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Original Article

Knowledge, attitude, and practice regarding the screening of cervical cancer among women in New Delhi, India

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Abstract

Objective: Cervical cancer is one of the major concerns of public health importance in today's world. It is a leading cause of mortality in women of reproductive age group worldwide, mainly in developing countries. Reduction in mortality and morbidity due to cervical cancer is possible through early detection and treatment. The major factors influencing the early detection of cervical cancer are knowledge regarding risk factors, screening, Pap smear, and symptoms among women. **Materials and Methods:** The present cross-sectional study was carried out to assess the knowledge, attitude, and practice of women about the risk factors, symptoms, and prevention of cervical cancer. Data were obtained from 220 women who visited international trade fair using a pretested self-administered questionnaire. **Results:** Only 75 study women (50.0%) had ever heard of cervical cancer. The knowledge regarding cervical cancer and its various domains was significantly higher in students and unmarried women. The foul-smelling vaginal discharge was the most common early symptom of cervical cancer according to most of the study women (26, 17.3%). Most of the study women (19, 12.7%) reported tobacco and smoking as the most common risk factor associated with cervical cancer. Only 39 women (26%) had ever heard of cervical cancer screening. Only 27 women (18.0%) ever had Pap smear done in the past and 87 women (58.0%) were willing to undergo cervical cancer screening is offered free of cost. **Conclusion:** The study demonstrates the lack of awareness in women regarding cervical cancer and its screening modalities. This necessitates spreading awareness regarding early symptoms and risk factors associated with cervical cancer for early detection and treatment initiation.

Keywords: *Attitude, Cervical cancer, Knowledge, Screening*

Introduction

In the modern era, the world is heading toward the rising epidemic of noncommunicable diseases (NCDs). Out of these NCDs, cancer is the second leading cause of death globally. There were approximately 14.1 million new cancer cases and 8.2 million cancer deaths worldwide in 2012. Out of which, 8 million new cancer cases and 5.3 million cancer deaths occurred in economically developing countries [1]. The number of new cases is expected to rise by 70% over the next two decades [2]. At present, India is facing health transition. In addition to the unfinished agenda to control communicable diseases, nutritional deficiencies, there is an escalating epidemic of NCDs. In India, NCDs are estimated to account for 60% of total deaths including cancers accounting for 7% deaths [3].

Cervical cancer is the fourth most common cancer in women worldwide leading to the death of which 85% occur in low- and middle-income countries. In 2012, 528,000 new cervical cancer cases were diagnosed worldwide, of which 123,000 were diagnosed in India. Approximately 266,000 women died from this disease in 2012 worldwide, of which 67,000 died in India [4]. Most of the cervical cancer cases are found to be associated with carcinogenic human papillomavirus (HPV) infection. The other factors involved in the occurrence of cervical cancer include promiscuous sexual habits, reproductive factors such as genital hygiene, early menarche, the interval between menarche and first sexual intercourse, early age at marriage, high parity, other sexually-transmitted infection, and smoking. The peak age of infection with HPV infection is in women after initiation of sexual activity in their 20s. Early invasive cervical cancer typically occurs after 10 years of persistent HPV infection.

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Women remain asymptomatic for many years after acquiring HPV infection, but the pathological changes during this long interval can be detected by various screening methods, i.e., Pap smear. Thus, it is possible to decrease morbidity and mortality associated with cervical cancer by diagnosing and treating it at precancerous stages.

Knowledge regarding various signs, symptoms, and risk factors associated with cervical cancer influences health-seeking behavior. Moreover, with their knowledge and positive attitude toward cervical cancer vaccine, the risk of getting HPV infection may be further reduced. This study was done with the objectives to study the knowledge of women about the symptoms, risk factors, prevention, and early diagnosis of cervical cancer and to assess the attitude and practice of women toward cervical cancer.

Materials and methods

This cross-sectional study was conducted at an international health fair in New Delhi. The general public attending the fair were provided health-promoting services in the form of free health check-up, feasible-free laboratory investigations, and health education in addition to various cultural programs for school children, college students, and the general public. The study was conducted in accordance with the Declaration of Helsinki and was approved by the Local Ethics Committee of the institute. Informed written consent was waived because the study was a retrospective data analysis.

Women aged 18 years or more who consented were included in the study through consecutive sampling. Women with diagnosis or having a history of cervical cancer in the past were excluded from the study. A predesigned pretested self-administered questionnaire was used to assess the knowledge of cervical cancer regarding symptoms, risk factors, screening methods, and vaccination; and attitude toward cervical cancer patients and screening tests. The questionnaire was developed in English and later on translated in Hindi (national language) understandable by the participants. It was pretested in 30 adult women in Delhi Gate urban health center in New Delhi.

