

## A Study on Cervical Screening by Pap Smear In An Urban Population In Erode In Tamilnadu In India

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### **Abstract:**

#### *Aim of the study*

The aim of the study is to find the incidence of abnormal pap smears in an urban population in Perundurai in Erode in India and correlation with clinical features.

#### *Method of the study*

All women who attend the gynaecology outpatient department of Government Erode Medical College , Perundurai in the age group of 20-65 years and sexually active were included in the study. Proper history, clinical examination, per speculum examination and vaginal examination were done. Pap smear was taken by conventional method and sent to the pathology department for pap smear study based on Bethesda classification. Women with visible carcinoma cervix were excluded from the study.

#### *Results*

Most women were in the age group of 41-50 years. White discharge per vaginam was the most common symptom followed by pain abdomen and then by irregular bleeding per vaginam. About 58.7% pap smears were negative for intra epithelial malignancy and 38.2% were inflammatory smears .Total number of abnormal smears reported were about 3.03%

#### *Conclusion*

Routine pap smear should be done as a screening method irrespective of clinical symptoms. All sexually active women should be educated and motivated for pap smear screening . Pap smear is a simple, non invasive , out patient procedure easy to perform screening method.

### **Key words:**

Cervical screening, pap smear, Cancer cervix , Bethesda classification

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### **I. Introduction:**

Cervical Cancer has emerged as the most common genital malignancies second only to breast malignancy in Women. India accounts for nearly one-fourths of cancer deaths. Cervical cancer accounts for 6-29% of all cancers in Indian Women. According to National Cancer Registry 75,209 cases have been recorded in 2020 (1). Cervical cancer is a major cause of cancer mortality in women. Every 1 in 75 women have cancer cervix. As cervix is easily amenable for clinical examination, proper screening and follow-up will help in prevention and/or early detection of cervical cancer. Cervical cancer is one of the few cancers which is preventable and when detected early could be treated and its progression could be prevented. Cervical screening aims to detect pre-cancerous lesion and abnormalities in the cells of the cervix. Papumpare district in West Arunachal has the highest incidence of cervical cancer in India (27.7 per 1,00,000).

### **II. Aim Of The Study:**

1. Cervical screening by conventional papsmear.
2. To identify normal and abnormal papsmeas by Bethesda classification.
3. Incidence of abnormal papsmear in urban population of Perundurai, Erode in India.
4. Correlation with clinical features.

