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Original Research Article

Socio-Demographic Characters and Cervical Cytology: A Descriptive Study

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Abstract

Women who first become sexually active at an early age (before age 16) are at higher than average risk of developing cervical cancer. In addition, women who have had multiple sexual partners are also at higher risk for cervical cancer. This is because these women are at higher risk of contracting the human papillomavirus (HPV), which cannot be prevented by using condoms or other birth control methods. A detailed clinical history was taken from each patient regarding age, religion, husband's occupation, socioeconomic status, marital status, menstrual status, parity, obstetric status, history of use of contraception, history of chemotherapy and any previous abnormal cytology of cervix. Approximately 74% of cases across all categories were seen in low socioeconomic status. This percentage was roughly maintained across all diagnosis 80% of SCC, 87.5% of HSIL 93.3% of LSIL& 90% of ASC-US. An increased percentage of ASC-H (33.3%) was seen in middle group.

Keywords: Cervical Cancer; Pap Smear; Socio Demographic Factors.

Introduction

Fifty percent of cervical cancer diagnoses occur in women ages 35-54, and about 20% occur in women over 65 years of age. The median age of diagnosis is 48 years. About 15% of women develop cervical cancer between the ages of 20-30.

Cervical cancer is extremely rare in women younger than age 20. However, many young women become infected with multiple types of human papilloma virus, which then can increase their risk of getting cervical cancer in the future. Young women with early abnormal changes who do not have regular examinations are at high risk for localized cancer by the time they are age 40, and for invasive cancer by age 50 [1].

Women who first become sexually active at an early age (before age 16) are at higher than average risk of developing cervical cancer. In addition, women who have had multiple sexual partners are also at higher risk for cervical cancer. This is because these women are at higher risk of contracting the human papillomavirus (HPV), which cannot be prevented by using condoms or other birth control methods. Certain strains of HPV increase cervical cancer risk [2].

Although the rate of cervical cancer has declined among both Caucasian and African-American women over the past decades, it remains much more prevalent in African-Americans, whose death rates are twice as high as Caucasian women. Hispanic American women have more than twice the risk of invasive cervical cancer as Caucasian women, also due to a lower rate of screening.

These differences, however, are almost certainly due to social and economic differences. Numerous

studies report that high poverty levels are linked with low screening rates. In addition, lack of health insurance, limited transportation, and language difficulties hinder a poor woman's access to screening services.

Certain strains of the human papillomavirus (HPV) increase the risk of cervical cancer. HPV is a common sexually transmitted disease that affects both men and women. There are over 80 different strains of HPV and most do not pose any health risks. However, some strains of HPV (in particular, HPV-16, HPV-18, HPV-31, and HPV-45) can cause cellular changes that may lead to cervical cancer in women. It is estimated that one million new cases of HPV occur each year, and 20% to 40% of sexually active women have some form (usually not harmful) of HPV. Women who have abnormal Pap smear results may be specifically tested for HPV [3].

Links between human papillomaviruses (HPVs) and cervical cancer were first suspected almost 30 years ago. DNA of specific HPV types has since been found in almost all cervical cancer biopsies. HPV oncogenes that are expressed in these cells are involved in their transformation and immortalization, and are required for the progression towards malignancy. Epidemiological studies have underlined that HPVs are the main aetiological factor for cervical cancer. But how has this knowledge been translated into the clinic to allow the prevention, screening and treatment of cervical cancer [4].

The human immunodeficiency virus (HIV), the virus that causes AIDS, also increases the risk of cervical cancer. This occurs because HIV damages the body's immune system, making it easier for women to contract HPV, a sexually transmitted disease that may increase the risk of cervical cancer. HIV can also increase the rate in which pre-cancerous cells change into cancerous cells.

Studies that have examined the relationship between oral contraceptives and cervical cancer risk have been inconsistent. According to the National Cancer Institute, there is some evidence that long-term use (more than five years) of oral contraceptives may slightly increase the risk of cervical cancer. However, the association between oral contraceptives and cervical cancer risk remains unclear because it is difficult to separate this factor from other risk factors that increase cervical cancer risk (in particular, early age at first sexual intercourse and a history of multiple sexual partners). Because women who use oral contraceptives may or may not have this sexual history, it is difficult for researchers to definitively conclude the role oral contraceptives play in determining cervical cancer risk [5].