The study participants reply to each questionnaire item related to knowledge about cervical cancer was allocated a score of 1 for every correct response. The cumulative scores were calculated for every study participant for cervical cancer knowledge. The knowledge score was ranging from 0 to 19. The sample size for the study was calculated using Epi-info Version 7, Centers for Disease Control and Prevention (CDC), Georgia, Atlanta, USA which was based on a previous study done by Bansal [5] in which 15.1% of participants were aware of cervical cancer screening. The sample size at 95% confidence levels, and 5% margin of error was calculated to be 196. Taking into account, 10% nonresponse, the final sample size was estimated to be 216. Data were entered in Excel sheet. Statistical analysis was performed using SPSS version 20 (IBM, Armonk, NY, USA). Data were expressed in frequency and proportion for categorical variables while quantitative variables were expressed in terms of mean and standard deviation. The presence of a statistically significant difference between knowledge score in terms of their sociodemographic categories was ascertained using the Mann–Whitney test and Kruskal–Wallis test for non-normally distributed data.

Results

A total of 220 women were approached for this study and 150 women out of 220 women were willing to participate in the study. The mean age of women participated in the study was 35.87 ± 12.11 years (ranging from 19 years to 70 years). One hundred and thirty women (86.7%) were Hindu, 7 (4.7%) were Muslim, 5 (3.3%) were Christian, and 8 (5.3%) were Sikh. Most of the participants had completed 15 years of education (100, 66.7%) followed by 10 years of education (35, 23.3%) and only 5 women (3.3%) were illiterate. Students comprised 14.7% (22), homemakers 48.0% (72), and skilled professionals 37.3% (56) of the study participants. Majority of study participants were married (79.3%, 119). Forty study participants (26.7%) were married at the age of ≤20 years. Four women (2.7%) reported a family history of cervical cancer. Out of a total of 150 participants, only 75 women (50.0%) had ever heard of cervical cancer. The mean knowledge score of the study participants was 3.21 ± 3.75. The knowledge score was significantly higher in students and unmarried women [Table 1].

Knowledge about cervical cancer among study participants is shown in Table 2. Knowledge of cervical cancer was measured under the domains of symptoms, risk factors,

Table 1: Distribution of cervical cancer knowledge scores in subjects

Sociodemographic factor	Number of subjects, *n* (%)	Average knowledge score (0-19)	*P*
Age (years)			
≤30	56 (37.3)	4.30±4.771	0.111[a]
>30	94 (62.7)	2.55±2.819	
Religion			
Hindu	130 (86.7)	3.24±3.803	0.108[b]
Muslim	7 (4.7)	2±1.826	
Sikh	5 (3.3)	6.80±5.167	
Christian	8 (5.3)	1.50±1.069	
Literacy level			
10th	27 (18.0)	2±1.544	0.100[b]
12th	21 (14.0)	4.86±4.881	
15 or higher	102 (68.0)	3.19±3.807	
Occupation			
Homemaker	72 (48.0)	2.10±1.594	0.008[b]
Skilled professional	56 (37.3)	3.13±3.537	
Student	22 (14.7)	7.05±6.237	
Marital status			
Unmarried	31 (20.7)	5.94±5.645	0.001[a]
Married	119 (79.3)	2.50±2.687	
Age at marriage (years)			
≤20	40 (26.7)	2.47±2.935	0.874[a]
>20	79 (52.7)	2.51±2.571	
History of cervical cancer in family			
Present	4 (2.7)	1.50±0.577	0.530[a]
Absent	146 (97.3)	3.25±3.793	

[a]Mann-Whitney test, [b]Kruskal–Wallis test

and cervical cancer screening. The most common symptom answered by the study participants was foul-smelling vaginal discharge (26, 17.3%), followed by bleeding in between periods and periods heavier and of longer duration (25, 16.7%), bleeding after intercourse (13, 8.7%), and postmenopausal bleeding (11, 7.3%). The most common risk factor was tobacco and smoking (19, 12.7%), followed by HPV infection (17, 11.3%), multiple sexual partners (16, 10.7%), prolonged use of birth control (15, 10.0%), history of sexually-transmitted diseases (14, 9.3%), poor menstrual hygiene (12, 8.0%), coitus at early age (10, 6.7%), and multiple (>5) pregnancy (7, 4.7%). Only 35 women (23.3%) ever heard of cervical cancer screening, and 39 women (26.0%) ever heard of Pap smear, but not all of them knew that Pap smear is a tool for cervical cancer screening. According to 13 (8.7%) women, Pap smear should be started at the age of <21 years, >21 years (17, 11.3%) and after 3 years of sexual exposure (9, 6.0%). When asked about frequency of Pap smear 21 (14.0%) said that Pap smear should be done in 1 year, 2 years (2, 1.3%), and 3 years (1, 0.7%). Out of a total of 150 participants, only 27 women (18.0%) ever had Pap smear done in the past. Only 18 women (12.0%) were aware of cervical cancer vaccination, but only 6 women (4.0%) knew the correct age for HPV vaccination.