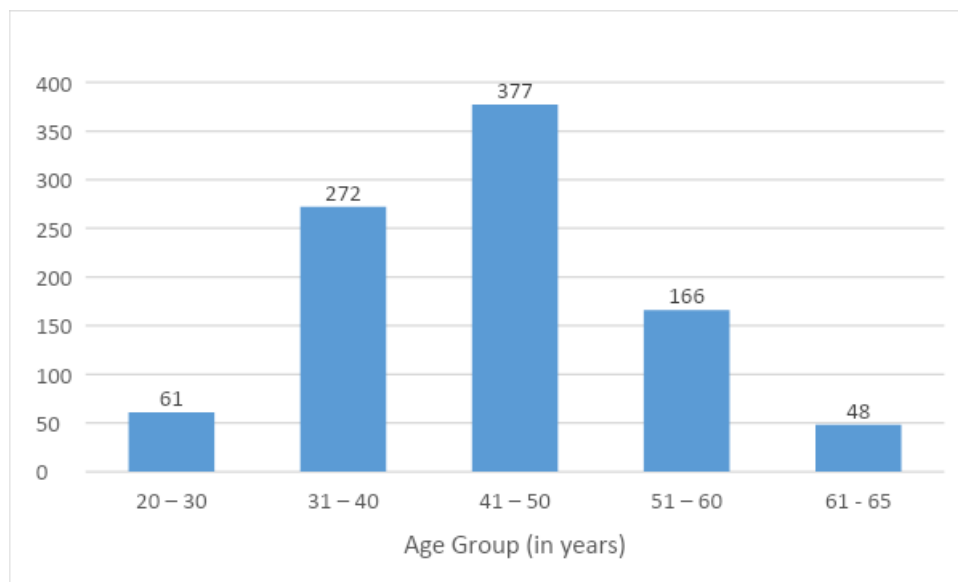
**III. Method Of The Study:**

The study was conducted in Government Erode Medical College, Perundurai for a period of 15 months from January 2019 to March 2020. Ethical committee approval was obtained. Women attending gynaecology OPD with/without clinical symptoms and patients coming for master health check-up in the age group of 20 to 65 years and or married for 10 years and sexually active women were included in the study. Thorough clinical history taken, clinical examination, per speculum examination were done. Women with visible carcinoma cervix were excluded. After obtaining informed consent papsmear was done. Endo-cervical smear taken using endo-cervical brush and ecto-cervical smear taken with Ayer’s spatula and smeared on two different pre-labelled slides. The slides were then immersed in 95% ethanol(iso-propyl alcohol) in Coplin jar and sent to pathology lab for conventional papsmear study. Papsmear was reported based on Bethesda classification.

**IV. Results:**

Total papsmears taken were 924. Most of the women participated in the study were in the age group of 41-50 years(40.8%) followed by 31 - 40 years(29.43%). Age wise participation is given in the table below.

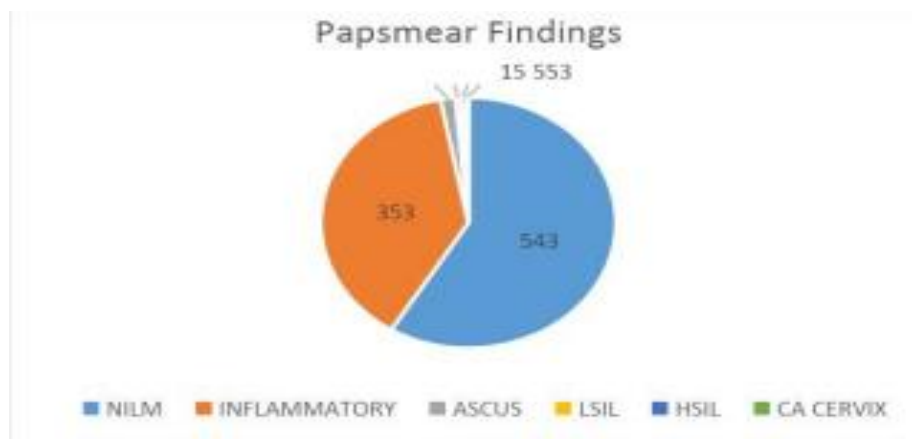
Age Group (in years)	Number of papsmears taken (in numbers)
20 – 30	61
31– 40	272
41-50	377
51 – 60	166
61-65	48



Out of 924 smears taken , about 543 (58.7%) were negative for intra epithelial lesion or malignancy(NILM), 353 smears( 38.2%) were inflammatory smears, 15 smears (1.62%) showed ASCUS, 5 (0.54%)were LSIL (low grade squamous intraepithelial lesion), 5 (0.54%) were HSIL (high grade squamous intraepithelial lesion) and 3(0.32%) showed squamous carcinoma cervix.The pap smear findings are given in the table below:

