

Prevalence of Cervical Cancer in Childbearing, Premenopausal and Postmenopausal Women in Kolhan Region, Jharkhand

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ABSTRACT

Background: Cancer of uterine cervix is one of the common carcinoma among females. The global incidence of cervical cancer varies (5 lakhs new cases/year), highest in developing countries with >50% dying. In India, cervical cancer contributes to approximately 6–29% of all cancers in women. Prevention of cervical cancer, whether primary or secondary requires active participation of the community. This study is to assess the Prevalence, Pap screening, knowledge, attitude practice and prevention regarding cervical cancer. Identification of risk factors is necessary to curb the disease.

Methods: A cross-sectional study was conducted in different CHC, PHC and MGM Medical college Jamshedpur area of Kolhan region of Jharkhand. A sample of 499 women aged 15-70 years was taken from January 2017- August 2019 and was selected and subjected to Pap smear test of cervix and abnormal smears, Histopathological report of HSIL/invasive carcinoma, Factors like menarche, coitarche, age at marriage, parity, contraception, smoking habit and socio-economic status were noted.

Results: In our study, HSIL was 0.2% and invasive cancer was 2.8%. Out of the 499 respondents most of them belonged to the 15-39 years age group. About 81.96% were Hindu, more than all the other religion respondents 79.75% of the women were educated in primary level. Around 85.17% of the respondents were housewives by occupation. Majority of them

belonged to the lower socio-economic strata. The awareness about Pap smear where $p > 0.05$ not significant.

Conclusions: Early menarche, early coitarche, early marriage, high parity, use of contraception other than barrier, low socioeconomic status, poor habitat and HPV infection, carried a high risk of developing cervical cancer. HPV infection was the most important risk factor. Improvement of socioeconomic status, education and cervical cancer screening of the high-risk group can reduce cervical cancer mortality and morbidity significantly.

Keywords: Cervical Cancer, Reproductive Age, Risk Factors, Pap Smear (Cervical Cytology) Screening, Awareness.

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INTRODUCTION

Cervical cancer is one of the most common cancers among women in the world. It is most common in developing countries. Cervical cancer progresses slowly in the body. In 2008, 275,000 deaths occurred due to cervical cancer. Out Of which, 88% occurred in developing countries. Because of lack of awareness and difficulty in running cytology-based screening programs. In Asia, 159,800 deaths occurred due to cervical cancer.¹

In India the data obtained from these Indian Cancer Registries indicate that cervical cancer contributes to approximately 6–29% of all cancer in females. The age-adjusted incidence rate of cancer cervix was found to vary widely among registries, highest being 23.07/100,000 in Mizoram State, followed by 22.54/100,000 in Pasighat and the lowest being 4.91/100,000 in Dibrugarh district. The older PBCRs such as Bengaluru, Bhopal, Chennai,

Delhi, and Barshi Rural reported an age-adjusted incidence rate between 13 and 16/100,000. Every year in India, 122,844 women are being diagnosed with cervical cancer and 67,477 die from the disease.² India also has the highest age-standardized incidence of cervical cancer in South Asia at 22, compared to 19.2 in Bangladesh, 13 in Sri Lanka. India has a population of 469.1 million women aged 15 years and older, all of whom are at risk of developing cancer.³

The number of cervical cancer cases starts to increase among women aged 20-29 years, reaches a peak among those aged 55-64 years, and decreases among women aged above 65 years.⁴ In India, one in five women is diagnosed with cervical cancer. India has the greatest load of cervical cancer patients.⁵ Cervical cancer begins in the cells lining of the uterine cervix. Glandular and squamous (covering of the cervix) cells meet at a place called the transformation zone. After childbirth and increased of persons age the location of transformation zone changes. Commonly Cervical cancer originates in the transformation zone. Normal cells do not transform into cancer cells abruptly; the normal cells of the cervix initially become precancerous and subsequently turn cancerous.⁶ (Figure A)