The attitude of participants toward cervical cancer is shown in [Table 3]. According to 88 (58.7%) women, intermenstrual bleeding should not be considered as normal. 83 (55.3%) women said that a woman should not bear her first child by the age of 20 years. 91 (60.7%) women were in favor of women not bearing 5 or more children to increase family strength. 76 women (50.7%) realized the importance of gynecological examination at least every 3 years. Eighty (53.3%) women would not keep a distance from a neighborhood female suffering from cervical cancer. Eighty-seven women (58.0%) were willing to be screened for cervical cancer if offered a free cervical cancer screening.

Table 2: Knowledge about cervical cancer (*n*=150)

	n (%)
Knowledge about symptoms	
Bleeding in between periods	25 (16.7)
Foul smelling vaginal discharge	26 (17.3)
Postmenopausal bleeding	11 (7.3)
Periods heavier and of longer duration	25 (16.7)
Bleeding after intercourse	13 (8.7)
Knowledge about risk factors	
HPV infection	17 (11.3)
Multiple sexual partners	16 (10.7)
Coitus at early age	10 (6.7)
Tobacco and smoking	19 (12.7)
History of STD	14 (9.3)
Poor menstrual hygiene	12 (8.0)
Prolonged use of birth controlled (>5 years)	15 (10.0)
Multiple pregnancy (>5)	7 (4.7)
Knowledge about cervical cancer screening	
Heard of cervical cancer screening	35 (23.3)
Ever heard of Pap smear test	39 (26.0)
Pap smear should be started at age	
<21 years	13 (8.7)
>21 years	17 (11.3)
After 3 years of sexual exposure	9 (6.0)
Pap smear frequency	
Every years	21 (14.0)
Every 2 years	2 (1.3)
Every 3 years	1 (0.7)
Vaccine available for cervical cancer	18 (12.0)
Age for HPV vaccination	
<5 years	2 (1.3)
5-10 years	0
10-26 years	6 (4.0)
Immediately after marriage	7 (4.7)

HPV: Human papilloma virus, STD: Sexually transmitted disease

Table 3: Attitude towards cervical cancer

Statements	*n* (%)
Intermenstrual bleed should not be considered as normal	88 (58.7)
A woman should not bear her first child by the age of 20 years	83 (55.3)
Women should not bear 5 or more children to increase family strength	91 (60.7)
Women should get an internal examination done by a gynecologist at least once in 3 years	76 (50.7)
If any lady in the neighborhood is suffering from cervical cancer, you would not keep distance from her	80 (53.3)
If you were offered a free cervical cancer screening you would be willing to be screened	87 (58)

Discussion

Awareness about cervical cancer screening can improve women's approach leading to an increased rate of early diagnosis and treatment of cervical cancer. Treatment started at an early stage of cervical cancer is more cost-effective which can help in reducing the overall morbidity and mortality associated with cervical cancer. The deficit in awareness regarding screening leads to delayed reporting and high mortality. The present study was conducted in 150 adult women in New Delhi to assess the knowledge and attitude of cervical cancer screening among them. Out of 150 study participants, 75 (50%) women had heard of cervical cancer. This proportion was much higher as compared to the proportion found in previous studies [6-8]. This may be due to an increase in health promotion activities conducted by Government of India in the past few years, and the study population was residing in urban areas. In this regard, the National Program for Prevention and Control of Cancer, Diabetes, CVD, and Stroke has been launched in 2010 to decrease mortality associated with NCDs. Despite having knowledge about cervical cancer, the awareness regarding symptoms and risk factors was low in study participants.

In the present study, 35 women (23.3%) had heard of cervical cancer screening. Thirty-nine (26%) women knew about the Pap smear test. This is lower as compared to studies done in Kuwait [9], Singapore [10], Vietnamese-American women [11], the United Kingdom [12], and Kenya [13]. This difference may be due to different study population or differences in the level and method of health promotion to create awareness about Pap smear screening. In addition to similar studies done in India, the present study shows that despite being an effective tool

of cervical cancer control, Pap smear is underutilized [14-18]. Availability of Pap smear for early detection of cervical cancer is not sufficient for control of cervical cancer. The awareness and adequate utilization of screening services by target population determine the impact of health promotion in decreasing morbidity and mortality of cervical cancer. Promotion of Pap smear screening in the healthcare sector may provide an important opportunity for the intervention of cervical cancer.