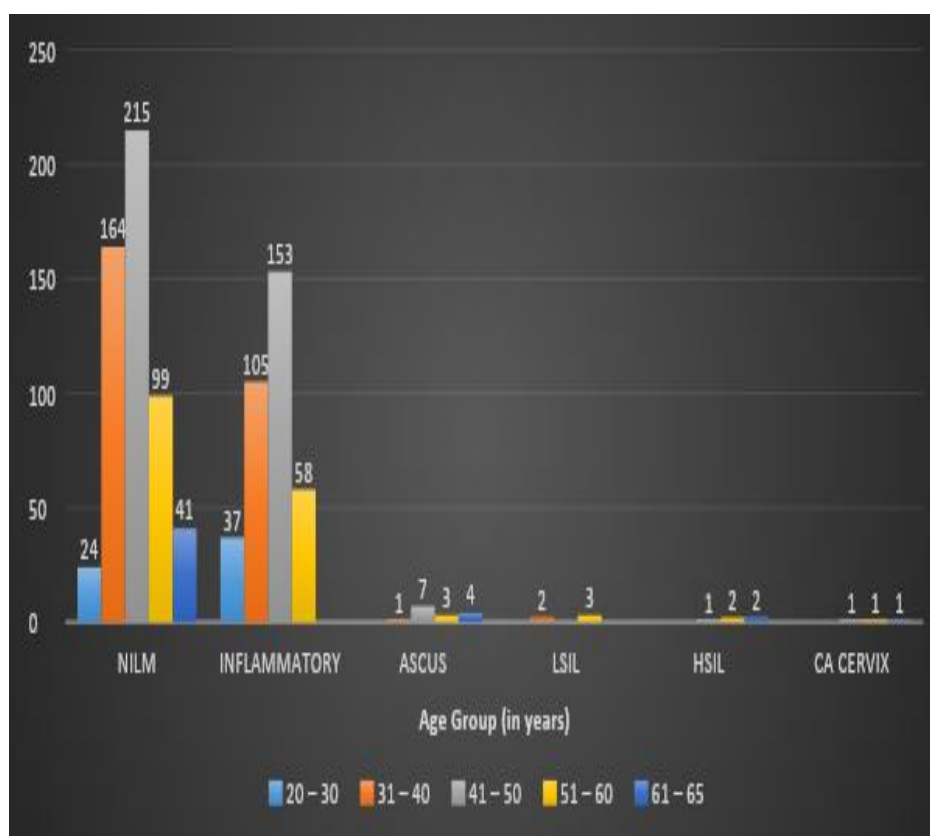
Pap smear findings

NILM	INFLAMMATORY	ASCUS	LSIL	HSIL	CANCER CERVIX
543	353	15	5	5	3



Most of the abnormal smears were in the age group of 41 - 60 years .Age group wise distribution of pap smear findings are given as follows:

Age Group (in years)	NILM	INFLAMMATORY	ASCUS	LSIL	HSIL	CANCER CERVIX
20 – 30	24	37	0	0	0	0
31 – 40	164	105	1	2	0	0
41 – 50	215	153	7	0	1	1
51 – 60	99	58	3	3	2	1
61– 65	41	0	4	0	2	1



AGE GROUP WISE DISTRIBUTION OF PAP SMEAR FINDINGS

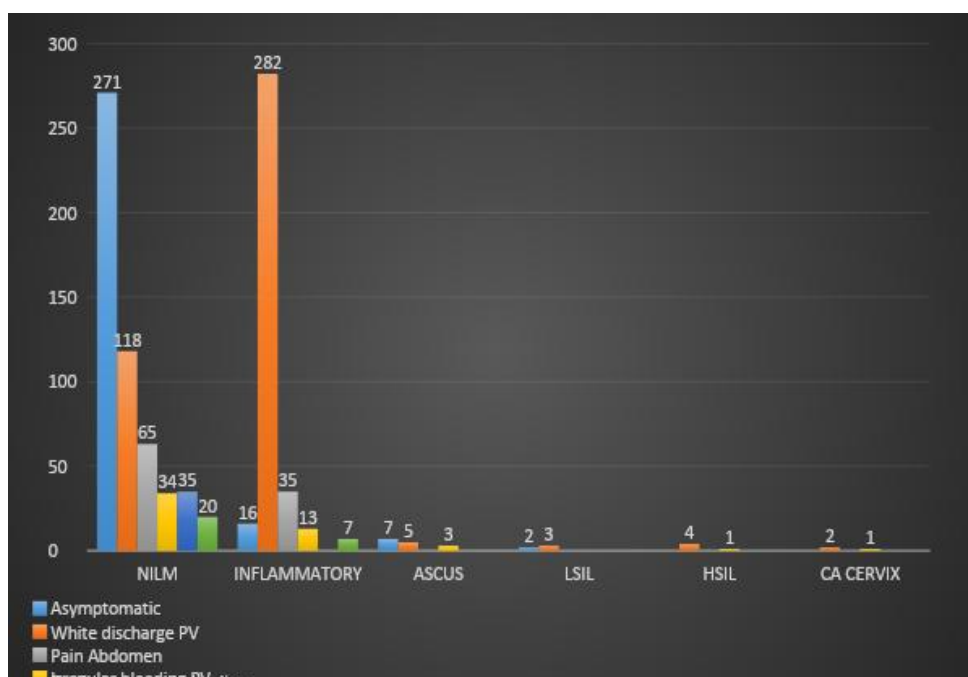
Among the symptomatic women , white discharge per vaginum was the most common symptom (44.8%) followed by pain abdomen (10.8%) and then by irregular bleeding per vaginum(5.62%). About 296