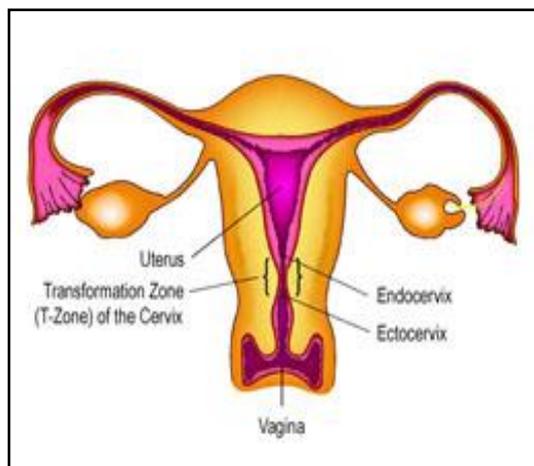


Figure A: Showing cervix

The risk factors of developing cervical cancer are age, low socio-economic status, smoking, lack of education, and early marriage before 18 years of age, multiple sexual partners, multiple sexual partners of spouse, early child birth, higher parity (multiple childbirths), long-term use of hormonal contraceptive⁷ HPV types 16, 18, are mostly related with invasive carcinoma of the cervix. A study in India found a higher incidence of cervical cancer among women with parity of three or more and among who marry late (>30 years of age).⁸ Several research studies show that steady partners and young age at first sexual intercourse increase the probability of developing cervical cancer.⁹

Cervical cancer is preventable and curable in the early stages. However women lack knowledge regarding risk factors and screening for cervical cancer. Low socioeconomic & uneducated group do not undergo screening for cervical cancer. Pap smear is the commonly used screening test to detect cervical cancer. Pap smear test is very simple and cost effective test for cervical cancer screening. Pap smear screening has sensitivity of 50-75% and specificity of 98-99%.¹⁰ Prevention of cervical cancer, whether primary or secondary requires the active participation of the women in the community. For this, they need to be aware of the

disease & its prevention. Pap smear-positive women need adequate treatment and regular follow-up. Thus, we have to strengthen our health services and health-care system to include screening at primary health centers. A widespread cervical screening program has been a important factor for a significant reduction in mortality from cervical cancer.

OBJECTIVE

There are various studies undertaken in India to find the prevalence of cervical cancer and its prevention and the results are varied. There is limited data available on the subject from Kolhan region of Jharkhand, India. Hence a cross-sectional study to assess the prevalence regarding cervical cancer among the women aged 15-70 years was undertaken in our area. The role of Pap smear is detecting premalignant and malignant lesions of cervix and to determine the prevalence of various lesions.

MATERIALS & METHODS

Study Design: Cross sectional study.

Setting and Places: study conducted in gynecology outpatient department of PHC, CHC and MGM Medical College, Jamshedpur a tertiary care center of Kolhan region of Jharkhand, India.

Duration of Study: The study were conducted from January 2017- August 2019

Study Population: In this study, the target population consisted of women between the Childbearing age of 15-39 years, Premenopausal age 40-49 and Postmenopausal 50-70 age group. Total of 499 participants were enrolled. All patients who met the inclusion criteria of the study were included, and participation was kept voluntary as well.

Inclusion Criteria: All women of age group 15-70 years and who have given written consent for participation in the study. Asymptomatic & Symptomatic women were included in this study.

Exclusion Criteria: Women with a history of hysterectomy, diagnosed cases of carcinoma cervix and those not willing to take part in the study were excluded.

Sample Size: The sample size was calculated by online sampsizemethod.sourceforge.net. Precision-5.00%, Prevalence-29.00%, Total Population size of Kolhan region of Jharkhand 4860000, 95% Confidence Interval specified limits [24%--34%] (these limits equal prevalence plus or minus precision) Estimated sample size: n = 317. We had collected 499 samples. Sequential inclusion of women meeting the study criteria.

Method and Tools for Data Collection: Face-to-face interviews were conducted with participants. Participants were explained about the study subject, individual questionnaire and informed written consents were obtained. Questions were asked in Hindi and bangla and included Socio-demographic Performa, personal history, menstrual history, sexual and reproductive health history and awareness of cervical cancer.

Statistical Test: Data was entered in Microsoft Excel 2007 & analyzed using SPSS. The statistical tests used were descriptive statistics, Pearson's Chi-square test. P value of less than 0.05 was considered to be significant. Associated Risk factor were analyzed by multivariate analysis.

Ethical Considerations: This study was approved by Intuitional Ethics Committee of MGM Medical College, Jamshedpur.

