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A study on Knowledge, Awareness and Prevention of Cervical Cancer among Women attending Outpatient department of a Teaching Hospital in North India

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Abstract

Background: Cervical cancer is one of the most prevalent malignant neoplasms among women in developing countries affecting mainly in fifth to sixth decade of life. In the Indian subcontinent**, it** has got an overall incidence of 1, 32,000 new cases per year and 74000 deaths take place due to this disease each year. The burden of this disease can be reduced by screening women for precancerous lesions and by administration of Human Papillomavirus vaccine to adolescent girls. Unlike developed countries, cervical cancer prevention programmes have failed to meet their objectives in developing countries due to financial, social and logistical problems

Objectives: The current study aims to assess the knowledge and awareness of cervical cancer and its prevention in women attending a private medical college in Lucknow and the socio-demographic factors associated with accessing the screening services.

Study Design: **A** cross-sectional survey was conducted on women attending OPD of Gynecology Department of Era's Lucknow Medical College. The questionnaire was designed based on cervical cancer awareness measure toolkit version 2.1.It is based on a generic CAM (cancer Awareness Measure) developed by Cancer Research UK, University College London, King's College London and Oxford University in 2007-08.

Results: About half of the study population (122, 51.9%) knew about cervical cancer. About 35.3% of the population knew about screening services for prevention of cervical cancer, and majority (220, 93.6%) was not aware of vaccination as prevention for cervical cancer. From this study we conclude that our study population has a very poor knowledge of cervical cancer, its screening and its prevention. If the situation is so grave in urban area, the conditions in rural areas are unimaginable.

Conclusion: Therefore a lot needs to be done to educate the general population about the warning signs of cervical cancer, about HPV vaccine and various screening methods.

Keywords: Cervical Cancer, Human Papilloma Virus, Cervical Cancer Screening, Cervical Cancer Awareness, Human Papilloma Virus Vaccine

Introduction

Cervical cancer is the fourth most common cancer in women worldwide and second most common cancer in women living in less developed regions. World Health Organization (WHO) estimated 530000 new cases of cervical cancer globally (estimations for 2012), with approximately 270000 deaths (representing 7.5% of all female cancer deaths) [1]. More than 85% of these deaths

occurred in low and middle income countries. The highest estimated incidence rates for cervical cancer are in sub-Saharan Africa, Melanesia, Latin America and the Caribbean, south-central Asia and south-east Asia [2]. India has a population of 436.76 million women aged 15 years and older who are at risk of developing cervical cancer. Every year 122844 women are diagnosed with cervical cancer and 67477 die from the disease (estimations for 2012) [1]. In India cervical cancer is the second most common cancer among women and also the second most common cancer among women between 15 and 44 years of age.

Nearly all cases of cervical cancer can be attributable to Human papillomavirus (HPV) infection. HPV is a group of viruses and one of the causative agents in the sexually transmitted infections (STIs) in men and women with and without clinical lesions. HPV types (16 and 18) cause 70% of cervical cancers and precancerous cervical lesions worldwide [3]. Based on Indian studies about 82.7% of invasive cervical cancers showed the presence of HPVs 16 or 18 (Systematic reviews and meta-analyses of the literatures by ICO HPV Information Centre)[4].Other epidemiological risk factors for cervical cancer are early age at marriage, multiple sexual partners, multiple pregnancies, poor genital hygiene, malnutrition, use of oral contraceptives, and lack of awareness. India also has the highest (age standardized) incidence rate as 22 (per 100,000 women per year) of cervical cancer in South Asia (estimations for 2012), compared to 19.2 in Bangladesh, 13 in Sri Lanka, and 2.8 in Iran [1]. Cervical cancer can be prevented by vaccinating all young females against the HPVs and by screening and treating precancerous lesions in women. In addition if cervical cancer is detected early and treated in earlier stages it can be cured.

Screening for precancerous lesions reduces the incidence and mortality from cancer cervix. Although cytology based screening program using Pap smears have been found to be effective in developed countries [5] alternative screening methods which can be more effective in the low resource setting are VIA or VILI [6].

Unlike developed countries, cervical cancer prevention programmes have failed to meet their objectives in developing countries due to financial, social and logistical problems [7, 8]. The current study aims to assess the knowledge and awareness of cervical cancer and its prevention in women attending a private medical college in Lucknow and the socio-demographic factors associated with accessing the screening services.

