



A PROSPECTIVE STUDY OF THE RISK FACTORS OF CERVICAL NEOPLASIA IN PATIENTS ATTENDING THE GYNAECOLOGY AND CANCER OPD OF NSCB MEDICAL COLLEGE, JABALPUR

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ABSTRACT

Objective: Cervical cancer is fourth most common malignancies diagnosed among women. The present study aims to assess the risk factors for cervical cancer in women presenting to Gynaecology and Cancer OPD of NSCB Medical College Jabalpur. **Methods:** The current study was an observational study. In total, 215 women who satisfied the inclusion criteria were included in the study. Questions were developed to assess the risk factors of cervical cancer among the participants. An interview was conducted with the participants were performed questions were asked to them to assess the risk factors. **Results:** There was significant association of cervical cancer with education, place of residence, young age at marriage, washing the genitalia after sexual intercourse. **Conclusions:** This study aimed to assess the risk factors of cervical cancer and the stage at presentation. With prior knowledge of risk factors, cervical cancer can be identified in early stage and hence identification of high-risk populations and starting early screening can be effective in early recognition and treatment of cervical cancer.

KEYWORDS

Cervical Cancer, Human Papilloma Virus, Risk Factors, Sexual Transmitted Disease, Women

INTRODUCTION

Cervical cancer is the fourth most diagnosed cancer and the fourth leading cause of cancer death in women worldwide. Globally, the estimated age standardized incidence rate of cervical cancer was 13.1 per 100,000 women and varied among countries.¹

In India, prevalence of cervical cancer is 13-24 lakh cases per year and 75% are in advanced stage.² Over the past decades, incidence and mortality of cervical cancer has declined in most region but large geographic variation in morbidity and mortality rates are observed.³ In populous country such as India 60,000 women die from cervical cancer annually, accounting for nearly one third of all cervical cancer deaths globally.⁴

Without comprehensive control, rates of cervical cancer incidence and mortality are expected to worsen. In 2020, the World Health Organisation adopted the global strategy to eliminate cervical cancer to the threshold of four cases per 100,000 women using triple pillar intervention strategy comprising 90% of girls fully vaccinated by the age of 15 years, 70% of women screened by the age of 35 years, and 90% women with precancer will be treated and 90% of women with invasive cancer should be managed.⁵

Cervical cancer has two main histological types that is squamous cell carcinoma and adenocarcinoma. Several studies have shown that these histologies share common risk factors.⁶ The known risk factors for developing cervical cancer are HPV infection, early age of marriage, smoking, young age of coitarche, multiple sexual partners, and multiple childbirths.

HPV infection is the major causative factor of carcinoma of the cervix. HPV types sixteen, eighteen, thirty one, thirty three, and forty five are mostly related with invasive carcinoma of the cervix.⁷ Cervical cancer is preventable and curable in the early stages, but women lack knowledge regarding risk factors and screening for cervical cancer. Poor women and women of low socioeconomic group do not undergo screening for cervical cancer.

Poor and uneducated women lack awareness of these health services, while some ignore the symptoms. Thus, they are not screened or treated adequately for cervical cancer. Therefore, there is a need to raise public awareness regarding risk factors and prevention of cervical cancer. A review of literature has found that there are insufficient data regarding the risk factors of cervical cancer in Indian settings, which leads to lack of public awareness about its prevention and early detection.⁸

Henceforth, we decided to perform this study with the objective of identifying the risk factors of cervical neoplasia in patient presenting to the Gynaecology and cancer OPD of NSCB medical college, jabalpur. We also evaluated the stage at which these patients presented to us.

METHODS

This was a prospective observational study conducted in the Department of Obstetrics and Gynaecology and cancer OPD at N.S.C.B Medical College, Jabalpur. A total number of 215 subject who came with various stage of presentation of carcinoma cervix were included in the study.

Duration Of Study

1st March 2021 to 31st August 2022.

Sample Size

215 Subjects of carcinoma cervix attending Gynaecology and Cancer OPD of NSCB Medical College, Jabalpur, from 1st March 2021 to 31st August 2022, were included in the study

Sample size was estimated using the formula for simple random sampling for infinite population.

Inclusion Criteria

- All cases of carcinoma cervix attending Gynaecology and Cancer OPD of NSCB Medical College, Jabalpur, were recruited to study
- All biopsy proven cases of cervical cancer.

Exclusion Criteria

- All cases other than carcinoma cervix.

Tool For Data Collection

The interview consisted of a sequence of questions for collecting information about a particular topic from respondents. Questions were asked in Hindi and included Socio-demographic proforma, personal history, menstrual history, sexual and reproductive health history.

Procedure Of Data Collection

A Prospective observational study in which all subjects attending gynaecology and cancer OPD of NSCB medical college, jabalpur with diagnosed carcinoma cervix and biopsy result, fulfilling the inclusion and exclusion criteria were selected. Subjects were explained high risk related to disease and were counselled for participation in study and informed consent were taken. Face to face interviews was conducted with the participants. The interview consisted of a sequence of pre-formed proforma for collecting information regarding risk factors from respondents. Subjects were clinically evaluated for the stage of carcinoma cervix at which they presented.