Patient Examination and Laboratory test: Prior informed consent was obtained from all women. Subject was placed in the

lithotomy position, and a sterile bivalve speculum was inserted into the vagina. The posterior vaginal wall was retracted posteriorly and the anterior vaginal wall anteriorly to allow proper visualization of the cervix and vaginal wall. A sample was taken from the ectocervix by rotating a wooden Ayre spatula 360°. The sample was quickly smeared onto a subject code labeled glass slide and fixed with 95% ethyl alcohol in a jar. The glass slides were sent to the research laboratory of Multi-Disciplinary

Research unit, MGM Medical College, Jamshedpur for cytopathological examination. Cytology Laboratory reported the examination results according to the Bethesda System for Reporting Cervical Cytology 2014.

All the women with abnormal Pap test results (ASCUS, LSIL, HSIL etc.) were advised for follow-up for a colposcopic examination and treatment as per the standard guidelines by World Health Organization (WHO).

Table 1: Distribution of Socio-Demographic profile of the study subject. N=499

Variable	Study Group			Total	X ²	df	P
	Childbearing	Premenopausal	Postmenopausal				
Age Group							
15-25	158[45.14]	0	0	158	757.661	8	.000
26-36	166[47.4]	0	0	166			
37-47	26[7.4]	83[88.29]	0	109			
48-58	0	11[11.7]	23[41.8]	34			
59-70	0	0	32[58.18]	32			
Mean	33.51						
Std. Deviation	12.052						
Place of Residence							
Rural	39[11.14]	7[7.4]	15[27.27]	61	13.989	2	.001
Urban	31[88.85]	87[92.5]	40[72.72]	438			
District							
East Singhbhum	326[93.14]	90[95.7]	51[92.7]	467	2.224	4	.695
Serikella Kharsawan	13[3.7]	2[2.12]	1[1.8]	16			
West Singhbhum	11[3.14]	2[2.12]	3[5.4]	16			
Religion							
Hindu	277[79.14]	84[89.36]	48[87.2]	409	7.676	6	.263
Christian	12[3.4]	1[1]	0	13			
Muslim	16[4.5]	2[2.12]	2[3.6]	20			
Sheikh	45[12.85]	7[7.4]	5[9]	57			
Marital Status							
Single	35[10]	1[1]	0	36	91.168	6	.000
Married	313[89.4]	93[99]	44[80]	450			
Separate	2[0.5]	0	3[5.45]	5			
Divorced	0	0	8[14.5]	8			
Education							
Complete school	0	1[1]	1[1.8]	2	49.875	8	.000
Primary	86[24.5]	20[21.2]	24[43.6]	130			
Secondary	194[55.4]	55[58.5]	19[34.5]	268			
Higher degree	64[18.28]	13[13.8]	2[3.6]	79			
No Information from participants	6[1.7]	5[5.3]	9[16.3]	20			
Occupation							
Unemployed	25[7.14]	1[1]	3[5.45]	29	24.967	10	.005
Housewife	296[84.57]	87[92.55]	42[76.3]	425			
Manual work	17[4.8]	2[2.12]	9[16.3]	28			
Shopkeeper	2[0.5]	0	0	2			
Clerical work	10[2.8]	3[3.19]	1[1.8]	14			
Professional	0	1[1]	0	1			
Husband Current Occupation							
Unemployed	3[0.8]	0	3[5.45]	6	42.995	16	.000
Farmer	25[7.14]	4[4.2]	5[9]	34			
labour work	113[32.2]	32[34]	11[20]	156			
Shop keeper	85[24.2]	30[30.9]	22[40]	137			
Clerical work	76[21.71]	22[23.4]	3[5.45]	101			
Professional	10[2.8]	3[3.19]	3[5.45]	16			
Migrant worker	5[1.4]	1[1]	0	6			
Driver	1[0.2]	2[2.12]	0	3			
No Information from participants	32[9.14]	0	8[14.5]	40			

Table 2: Distribution of Medical history profile of the study subject. N=499

Variable	Study Group			Total	X ²	df	P
	Childbearing	Premenopausal	Postmenopausal				
Currently menstruation							
Yes	345[98.57]	90[95.74]	24[4.8]	459	196.759	2	.000
No	5[1.42]	4[4.25]	31[6.2]	40			
Sign & Symptoms of cervical cancer							
Abnormal Vaginal Discharge							
Foul smell	62[17.71]	21[22.34]	8[1.6]	91	1.628	2	.443
White discharge	288[82.28]	73[77.65]	47[9.4]	408			