In the cross-sectional study conducted by Varughese *et al*. in Ludhiana, India, of the 304 women interviewed 28.9% (88) had heard of cervical cancer and only 4.3% (13) of the women had heard about Pap smear [6]. This could be due to the increase in the use of Pap smear for cervical cancer screening in the recent past. Despite this increase of Pap smear usage, there is a need to spread awareness regarding Pap smear and cervical cancer screening among women. Dissemination of information through mass media campaigns and leaflets may help in increasing health-seeking behavior of the women for cervical cancer screening. In the present study, 87 women (58%) women were willing to be screened if offered a free cervical cancer screening test, but only 27 (18%) women had ever had Pap smear done in the past. This difference can be minimized by providing Pap smear or other appropriate cervical cancer screening tests at the level of primary health care. The study findings suggest further need to create awareness regarding vaccination available and screening for cervical cancer among women.

Conclusion

The present study demonstrates that there is a lack of awareness among women regarding cervical cancer risk factors, symptoms, signs, screening methods in developing countries like India. There is need of appropriate interventions to create awareness among reproductive age group women for early diagnosis and treatment to reduce incidence and cost of late stage cervical cancer.

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Conflicts of interest

There are no conflicts of interest.

References

1. Available from: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/global-cancer-facts-and-figures/global-cancer-facts-and-figures-3rd-edition.pdf. [Last accessed on 2017 Aug 15].
2. Available from: http://www.who.int/mediacentre/factsheets/fs297/en/. [Last accessed on 2017 Aug 15].
3. World Health Organization. Non-communicable Diseases (NCD) Country Profiles. World Health Organization; 2014. p. 91.
4. International Agency for Research on Cancer. Cervical Cancer Estimated Incidence, Mortality and Prevalence Worldwide in 2012. International Agency for Research on Cancer; 2012. Available from: Globocan.iarc.fr/old/factsheets/cancers/cervix-new.asp. [Last accessed on 2017 Mar 22].
5. Bansal AB, Pakhare AP, Kapoor N, Mehrotra R, Kokane AM. Knowledge, attitude, and practices related to cervical cancer among adult women: A hospital-based cross-sectional study. J Nat Sci Biol Med 2015;6:324-8.
6. Varughese NR, Samuel CJ, Dabas P. Knowledge and practices of cervical cancer screening among married women in a semi-urban population of Ludhiana, Punjab. CHRISMED J Health Res 2016;3:51-4.
7. Roy B, Tang TS. Cervical cancer screening in Kolkata, India: Beliefs and predictors of cervical cancer screening among women attending a women's health clinic in Kolkata, India. J Cancer Educ 2008;23:253-9.
8. Singh M, Ranjan R, Das B, Gupta K. Knowledge, attitude and practice of cervical cancer screening in women visiting a tertiary care hospital of Delhi. Indian J Cancer 2014;51:319-23.
9. Al Sairafi M, Mohamed FA. Knowledge, attitudes, and practice related to cervical cancer screening among Kuwaiti women. Med Princ Pract 2009;18:35-42.
10. Seow A, Wong ML, Smith WC, Lee HP. Beliefs and attitudes as determinants of cervical cancer screening: A community-based study in Singapore. Prev Med 1995;24:134-41.
11. Nguyen TT, McPhee SJ, Nguyen T, Lam T, Mock J. Predictors of cervical pap smear screening awareness, intention, and receipt among Vietnamese-American women. Am J Prev Med 2002;23:207-14.
12. Yu CK, Rymer J. Women's attitudes to and awareness of smear testing and cervical cancer. Br J Fam Plann 1998;23:127-33.
13. Gichangi P, Estambale B, Bwayo J, Rogo K, Ojwang S, Opiyo A, et al. Knowledge and practice about cervical cancer and pap smear testing among patients at Kenyatta national hospital, Nairobi, Kenya. Int J Gynecol Cancer 2003;13:827-33.
14. Bailie R, Petrie K. Women's attitudes to cervical smear testing. N Z Med J 1990;103:293-5.
15. Basu P, Sarkar S, Mukherjee S, Ghoshal M, Mittal S, Biswas S, et al. Women's perceptions and social barriers determine compliance to cervical screening: Results from a population based study in India. Cancer Detect Prev 2006;30:369-74.
16. Singh E, Seth S, Rani V, Srivastava DK. Awareness of cervical cancer screening among nursing staff in a tertiary institution of rural India. J Gynecol Oncol 2012;23:141-6.
17. Aswathy S, Quereshi MA, Kurian B, Leelamoni K. Cervical cancer screening: Current knowledge and practice among women in a rural population of Kerala, India. Indian J Med Res 2012;136:205-10.
18. Anantharaman VV, Sudarshini S, Chitra A. A cross-sectional study on knowledge, attitude, and practice on cervical cancer and screening among female health care providers of Chennai corporation, 2013. J Acad Med Sci 2012;2:124-8.