(32.03% )women were asymptomatic About 3.78% women had postmenopausal bleeding and 2.92% women had prolapse uterus.

Pap smear findings and correlation with clinical symptoms are given as follows:

**CORRELATION WITH CLINICAL SYMPTOMS:**

Clinical Symptoms	NILM	INFLAMMATORY	ASCUS	LSIL	HSIL	CANCER CERVIX
Asymptomatic	271	16	7	2	0	0
White discharge PV	118	282	5	3	4	2
Pain Abdomen	65	35	0	0	0	0
Irregular bleeding PV	34	13	3	0	1	1
Postmenopausal bleeding	35	0	0	0	0	0
Prolapse	20	7	0	0	0	0

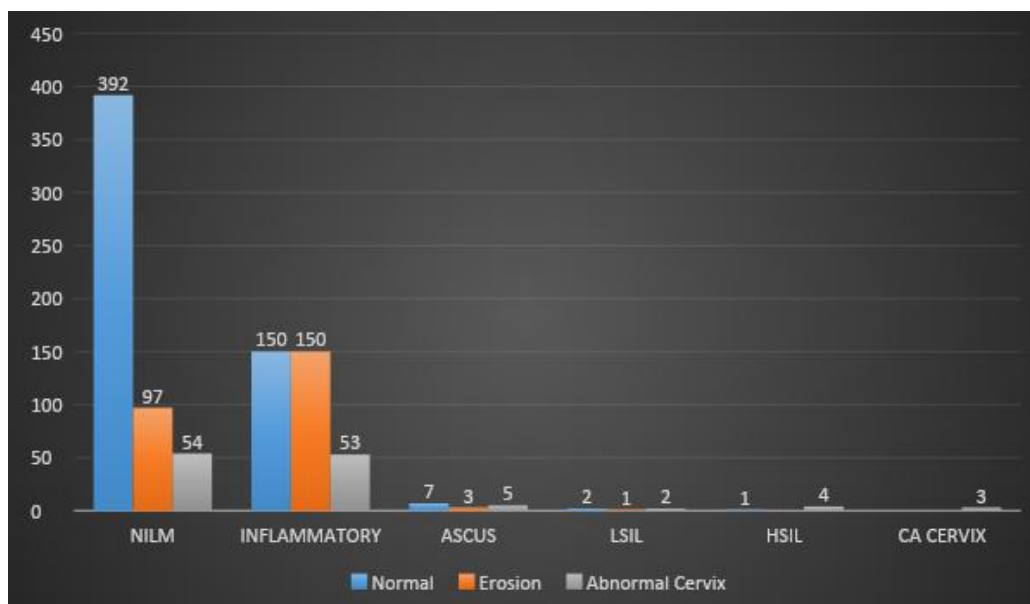


**CORRELATION OF PAP SMEAR FINDINGS WITH SYMPTOMS**

On per speculum examination, around 552 (59.74%) women had normal appearing cervix. Only 121 women (13.09%) had unhealthy cervix.