Table 3: Distribution of Reproductive history profile of the study subject. N=499

Variable	Study Group			Total	X ²	df	P
	Childbearing	Premenopausal	Postmenopausal				
Age of started menstruating							
12-15	342[97.71]	91[96.8]	55	488	2.675	4	.614
16-19	3[0.8]	2[2.12]	0	5			
20-22	5[1.4]	1[1]	0	6			
Are you menopausal							
Yes	0	2[2.12]	45[81.8]	47	380.158	2	.000
No	350	92[97.87]	10[18.18]	452			
If Menopausal at what age did you have last period							
40-45	0	2[2.12]	0	2	407.696	6	.000
46-51	0	0	11[20]	11			
52-56	0	0	34[61.81]	34			
No information from participants	350	92[97.87]	10[18.18]	452			
Have you ever been pregnant							
Yes	312[89.14]	94	55	461	17.511	4	.002
No	28[8]	0	0	28			
No information from participants	10[2.85]	0	0	10			
Age of Last Birth							
17-22	45[12.85]	5[5.31]	3[5.45]	53	138.328	6	.000
23-28	166[47.42]	56[59.57]	20[36.36]	242			
29-34	21[6]	29[30.85]	31[56.36]	81			
No information from participants	118[53.71]	4[4.25]	1[1.81]	123			
Spontaneous Abortion							
Yes	84[24]	35[37.23]	22[40]	141	20.188	4	.000
No	238[68]	59[62.7]	33[60]	330			
No information from participants	28[8]	0	0	28			

Table 4: Distribution of Sexual history profile of the study subject. N=499

Variable	Study Group			Total	X ²	df	P
	Childbearing	Premenopausal	Postmenopausal				
Have your partner had a sexual intercourse with other women							
Yes	9[2.57]	3[3.91]	1[1.81]	13	10.708	4	.030
No	313[89.42]	91[96.80]	53[96.36]	457			
No information from participants	28[8]	0	1[1.81]	29			
Husbands currently living with participant							
Yes (with me)	314[89.71]	88[93.61]	52[94.54]	454	11.796	4	.019
Else where	10[2.85]	6[6.38]	2[3.63]	18			
No information from participants	26[7.42]	0	1[1.81]	27			

Table 5 (a): Distribution of Pap smear Examination (Cytology) result according to study group. N=499

Variable	Study Group			Total & %	X ²	df	P
	Childbearing	Premenopausal	Postmenopausal				
Pap smear Examination (Cytology)							
ASCUS	1[0.2]	0	1[0.2]	2[0.4]	21.832	8	.005
HSIL	1[0.2]	0	0	1[0.2]			
Inflammatory smear	248[49.6]	65[13]	32[6.4]	345[69.1]			
LSIL	8[1.6]	9[1.8]	7[1.4]	24[4.8]			
Normal smear	92[18.4]	20[4]	15[3]	127[25.5]			
Total	350	94	55	499			

Table 5 (b): Cytology (Pap smear) results of the respondents. N=499

Cytology results	Frequency	Percentage (%)
Positive	27	5.4
Negative	472	94.6
Total	499	100.0
Pattern of cytology results among positive respondents		
High grade squamous intraepithelial lesion (HSIL)	1	0.2
Atypical squamous cells of undetermined significance (ASCUS)	2	0.4
Low grade squamous intraepithelial lesion (LSIL)	24	4.8
Total	27	5.4
Pattern of cytology results among negative respondents		
Inflammation	345	69.13
Negative	127	25.45
Total	472	94.6

RESULTS

A total of 499 participants were included in this study. 499 study subjects were divided into three groups according to age as 15-39 years childbearing, 40-49 years premenopausal and 50-70 Postmenopausal women's. We found 350 childbearing, 94 Premenopausal and 55 Postmenopausal

Table 1 shows that mean age of Study group were 33.51 and standard deviation 12.052. Most of the respondents were found in childbearing i.e. 47.4% were between the ages 26-36 years, followed by those with ages between 15-25 years (45.14%), and with ages 37-47 years (7.4%) and in pre-menopausal most of the participants were found in ages 37-47 years forming a (88.29%). Majority of participants in post-menopausal age group were 59-70 years 58.18%. Majority of the participants belonged to outer skirts of the urban region. Most of them were House wives, belonged to Hindu religion and were from East singhbhum district of the Kolhan region.