Cigarette smoking may be associated with an increased risk of cervical cancer, as well as other cancers (such as lung). Physicians have found by-products of tobacco in the cervical mucus of women who smoke and believe these by-products damage the DNA of cervical cells, increasing the risk of cervical cancer. Smokers are twice as likely to develop cervical cancer than non-smokers.

Studies indicate that having many children increases the risk for developing cervical cancer, particularly in women infected with HPV [6].

A case control design has been used to investigate risk factors associated with the development of cervical squamous intraepithelial lesions (SIL) in a population of urban women. When Southern blot was used to detect HPV, logistic regression analysis identified HPV infection and low educational achievements major independent risk factors. When PCR was employed to detect HPV, the logistic regression model suggested that HPV infection and Hispanic ethnicity represented independent risk factors; low educational achievement and Black ethnicity were risk factors of borderline significance of disease. or dysplastic lesions carried the highest risk of SIL We conclude that infection with HPV is the major risk factor for cervical SIL and suggest that targeted HPV screening of women over age 35 may represent an innovative strategy to detect women at high risk of cervical neoplasia [7].

ALTS (ASCUS/LSIL Triage Study for CervicalCancer) and Portland Kaiser Permanente studies allowed researchers to examine whether testing for specific human papillomavirus (HPV) types—HPV16 and HPV18—was more effective at predicting risk for precancerous conditions or cervical cancer than testing for a broad pool of cancer-causing, or oncogenic, HPV types.

In October 1999, began to measure the effect of a single round of screening by testing for human papillomavirus (HPV), cytologic testing, or visual inspection of the cervix with acetic acid (VIA) on the incidence of cervical cancer and the associated rates of death in the Osmanabad district in India [8].

Methodology

Inclusion criteria

- Symptomatic patients present with various complaints like discharge, bleeding per

vaginum, low backache, pain in abdomen, irregular menstrual cycles and contact bleeding etc in age group of 18-60 years.

- All sexually active women between 18-60 years of the age attending Obstetrics and Gynaecologyout patientDepartment.

Exclusion criteria

- All unmarried women patients

Adetailed clinical history was taken from each patient regarding age, religion, husband's occupation, socioeconomic status, marital status, menstrual status, parity, obstetric status, history of use of contraception, history of chemotherapy and any previous abnormal cytology of cervix .

Results

Table 1: Show distribution of cases according to age

Age (in years)	No. of Cases	%
< 20	4	1.3
20-29	74	24.7
30-39	97	32.3
40-49	79	26.3
50-59	28	9.3
60-69	16	5.3
70+	2	0.7
Total	300	100.0
Mean ±SD Median	36.50 ±10.73 35	

Maximum number of cases were in the age group of 30-39 (32.3%) followed by those belonging to 40 – 49 years (27%). Minimum age of the cases was 18 years.Maximum age of the cases was 70 years (Table 1).

Table 2: Distribution of the cases according to their Socio - economic Status.

SES	No. of Cases	%
Low	218	72.7
Middle	79	26.3
High	3	1.0
Total	300	100.0

Table 2 shows socioeconomic distribution of the cases. In our study 72.7% of the cases belonged to the low socioeconomic group, 26.3% were in middle group while only 1.0% of the cases were in higher socioeconomic group.

Table 3: Distribution of the cases according to Parity. (n = 300)

Parity	No. of Cases	%
Nulliparaous	40	13.3
Multiparaous	260	86.7
Total	300	100.0

Table 3 show, parity of the studied cases. In present study 86.7% multiparous of the cases were and only 13.3% cases were from multiparous category.

Table 4: Correlation Between Socio-Economic Status and Cervical Cytology (N=282)

	Cytological Report (pap report)						
	ASC-H	ASC-US	HSIL	LSIL	NILM	SCC	Total
Low	2	9	7	14	172	4	208
	66.7%	90.0%	87.5%	93.3%	71.4%	80%	74.1%
Middle	1	1	1	1	66	1	71
	33.3%	10.0%	12.5%	6.7%	27.4%	20%	24.8%
High	0	0	0	0	3	0	3
	.0%	.0%	.0%	.0%	1.2%	.0%	1.1%
Total	3	10	8	15	241	5	282

Table 4 shows approximately 74% of cases across all categories were seen in low socioeconomic status. This percentage was roughly maintained across all diagnosis 80% of SCC, 87.5% of HSIL 93.3% of LSIL & 90% of ASC-US. An increased percentage of ASC-H (33.3%) was seen in middle group.