Data Analysis

The data was recorded in the predesigned proforma and then was entered in MS excel and data was analyzed with the help of SPSS 21 version for windows. The association and correlation of qualitative data were tested with chi square test and fisher exact test, student t test was applied in quantitative data. The critical value for the significance of the results will be considered at 0.05 level.

Ethical Approval

Written permission was obtained from the obstetrical and gynecology department before data collection. Approval for the research protocol was sought from the Institute Ethics Committee . Informed written consent was obtained from the participants involved in the study. All study participants were informed about participation in the research, objectives of the study, and time of involvement.

RESULTS

In our study total 215 subjects were analysed for various risk factors contributing to the cervical cancer and also to stage of presentation of disease.

Table No. –1 Socio Demographic Risk Factors Of Carcinoma Cervix

Age	Frequency	Percent
30-35	16	7.5
35-49	65	30.4
50-65	134	62.1
Residence		
Rural	206	96.3
Urban	9	3.7
MONTHLY FAMILY INCOME		
<3907	72	33.2
3908-11707	121	56.5
11708-19515	20	9.3
19516-29199	1	0.5
29200-39032	1	0.5
OCCUPATION		
UNEMPLOYED	179	83.6
LABOUR	4	1.9
FARMER	32	14.5
EDUCATION		
ILLITERATE	180	84.1
PRIMARY SCHOOL	26	12.1
MIDDLE SCHOOL	9	3.7
PREVIOUS SCREENING		
No	195	90.7
Yes	20	9.3

Table No. –2 Personal Habits, reproductive And Menstrual History

Marital Status	Frequency	Percent
Never Married	6	2.8
Married	185	86.4
Divorced/ Widow	24	10.7
Age At Marriage		
16-18	166	77.6
18-24	48	22
25-29	1	0.5
Age At First Child Birth		
16-18	152	70.6
18-24	62	29
25-29	1	0.5
Parity		
Primipara	4	1.9
Multipara	211	98
No Of Pad Or Cloth Used During Menstrual Cycle		
1	68	31.8
2	126	58.9
3	17	7.5
4	2	0.9
5	2	0.9
Menstrual History [Age At Menopause]		
Not Attained	59	27.6
< 45 Yrs	23	10.7
> 45 Yrs	133	61.7
Presenting Complains		
Bleeding Per Vagina	33	15.4
Intermenstruation Bleeding	29	13.1
Irregular Menses	7	3.3
Post Coital Bleeding	29	13.6
Post Menopausal Bleeding	113	52.8

White Discharge Per Vagina	4	1.9
Washing Genitals After Intercourse		
No	191	89.3
Yes	24	10.7
Addiction		
None	150	70.1
Tobacco /Nash Manjan/ Smoking	65	30.2

Table No. – 3 Crosstabulation Of Sociodemographic Factors And Stage Of Carcinoma Cervix

Age	Early stage carcinoma cervix		Adavnced stage carcinoma cervix		Total	χ ²	p-value
	N	%	N	%		14.76	0.001
30-35 yrs	12	12.77	4		16		
35-49 yrs	36	38.3	29		65		
50-65 yrs	46	48.94	88	72.73	134		
Residence							
RURAL	89	94.68	118	97.52	207	1.191	0.05
URBAN	5	5.32	3	2.48	8		
Monthly income							
<3907	26	27.66	46	38.02	72	6.06	0.03
3908-11707	55	58.51	66	54.55	121		
11708-19515	12	12.77	8	6.61	20		
19516-29199	1	1.06	0	0	1		
29200-39032	0	0	1	0.83	1		
Education							
Illiterate	77	81.91	104	85.95	181	3.304	0.048
Primary School	11	11.7	15	12.4	26		
Middle School	6	6.38	2	1.65	8		
High School	0	0	0	0	0		

DISCUSSION

This study was conducted in the Department of Obstetrics and Gynecology, NSCB medical college hospital, Jabalpur. In this study we identified various risk factors associated with cervical cancer and also with stage of presentation of disease.

In our study, 7.5% subjects were in the age group of 30-35 years, 30.4% subjects were in the age group of 35-49 years, 62.1% subjects were in the age group of 50-65 years. Maximum patients were in the age group of 50-65 years, this finding is comparable with study conducted by Ibrahim et al were incidence of cervical cancer was more in subjects in age group of 50-65 years.

Out of 215 subjects, 72% patient presented in late stage and where in the age group 50-65 years there was a significant association of age with late presentation which is comparable to Saghari S, Ghamsary M, Marie-Mitchell A, Oda K, Morgan JW et al were 58 % percent of cervical cancers were among women of 50 years, compared with 46% of delayed-stage cases. Independent odds of delayed- versus early-stage cervical cancer were higher for older age categories within each race and ethnic group.