Highest proportion i.e. (32.2%) of the participants husband were found to be labour worker, and minimum percent is found to be driver. Most of the respondents belongs to childbearing and premenopausal study group.

There was significant association [where $p > 0.05$] between study group and socio-demographic variable like age group of participant, place of residence, marital status, education, occupation, and husband occupation.

Out of the 499 women 459 respondents had current menstruation and 40 were not menstruating. Most of the women belong to childbearing 69%, 18% premenopausal and 4.8% postmenopausal respectively. There was significant association between Study group and current menstruation ($p \text{ value} < 0.05$)

Most of the participants were suffering from Abnormal vaginal discharge had a history of symptoms like foul-smelling, white discharge etc which might be suggestive of cervical cancer. No cases were found of genital ulcer and genital wart.

Table 3 shows that here several parameters were used to find out the reproductive history profile. Most of the participant of all the study groups reported that their menstruating started between 12-15 years of age group. Among the Participants of the pre and post-menopausal group total of 47 participants were menopausal and 102 participants were not and the last menstruating period of both the group were found between 46-56 yrs of age. Among all the study groups spontaneous abortions were found mostly in the post-menopausal group. There was significant association between Study group and current menopausal, age of first and last birth, spontaneous abortion status ($p \text{ value} < 0.05$)

Table 4 show that 8% of respondents also reported about their partner having sexual intercourse with another women majority belonging to the childbearing age group. 6.38% premenopausal), 3.63 % (postmenopausal) 2.85 % Childbearing respondents' husbands were found to live somewhere else and 89.71 % Childbearing are currently living together. 27 respondents information were missing. There was significant association between Study group and variable status ($p \text{ value} < 0.05$). These factors are found to play an important role in increasing cervical cancer.

Table 5 shows that The pattern of pre-malignant cervical lesions, as shown in Table 5&5.1, revealed that 27(5.4%) respondents had positive cytology result, while 427 (94.6%) had negative cytology result. Out of the 27 positive cytology result, 1 (0.2%) was high grade squamous intraepithelial lesion (HSIL), 24(4.8%) were low grade squamous intraepithelial lesion (LSIL) and 2(0.4) Atypical squamous cells of undetermined significance (ASCUS) which corresponds to 1 (0.2%), 24(4.8) and 2 (0.4%) of the total respondents respectively. Childbearing and premenopausal age group was mostly affected from cervical cancer. There was significant association [where $p > 0.05$] between study group and cervical cytology.

Table 6 shows that most of the participants of the entire study group said that they haven't heard about cervical cancer and its preventive measures beforehand due to which the cervical cancer cases are increasing day by day.

In table no: 7: Associated risk factors such as social factor; reproductive, sexual health and contraceptive history were analyzed. Cervical cancer was higher for women who were less educated than the women who were educated which means women with less education have more probability to get cervical cancer. But the result was not statistically significant ($P > 0.05$).

Most of the participants were living in urban area. There is a higher prevalence of cervical cancer found as compared to those living in rural area. Prevalence of cervical cytology among different age group showed the Higher prevalence were found 37% in Childbearing 15-39, 33.33% in Premenopausal 40-49 age group compared to Postmenopausal 50-70 age group. The result was statistically significant ($p < 0.05$).

Low Education status of women, the prevalence of cervical cancer infection increase, but the result was not statistically significant. ($P > 0.05$). The result showed that at the younger age of marriage, shows the higher prevalence of cervical cytology. 50% prevalence was observed in 18-23 year age at marriage group. The result was not statistically significant ($P > 0.05$). Woman who had

intercourse between 13-16 & 17-20yr of age group had high prevalence of cervical cancer infection. But the result was not statistically significant (P=>0.05). There is higher prevalence of HPV found on 1-3time parity 39.4% compared to No information from participants (18.8%) The result was not statistically significant (P=>0.05).

Women used contraceptive and cervical cancer prevalence was less in them compared to not use contraceptive users. There is 48.14% higher prevalence of cervical cancer was found on not used contraceptive. The result was not statistically significant. (P=>0.05).Passive smoking had no effect on cervical cancer prevalence. The result was not statistically significant. (P=>0.05).