Material and Methods

This cross sectional study was conducted in Era's Lucknow Medical College and Hospital, Lucknow. For the purpose of sample size calculation statistical software open Epi: 2.3 version was used. At 95% confidence level, 80% power and relative precision of 4.5% the required sample size was 235. Four hundred women attending the Gynecology department were recruited over three months from March 2017 to May 2017. With monthly turnover of 1500 patients, two days were randomly chosen in a week. Employing systemic random sampling every fifth patient attending the Gynecology department was included in the study. Known cases of cervical cancer and women who had undergone hysterectomy were excluded from the study. Informed consent was taken and the women were interviewed using structured questionnaire. Blinding of the subjects was not required as no intervention was made and it was a cross-sectional study. The study protocol was approved by the Institutional ethical committee.

The questionnaire was designed based on cervical cancer awareness measure toolkit version 2.1.It is based on a generic CAM (cancer Awareness Measure) developed by Cancer Research UK, University College London, King's College London and Oxford University in 2007-08. [10].

We pretested it on a sample of 30 women and modified it accordingly for use in our study .It consisted of 4 parts: Socio demographic information, knowledge about cervical cancer, awareness about preventive measures for cervical cancer, participation and barriers to attending screening services. The section on knowledge about cervical cancer included questions about risk factor and symptoms of cervical cancer. Correct answer was given 1 point and the total score for this section was 11 for risk factor and 11 for symptoms of cervical cancer. A score of <4 was considered as some knowledge of cervical cancer and ≥4 as good knowledge of cervical cancer. Their awareness about primary and secondary preventive measures for cervical cancer was assessed. Women's participation in screening services was enquired and those who had never attended screening services were enquired about the likely reasons for not utilizing them. After interview the women were given health education regarding cancer cervix and willing participants were screened with Pap smear.

Statistical Analysis

Statistical analysis was performed using SPSS version 17. Frequencies and percentages were calculated and Chi-square was applied to find out the significance of socio-demographic variables on awareness and practice of cervical cancer screening. P-value < 0.05 was considered significant.

Results

The mean age of women in the study population was 27.57 years. Less than half of the study population was aware of cervical cancer [Table/Fig-1] and only one-third of the women had knowledge about its risk factors and symptoms [Table/Fig-2]. Smoking cigarettes (16.1%), long term use of oral contraceptive pill (4.2%), poor genital hygiene (41.7%), having a sexual partner with multiple partners (42.5%) were considered the major risk factors for cervical cancer. Of the symptoms of cervical cancer, bleeding during or after sex (11.9%), vaginal bleeding after menopause (9.7%), pain during sex (8.9%) and persistent low back pain (11%) were considered more frequently by the women. Only 7.3% of the women considered themselves at risk of cervical cancer. Lack of awareness (329, 82.25%) and absence of symptoms (45, 11.25%) were the main reason given by women for not undergoing screening.

Discussion

Our study throws light on the socio-demographic variation in the knowledge and awareness of prevention and control of cervical cancer in a developing country. Our study showed that 44.5% of the women were aware of cervical cancer and 35.3% were aware of screening where as in a study conducted in rural population of Kerala, almost three-fourth of the study population was aware of cervical cancer and it's screening [9]. This could be probably explained by the difference in the education status of study population in the two studies. In our study, better education and occupation was found to have significant impact on the awareness of screening which is consistent with findings in studies done in Wufeng County, China [11, 12]. Similar association was reported by Obeichina and Mbamara in Onitsha, southeast Nigeria [13]. This is probably because of the poor utilization of the screening services by the women, that significant difference could not be made out. But another study conducted among women in a rural district of Tanzania reported 22.6% of their women to have had cervical cancer screening awareness [14].

Age of the women as well as distance to health facility did not have significant effect on utilization of screening services in our study unlike other studies where younger and better educated women were willing to undergo screening [11]. Tanzania study identified that women's

knowledge about cervical cancer, accessibility to screening facility and husband's approval influenced their screening status [14].

Lack of awareness about screening services, no symptoms and fear of procedure were the reason given by our women for not undergoing screening which is similar to the Kerala study [11]. Few among our study population, 6.38% knew about HPV vaccination. In a study conducted in China, 22.1% and 13.3% of the study population had heard of HPV and HPV vaccine respectively [15].