In present study, 56.5% subject had income between 3908-11707 . Out of 94 subjects who presented in early stage, 27.6% subjects had monthly family income less than 3907 , 58.51% subjects had monthly income in between 3908- 11707 . Out of 121 subjects who presented in advanced stage 54.5% had monthly income less than 3908 , 38% had monthly income in between 3908- 11707 . Our study shows low socioeconomic status was associated with late presentation which was comparable to Berraho M, Obtel M, Bendahhou K, Zidouh A, Errihani H, Benider A, Nejari C. et al in which 88.5% subjects had a low socioeconomic level.

In present study, 96.3% subjects were from rural areas, 3.7% subjects were from urban areas . Out of 215 patient, 118 subjects who presented in advanced stage where from rural area which was comparable to study of Ibrahim A, Rasch V, Pukkala E, Aroet al were rural residence was associated with increased odds of diagnosis at an advanced stage . Those patient who came from the rural area were 2.87 times more likely to have a late -stage presentation of cervical cancer than who come from urban areas.

In present study, 84.1% subjects were illiterate , 12.1% subjects went to primary school. Out of 215 cases of cervical carcinoma , 104 subjects who presented late were illiterate this finding is comparable to study

conducted by Tbeu PM *et al.* on attitude and knowledge of cervical cancer. Result showed uneducated, housewives, and women who delivered first child before the age of 20 years were associated with cervical cancer.

Among the socio-demographic characteristics of the patients, literacy of women was found independently associated with late diagnosis and showed that literate women were less likely to have late diagnosis. Higher risk of cervical cancer among women with lower education (Franceschi *et al.* 2009) and lack of awareness of cervical cancer among them might have increased the likelihood of late diagnosis in those women. Similar relationship between education and late diagnosis of cervical cancer has been reported in previous studies in some countries (Ferrante *et al.*, 2000; Kaku *et al.*, 2008; Ibrahim *et al.*, 2011; Berraho *et al.*, 2012; Lourenco *et al.*, 2012). Late stage reporting were observed for women with lower education in a similar study of south India (Kaku *et al.*, 2008).

In present study, Out of 215 patient, 121 subject presented late out of which 22.2% did not attained menopause, 66.9% attained menopause at age greater than 45 years. In present study no significant association was seen between age of menopause and stage of presentation.

In this study not maintaining personal hygiene increased chances of cervical cancers. This data is comparable to study conducted by Thakur *et al.* on risk factors for carcinoma of the cervix.

Out of 121 subject who presented in late stage, 2.48% were primipara, 97.5% were multipara which is comparable to study of Sobit *et al.* were high parity was a risk factor for cervical cancer.

Out of 121 subjects who presented in late stage, 61.16% subject presented with post menopausal bleeding, 16.53% presented with bleeding per vagina. The symptom associated with late presentation was post menopausal bleeding. Similar result was observed in a study by Kaku M, Mathew A, Rajan B *et al.* were postmenopausal bleeding was associated with late presentation.

In present study out of 121 who patient presented in late stage 101 subjects (83.74%) were married at 16-18 years of age, 20 subjects (20%) were married at 18-24 years of age. This finding is comparable to a study conducted by Mhaske *et al.* on cervical cancer risk factor which showed that 86.4% of the women were married before 17 years of age. In the present study, early age of marriage was also positively associated with cervical cancer. This finding is comparable to that from another case-control study conducted by Capalash and Sobit on awareness of carcinoma of the cervix. The result showed that young age at marriage, low socioeconomic status, and parity were associated with cervical cancer.

In present study, 90.7% subjects were not screened, 9.3% subjects were screened previously. This finding is comparable to study conducted by Kumar H *et al.* to assess the knowledge and screening for carcinoma of cervix in women show that maximum of the women have very little knowledge on cancer of cervix and screening of carcinoma of cervix.

From our study, we can postulate that illiteracy, lack of previous screening, lack of personal hygiene, early age of marriage and high parity are risk factors for cervical cancer and is associated with late presentation.

CONCLUSION

Cervical carcinoma is a common malignancy among women of developing countries. In our study, significant association of cervical cancer was found with illiteracy, inadequate personal hygiene, marriage at an early age, not washing genitalia after sexual intercourse, and lack of knowledge about screening for cervical cancer. In our study the factors associated with advanced stage of presentation of cervical cancer were lack of education, the absence of previous screening, rural residence and low socioeconomic status. Women were not screened for cervical cancer, and they were not aware about basic facts and risk factors of disease. Therefore it is important to educate women about risk factor for cervical cancer and there is a need to make the general population aware about the risk factors of cervical cancer. Proper screening should be done to prevent the development of cervical cancer. We can identify cervical cancer at early stage through routine screening for cervical cancer and prompt treatment can be

started once the diagnosis is made. Finding of our study could be seen as baseline information for planning further large studies and performing large scale educational programme for improving knowledge and screening test especially in rural population.

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