Table 6: Awareness and knowledge regarding cervical cancer in Study group

Variable	Study Group			Total	X ²	df	P
	Childbearing	Premenopausal	Postmenopausal				
Heard about Cervical Cancer Prior							
Yes	4[1.1]	0	0	4	1.717	2	.424
No	346[98.8]	94	55	495			
Total	350	94	55	499			
Previous screening about cervical cancer							
Yes	0	0	0	0			
No	350	94	55	499			
About Preventive measures for Cervical cancer							
Yes	4[1.1]	0	0	4	2.150	4	.708
No	1[0.2]	0	0	1			
I don't know	345[98.6]	94	55	494			
Total	350	94	55	499			
In your opinion cervical cancer can be treated diagnosed earlier							
Yes	4[1.1]	0	0	4	1.717	2	.424
I don't Know	346[98.85]	94	55	495			
Total	350	94	55	499			

Table 7 (a): Distribution of Associated risk factor with Pap smear (cervical cytology)

Variable	Cervical cytology		X ²	df	F	P	95% Confidence Interval	
	Negative	Positive					Lower Bound	Upper bound
Age Group			7.633 ^a	1	17.014	.000	-.807	-.286
15-39Childbearing	340[72]	10[37]						
40-49Premenopausal	85[18]	9[33.33]						
50-70Postmenopausal	47[9.95]	8[29.62]						
Place of Residence			2.659 ^a	1		.124	.179	1.193
Rural	55[11.65]	6[22.22]						
Urban	417[88.34]	21[77.78]						
Education Status			4.129 ^a	1	.011	.915	-7.015	7.819
Complete school leaving certificate	2[0.42]	0						
Primary	123[26]	7[25.92]						
Secondary	252[53.38]	16[59.25]						
Higher degree	76[16.10]	3[11.11]						
No information	19[4]	1[3.7]						
Smoking History			.182 ^b	1	1.213	.271	-.066	.235
Currently	6[1.27]	1[3.7]						
Yes but only in the past	53[11.22]	4[14.81]						
No	413[87.5]	22[81.48]						
Spontaneous abortion			81.674 ^c	1	.162	.687	-10.512	6.935
Yes	132[27.96]	9[33.33]						
No	314[66.52]	16[59.25]						
No information from participants	26[5.5]	2[7.4]						
How many spontaneous abortion			1316.17 ^d	1	.653	.419	-10.277	24.634
1 time	112[23.72]	7[25.92]						
2 time	27[5.72]	3[11.11]						
3 time	1[0.2]	0						
No information from participants	332[70.33]	17[62.96]						
Contraceptive use			64.000 ^e	1	.125	.724	-10.378	7.212
Currently use	30[6.35]	1[3.7]						
Yes but only in past	150[31.77]	11[40.74]						
No	265[56.14]	13[48.14]						
No information from participants	27[5.72]	2[7.4]						

Table 7 (b): Distribution of Associated risk factor with Pap smear (cervical cytology)

Variable	Cervical cytology		X ²	df	F	P	95% Confidence Interval	
	Negative	Positive					Lower Bound	Upper bound
AGE OF MARRIAGE			.013 ^h	1	.011	.915	-.389	.434
12-17	76[16.10]	6[22.22]						
18-23	336[71.18]	18[66.66]						
24-29	33[6.99]	1[3.7]						
36-40	2[0.4]	0						
No information from participants	25[5.2]	2[7.4]						
Age of first sexual Intercourse			.129 ⁱ	1	.240	.624	-.214	.356
13-16	50[10.59]	5[18.51]						
17-20	238[50.42]	14[51.85]						
21-25	155[32.83]	6[22.22]						
No information from participants	29[6.14]	2[7.4]						
Age of FIRST BIRTH			.655 ^j	1	1.151	.284	-.133	.453
13-18	65[13.77]	5[18.51]						
19-24	329[69.70]	18[66.66]						
25-28	40[8.47]	2[7.4]						
No information from participants	38[8]	2[7.4]						
PARITY			.059 ^k	1	.175	.676	-.177	.273
1-3 TIME	399[84.53]	24[88.88]						
4-6 TIME	36[7.62]	1[3.7]						
No information from participants	37[7.83]	2[7.4]						

