous cells and that early detection of such abnormalities could be treated easily and effectively.

Only 20% in both groups were aware that cancer cervix can be prevented by vaccination indicating the need for education right across all groups if mothers have to seek vaccination for their daughters in the younger age group. As a first choice of treatment, 45.45% students and 51.69% of women accepted vaccination. Surprisingly, 57.58% students and 52.54% women do not know about the recommended age groups for vaccination. Most of the respondents were ignorant about the consequences of the untreated cervical cancer (Fig. 3). As other studies have reported, there was a generally favorable attitude toward HPV vaccines; despite the low level of knowledge about the link between HPV and cervical cancer, 91 and 88% of women would agree to receive the vaccine in surveys that found that only 15 and 38%[19,20] respectively, had heard of HPV.

Despite advent of vaccines to prevent HPV and the impact of cervical cancer deaths, the outcome of the data recommends the HPV awareness in reproductive age women especially in developing countries, like India. The study focused on only girl students of schools in standard 12 and women of the city and conclusions of the present study could not be comprehensive to the larger Indian women population or to a population outside of the schools. Nonetheless, the selection of the study population, i.e. school girls *vs* urban women, could be the strength of the study, as they are the educated population and the key source of information carriers.

CONCLUSION

Attempts to educate parents/peers and students themselves would intensify the awareness and improve the usage of the HPV vaccines in the desired cohort.

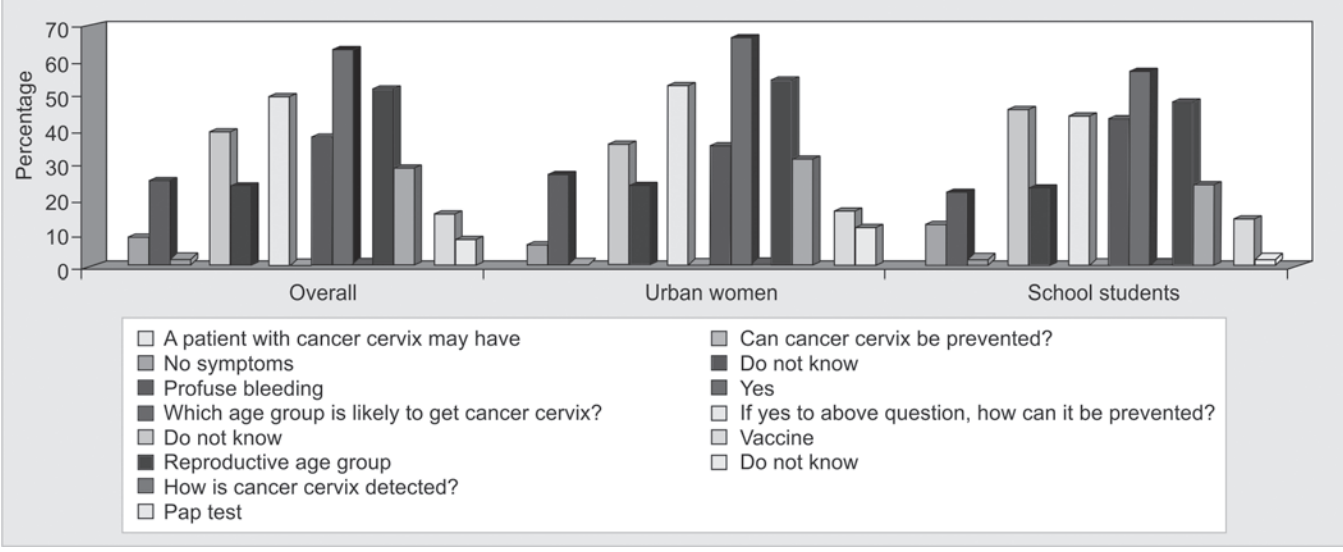

Fig. 2: Knowledge about symptoms of cervical cancer

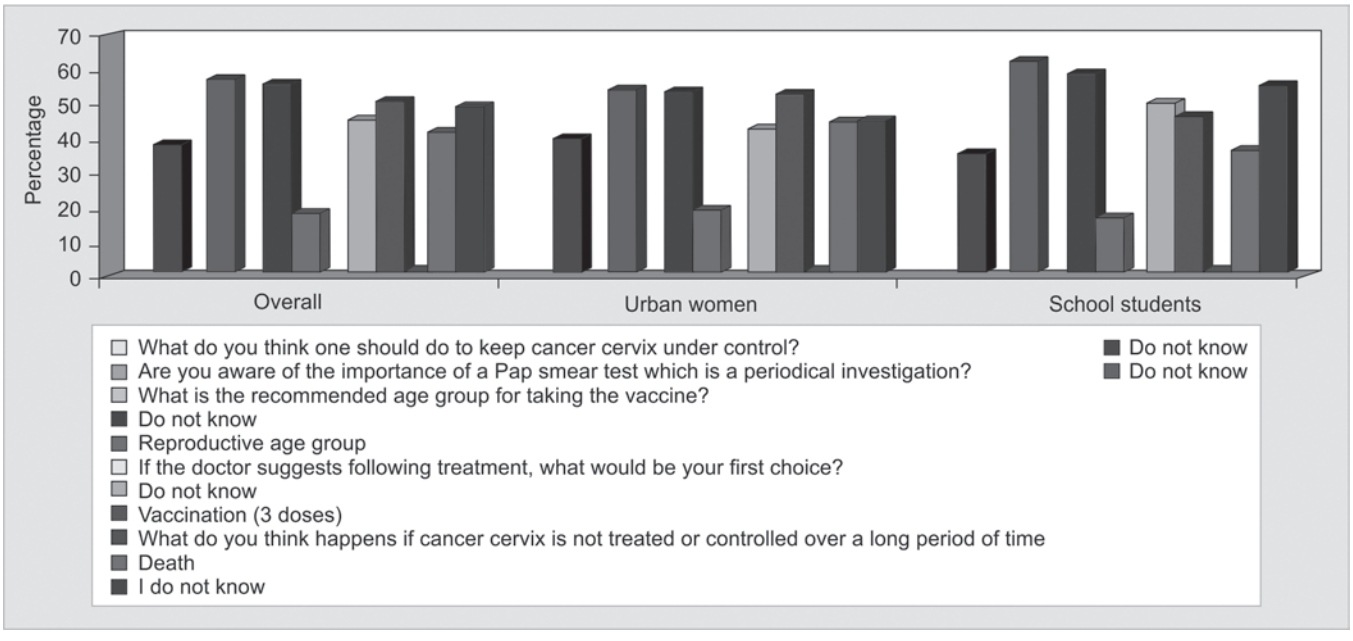

Fig. 3: Knowledge about vaccines/preventive measures

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