The knowledge level about cervical cancer was low among the participants inspite of the introduction of National Cancer Control Programme (NCCP) in India. This is probably because the primary health care facilities are often over burdened and under resourced [16]. Due to limited resources VIA is being offered to women for screening between 30-69 years of age even though cytology is considered a better screening tool [17]. Also the high incidence of cervical cancer can be reduced with introduction of national HPV vaccination programme but for the high cost of the vaccines which is not feasible in our country without external help [18].

In summary, our study population shows poor knowledge about cervical cancer and is unaware of the concept of prevention. If the women had full information on cervical cancer and its prevention and understood the importance of screening their response to NCCP will be better. Hence, extensive health education to the public is needed regarding cervical cancer.

This study has some limitations and measurement bias. It was a cross sectional study conducted among women attending a tertiary care hospital from nearby rural areas and so it is not representative of any particular rural area. The women were of low income and less educated group and so the results may not be generalized to all women, particularly those in urban areas. The method of interviewing rather than self administered questionnaire may have influenced the results as some of the questions were close ended and some women may have responded in a positive manner to present themselves as knowledgeable.

Though cervical cancer is the leading cancer among women in North India, our study has shown that they are ignorant about this completely preventable disease. Hence, extensive health education to the public is needed to improve their knowledge with an emphasis on the fact that both vaccination and screening are the new standards for prevention of cervical cancer, as HPV vaccination prevents most of the cervical cancer and screening can detect precancerous lesions which can be mitigated by treatment. Also utilization of the services of media like television, newspaper and radio can have massive impact in improving the knowledge.

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Table 1: Awareness of cervical Cancer and its prevention in study population

Factors	Yes	No
Cervical Cancer	112(51.9%)	113(48%)
Pap smear	83(35.3%)	152(64.6%)
Vaccination	15(6.38%)	220(93.6%)

The above table shows that about 51.9% of the study population had knowledge of cervical cancer but only 6.38% were aware that vaccines are available for its prevention.

Table 2: Knowledge about cervical cancer risk factors in study population.

Factors	Yes	No
Smoking	38(16.17%)	197(83.8%)
OCP Use	10(4.25%)	225(95.74%)
Poor genital hygiene	98(41.7%)	137(58.29%)
Multiple Sexual partners	100(42.55%)	135(57.44%)

The above table shows that only 16.17% and 4.25% knew that smoking and oral contraceptive use respectively are important risk factors for the development of cervical cancer. Poor genital hygiene and multiple sexual partners were considered by many to be an important contributory factor for carcinoma cervix.

Table 3: Knowledge of Symptoms of cervical cancer in study population

Factors	Yes	No
Post coital Bleeding	28(11.91%)	207(88.08%)
Post Menopausal Bleeding	23(9.78%)	212(90.21%)
Dyspareunia	21(8.93%)	214(91.06%)
Persistent Low Back pain	26(11.06%)	209(88.93%)

88.08% people did not know that Post coital bleeding was an important symptom of cervical cancer. The knowledge of other risk factors was also very poor among the study population.

Table 4: Association of socio-demographic factors with awareness & practice of cervical Cancer screening.

Socio-demographic variables	Total no	Aware of screening			Practice of screening		
	N	Yes(n)%	No(n)%	P-value	Yes(n)%	No(n)%	p-value
1) Age							
18-35yrs	213	80(37.5%)	133(62.4%)	**0.025**	15(7.04%)	198(92.9%)	0.198
36-60yrs	22	3(13.6)%	19(86.3%)		0	22(100%)	
2)Education							
Nil	55	5(9%)	50(91%)		0	55(100%)	
Primary	28	5(17.8%)	23(82.2%)	**<0.001**	0	28(100%)	<0.001
Secondary	91	27(29.6%)	64(70.3%)		3(3.2%)	88(96.7%)	
Graduate	44	26(59%)	18(40.9%)		11(25%)	33	
3)occupation							<0.001
Housewife	188	48(25.5%)	140(74.5%)		0	188(100%)	
Teacher	16	11(68.7%)	5(30.2%)	**<0.001**	3(18.7%)	13(81.2%)	
Student	31	20(64.5%)	11(35.4%)		9(29%)	22(70.9%)	

Our study population comprised females mainly in the age group of 18-35 years. Among these only 37.5% were aware of screening methods and 7.04% had undergone any screening during their lifetime. Education was an important factor in determining the knowledge and awareness. Only 5% of the illiterate populations were aware of cervical cancer