DISCUSSION

Cervical cancer incidence varies by region of the world, ranging from 4.8 per 100,000 in western Asia (i.e., 3.27/100,000 in Israel) to 44.3 in eastern Africa (i.e., 61.08/100,000 in Iraq and 5.76/100,000 in Swaziland). Middle eastern and predominantly Muslim and Buddhist country tended to have the lowest rates, while Latin American and predominantly Christiana and Hindu countries generally had the highest rates.^{11,12}

Cervical cancer is not a very common cancer in the developed world and is even rarer in younger populations, with an average of only 14 carcinomas per year among those aged 15–19 years, and 125 carcinomas per year among those aged 20–24 years. Precancerous lesions are frequently found among these age groups and are more likely to regress than at older ages.^{13,14}

Present study, we found that lack of education, place of residence, early age of marriage and lack of knowledge about cervical cancer and screening for carcinoma of the cervix, as risk factors for cervical cancer. In this study, education and hormonal contraceptives for more than four years and smoking was also identified as one of the risk factors for cervical cancer.¹⁵⁻¹⁷

Observations were found by many researchers, who advocated that, the use of barrier contraception could help in checking the transmission of the HPV virus.

Lower socioeconomic status leads to severe comprehensive factors like, early marriage, multiparity, and lack of proper habitat. Most of the study group residing at margin of urban region and mixed culture. Seema P, Paul B et al, emphasized the role of socioeconomic status in the causation of cervical cancer.¹⁸

Early age of marriage before the age of 15-17 years play an important role in causing the disease.¹⁹ Multiparity as a major contributor to cancer of cervix.²⁰ A association of early marriage characteristics with cervical Pap smear results showed that abnormal Pap smears were detected in women who married at 17- 20 years of age. Early marriage age was significantly connected with abnormal Pap smear results.²¹

Significant observations were found by many researchers, who advocated that, the use of barrier contraception, could help in checking the transmission of the HPV virus.

The study shows that childbearing group and higher age group, middle education, contraceptive not used, early age of marriage & sexual intercourse, early child birth and parity were the main factors in the development of carcinoma of the cervix. HPV, sexually transmitted disease, and herpes simplex virus were mostly associated with squamous intraepithelial lesion cases.²²

Cervical cancer is on the decreasing trend in India according to the National Cancer Registry programme registries; yet, it continues to be a major public health problem for women in India.²³ Effective screening program should be aimed at specific <15+ years age group for detecting precancerous condition before they progress to invasive cancers.²⁴ Cervical cancer burden has been reduced after the introduction of screening programmes.²⁵ Prevention of cervical cancer can be primary or secondary. Primary prevention modalities include changes in sexual behaviour and Human Papilloma Virus (HPV) vaccination. Secondary prevention of cervical cancer includes visual inspection of cervix, cervicoscopy, HPV testing and cytology. Pap smear test is a secondary preventive method aimed at identification of premalignant and malignant lesions, which may need follow-up and/or treatment.²⁶

Our observations were comparable with various studies done in past. Epithelial cell abnormality was observed in younger age groups compared to study done by Geethu G Nair²⁷ and Bukhari et al.

Overall prevalence of cytological abnormality is high in studies conducted in India. The difference in the prevalence of inflammatory changes and cervical dysplasia could have been the result of social and cultural differences, age, incidence of related infections and presence or absence of cervical screening programmes in different societies. These study groups patients

need to create awareness about cervical cancer for motivating them to attend screening. Majority of the women had poor knowledge about cervical cancer (81.9%) and its screening (85.5%). Poor knowledge (84%) about cervical cancer and its screening has been reported from a study conducted on women who attended the hospitals.³⁹ However; good knowledge has been

reported from three studies conducted on nurses.⁴⁰⁻⁴² obviously, nurses being health care providers would have better knowledge. Majority of the study population belong to low and medium income class. Educated women had higher knowledge than house wives. Community based studies from India have found that educated women had better knowledge.⁴³⁻⁴⁵

Table 8: Comparison of Pap smear (cervical cytology) findings with previous studies' n=499