Discussion

The present study comprised of 300 cases with various Gynecological complaints attending the Gynecology .

After taking the detailed clinical history, all were screened by Pap smear examination with colposcopy and biopsy in selected cases. Pap smear analysis was based on The Bethesda System 2001.

Out of 300 cases biopsies were taken only in 55 cases when it was required and with patients concurrence and cyto-histological correlation was done in those cases and various statistical analysis were obtained.

Table 5: Comparative study of age distribution of cases

Age in Years	Shanta9 (1965)	U Rao10 (1990)	Present
15-19	-	-	1.3
20-29	6 %	4.71	24.7
30-39	39%	19.78	32.3
40-49	30%	37.59	26.3
50-59	18%	21.61	9.3
60-69	7%	16.28	5.3
70 & above			0.7

Table 5 shows the comparison of various authors according to age wise distributions of cases. In ours study maximum number of cases was in the age group of 30–39 years (32.3%). Similar findings have shows in Shanta's study. The commonest age group in the study of Haldar, Ahuja, Hafeez and Roy Choudhary was 40–49 years. In our study maximum number of cases of squamous cell abnormalities – ASC-US, ASC-H, LSIL, and HSIL were seen in the age group of 30-39. LSIL (mild dysplasia) is somewhat more common in this age group as compared to the HSIL and SCC which more common in the age group of 50-59 years.

Sahir et al. [11] reported that in India carcinoma in-situ has been reported to be highest between 30-40 years. Koss reported a peak of prevalence in 35-50 years (the age for both dysplasia and carcinoma and the women seek medical advice generally only when signs and symptoms, reach such an advanced stage. Thus it is concluded that dysplasia is a disease of younger age group i.e. 30-40 years while frank malignancy in seen in the older age group i.e. above 45 year.

Table 6: Comparative study different socioeconomic status of cases.

Author	Total No. of Cases	Low	Middle	High
Garudet al12	7688	100%	-	-
Upadhyaya et al 13	5516	96%	2%	-
Rao et al10	657	70.7%	24.9%	4.4%
Present Study	300	72.7%	26.3%	1.0%

In our study maximum number of cases (72.6.%) and cervical abnormalities was found in lower socioeconomic group. The same observation was noted by Garud, Bhaskaran, Upadhyay and Rao. This shows that low socioeconomic status is a major risk factor for development of carcinoma of cervix because in this group, early marriage, increased and early parity, low literacy, poor genital hygiene is common practice (Table 6).

Maximum number of cases of LSIL (93.35%), HSIL (87.5%) and SCC (100%) was found in lower socio-economic group. (Table 4) The same observation was noted by Garud, Bhaskaran, Upadhyay and Rao. This shows that low socioeconomic status is a major risk factor for development of carcinoma of cervix because in this SES group early marriage, increased and early parity, low literacy, poor genital hygiene is common practice.

In present study four fifth (87.6%) of the studied population was found multiparous i.e. parity > 2 and only 12.4% cases were nulliparous

Table 7: Comparative study of parity in different cases

Author	Total no. of cases	Parity	
		Nulliparous	Multiparous
Rao U et al 10	657	16.5%	83.5%
Present Study	300	19.9%	87.6%

category. Increased incidence of SIL and invasive carcinoma was seen in females with high parity (P^4 – P^6) (Table 7). Maximum number of cases of ASC-US (90%), ASC-H (66.7%), all the cases of HSIL and invasive squamous cell carcinoma (100%) was seen in high multiparous women. (Table 4). The other authors P.L. Nawalakha, Shah & Shah and UshaRao also reported that maximum number of SIL and invasive cases in multiparous group.

Conclusion

Maximum number of studied population belonged to the age group of 30-39 years, and the maximum incidence of surface intraepithelial lesion i.e. LSIL was in the same age group. Maximum incidence of HSIL was in 40-49 years age group.

The maximum number of cases squamous cell carcinoma was in 60-69years of age group.

72.6% of patients of the study group belong to low socioeconomic status. Incidence of ASC-US, ASC-H, HSIL and Squamous cell carcinoma were also maximum in low socioeconomic group.

Thus we conclude that the cervical cancer is the most common malignancy to affect the female population in India but the screening can reduced the incidence of invasive by identifying pre invasive lesion. Cervical cancer is therefore preventable, and while eradication is not yet possible, the mortality and morbidity can definitely reduced by screening.

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