**CORRELATION WITH CERVICAL EXAMINATION:**

Cervical Examination	NILM	INFLAMMATORY	ASCUS	LSIL	HSIL	CANCER CERVIX
Normal	392	150	7	2	1	0
Erosion	97	150	3	1	0	0
Abnormal Cervix	54	53	5	2	4	3



**CORRELATION OF PAP SMEAR FINDINGS WITH CERVICAL EXAMINATION**

### V. Discussion:

Most of the people were in the age group of 41 to 50 years followed by 31-40 years. Total number of smears taken were 924. Out of 924 smears, 543(58.7%) were negative for intra-epithelial lesion or malignancy(NILM), 353(38.2%) were inflammatory smears compared to 48.84% NILM and 42.66% inflammatory smears in Pushpa lata et al (2), whereas Atilgan et al (3) and Kulkarni et al(4) study had 95% and 74.5% of inflammatory smears respectively . Repeat papsmear has to be taken for all inflammatory smears after proper antibiotic treatment. In the present study 15 smears were ASCUS (1.62%), whereas Pushpa lata et al(2), Verma et al (5) , Padmini et al (6) reported 2.9%, 1% and 8% of ASCUS smears respectively.

In the present study , 5 smears were LSIL(0.54%) compared to 5.09% in Pushpa lata et al , 5.5% in Verma et al, 5% in Padmini et al study. The present study showed 0.54% HSIL which is comparable to the results of Pushpa lata et al 0.48%, whereas Verma et al and Padmini et al studies had 2.5% and 3% respectively. In the present study the most common epithelial abnormality was ASCUS(atypical squamous cells of unknown significance), as Saha et al(7) study which also reported ASCUS as the most common abnormality. Whereas Pushpa lata et al (2) and Vaghela et al (8) had LSIL as the most common epithelial abnormality.

Total number of epithelial cell abnormalities in the present study were 28 i.e, 3.03% as compared to 8.48% in Pushpa lata et al(2), 9.05%in Al Eyd et al (9), 12.6% in Sarma et al (10) and 11.5% in Patel et al (11). The urban population in Perundurai in the present study had the lowest incidence of abnormal smears as compared to other study population.

In the present study most cytological abnormalities were found in the age group of 41-60 years which is comparable to the results of Pushpa lata et al(2). Gupta et al (12) reported most of the cytological abnormalities in the age group of 31 – 40 years (40.37%). Abnormal smears were mostly found in women with symptoms. All women with abnormal smears were further subjected to Colposcopy and guided biopsy..In the present study , white discharge per vaginum was the most common symptom presented with(44.8%) which is comparable to the results of Pushpa lata et al(2), Pradhan et al (13) and Ranabhat et al (14). In the present study, ASCUS and HSIL were even found in asymptomatic women which thereby suggest the importance of routine papsmear screening for even asymptomatic women.

On Perspeculum examination around 552 women(59.7%) had normal appearing cervix with 1 HSIL reported in even normal appearing cervix. Only 121 women (13.09%) had unhealthy cervix which implies the importance of cervical screening even in normal appearing cervix.

### VI. Conclusion:

Routine pap smear screening should be done in all sexually active women irrespective of their clinical symptoms. Women with symptoms should also be given more importance. Many women may ignore white discharge per vaginum and irregular bleeding per vaginum . Whenever women of reproductive age group attend the gynaecology clinic, even for other symptoms, they should be explained the importance of periodic cervical examination and the need for pap smear screening. Cervical screening at a large scale can help in preventing cervical cancer and reduce cancer mortality by large . Health awareness among women and motivation for screening should be done. Women should also be educated about the abnormal symptoms and to seek health

care whenever necessary. Pap smear is a simple, safe and easy to perform screening test which should be utilised for mass screening . Cervical cancer if detected in the early stage can be completely curable as the spread is limited or negligible. Regular health camps, cancer awareness programs should be organised and health education at community level should be provided with the help of social media, booklets, pamphlets and IEC materials.

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