Our Diagnosis	Present study cases	Previous Studies
Normal	127[25.45]	Beinton et al (1986)[28]
Inflammatory	345[69.13]	Chauhan et al (1990)[29], Beinton et al (1986)[28], Bal et al.2012[30]
HSIL	1[0.2]	Malekiet al. 2015[31], Sachan et al. 2018 [32], Nayir et al.[33]
LSIL	24[4.8]	Usha Sarma et al[34], Bukhari et al. 2012[35], Padmini et al.[36]
ASCUS	2[0.4]	Preetha George et al[37], Bal MS et al,[30]
Overall Positive	27(5.4)	K.A. Durowade et al[38].
Overall Negative	472(94.6)	

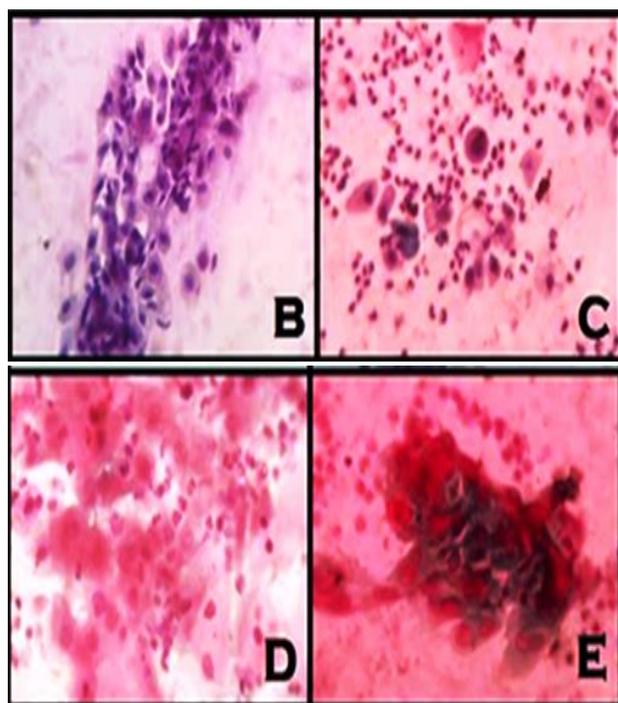


Figure 2: (B) Squamous Metaplasia; (C) ASCUS; (D) LSIL; (E) HSIL

CONCLUSIONS

In Our study Pap smears with Bethesda System testing is used and it is found to be a very useful, simple, economical and highly sensitive and specific method for diagnosing pre invasive cervical epithelial lesions. Hence on a routine basis, every woman above the age of 20 must be subjected to cervical screening and this must be continued even in post-menopausal period. Pap test combined with HPV- DNA testing can help increase the sensitivity of detection of cervical pathology.

The study showed that awareness about cervical cancer was poor among women and also its screening tests, H.P.V vaccinations were never heard of in the community. It was found that women fail to be screened due to insufficient resources, lack of knowledge, inability to access the health care delivery system, individual and collective psychosocial, cultural resonances, fear, limited family support, strained Economy and anaemic community participation.

Maintenance of sexual hygiene, using barrier contraception, rising age of marriage and thus coitarche, avoiding multiple sexual partners of both the wife and her husband, improving her socioeconomic status, preventing immunodepression due to malnutrition or systemic illness and preventing or treating HPV infection, will go a long way in reducing the cervical cancer morbidity and mortality, significantly.

Regarding risk factors for carcinoma of cervix, it is important to educate women about risk factors of cervical cancer. Proper diagnosis and early treatment are imperative to stop the progression of cancer. There is a need to make the general population aware about the risk factors of cervical cancer, and proper screening should be done to prevent the development of cervical cancer. Proper campaign and programs should be organized in rural areas toward the same end.

In Indian prospective different strategies have been developed to detect cervical cancer in its pre-invasive phase to bring down the incidence and associated mortality due to the disease. These rural screening programmes are summarized as Rural cancer registries, Camp approach, through services of village health nurses (VHNs), Visual inspection, cytological screening (Possible strategies for rural screening), HPV DNA Detection, HPV Vaccination, Role of tumour markers. All the plans and strategies regarding the cervical cancer should be tried and implemented at the ground level to the marginalized.

LIMITATIONS

As it is a questionnaire based study there could be response bias. Due to feasibility reasons this study could not be conducted in the community and was restricted to few women attending the OPDs. It is possible that some women were educated and advised about cervical cancer and its screening.

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