

# Cancer Screening In Symptomatic Patients Using Pap Smear Test- A Hospital Based Study.

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## **Abstract:**

**Background:** Cervical carcinoma is second most common cancer in India and a major cause of death among women. Timely diagnosis and treatment allow significant reduction of morbidity and mortality. The present study is an attempt to screen women attending Gynaecology OPD at Index Medical College Indore for the cervical cancer using Pap smear studies.

**Objective:** To evaluate the use of Pap smear screening method for detection of pre-cancerous lesions of the uterine cervix.

**Methodology:** In this study 110 women attending the Gynae OPD with complaints of abdominal pain, irregular menses, discharge PV and post-coital pain or bleeding were included. Pap smear was taken after history taking and clinical examination for all women to screen the cervical cancer. Smear stained with Papanicolaou stain and studied in the Department of Pathology.

**Results:** In the study, most women were in the age range of 21 to 50 years and multiparous. Vaginal discharge was the chief complaint, followed by irregular menses and lower abdominal pain. After Pap smear study, the test was negative for malignancy in 23 % of women, 40% of women had bacterial vaginosis and 18% diagnosed as having candidiasis. ASC-US, ASC-H, LSIL and HSIL were detected in 5.5%, 2%, 5.5% and 2 % of women respectively. Women with ASC-US, ASC-H, LSIL, HSIL underwent colposcopy and biopsy.

**Conclusion:** Pap smear is a simple, non-invasive, cost-effective, highly sensitive and specific method for diagnosing precancerous lesions of cervix. By instituting a well-planned screening program, cervical cancer related morbidity and mortality can be reduced. **Key Words:** ASCUS, LSIL, HSIL, NILM, Bacterial vaginosis, Papanicolaou stain.

## **1. INTRODUCTION:**

Cervical cancer is the second most frequent cancer in women worldwide, while it is the most common cancer in developing countries. India contributes about 122,844 cervical cancers. Women in India face a 1.6 percent cumulative risk of acquiring cervical cancer and a 1.0 percent cumulative mortality risk from cervical cancer, accounting for approximately one-third of all global cervical cancer deaths (1). In its agenda for cancer prevention and control in the context of an integrated approach, the World Health Assembly (WHA 70.12) calls on

governments and the WHO to speed up action to achieve Goal 3.4 of the Sustainable Development Goals (SDG 3.4), which aims to reduce premature mortality from noncommunicable diseases, including cancer, by one-third by 2030 [2]. Risk factor intervention, vaccination, screening, and early detection are some of the measures for reducing the high incidence of cervical cancer [3]. The first step toward reducing the burden of cervical cancer is effective screening. "The systematic application of a test or an inquiry to identify individuals at risk of a specific disorder" is how screening is defined. It calls for more research or direct preventive intervention among people who haven't sought medical help for symptoms of that disorder [4]. The Pap smear test is a very sensitive and specific procedure for detecting precancerous cervix lesions. The community must be educated about the Pap smear test through a variety of educational programmes and media activity.

## 2. MATERIALS AND METHODS:

The study was conducted at Index college hospital and research institute Indore. A total of 110 women attending Gynaecology OPD were included. Inclusion criteria were women of age > 21 years with vaginal discharge, post coital bleeding, intermenstrual bleeding, post-menopausal bleeding, multiple sexual partners, unhealthy looking cervix and lesion that bleeds on touch. Women of Known case of cancer cervix, treated cases of cancer cervix and women who were pregnant were excluded from study. All the women in study were sensitized about the screening method to detect carcinoma of cervix in preclinical stage. The women who volunteered to participate were informed about the Pap smear, biopsy if required and the required follow-up in case of an abnormal pap test. Thereafter, informed consent was obtained in a structured Proforma. A detailed history was taken in all the women and that included personal information, history, and clinical examination. PAP smears was prepared with the conventional method according to standard medical literature. The participants were prepared in lithotomy position. A sample was taken from the ectocervix by rotating a wooden Ayre's spatula 360 degree and was immediately smeared over labelled glass slide and fixed within 30 seconds before drying in 95% ethyl alcohol in a jar and was sent to Department of Pathology for examination. Cytology laboratory reported the examination results according to the Bethesda system for reporting cervical cytology (2014) as follows

- Negative for intraepithelial lesion or malignancy
  - Epithelial cell abnormalities
- a) Squamous cell abnormalities
  - b) Atypical squamous cells (ASC)
  - c) ASC of undetermined significance (ASC-US)
  - d) ASC, cannot rule out high grade lesion (ASCUS)
  - e) Low-grade squamous intraepithelial lesion (LSIL)
  - f) High grade squamous intraepithelial lesion (HSIL)
- g) Squamous cell carcinoma
- h) Glandular cell abnormalities
  - i) Atypical glandular cells specify site of origin, if possible
  - j) Atypical glandular cells, favour neoplasia
  - k) Adenocarcinoma in situ Adenocarcinoma
- Non-Neoplastic findings
  - a) Cellular variations (atrophy, keratosis, metaplasia)
  - b) Reactive cellular changes (inflammation, repair, radiation)
  - c) Glandular cells status post hysterectomy

d) Organism: Trichomonas vaginalis, Fungal organisms consistent with Candida spp, Shift in flora suggestive of bacterial vaginosis, cellular changes consistent with herpes simplex virus, cellular changes consistent cytomegalovirus, Bacteria consistent with Actinomyces spp.

e) Other Non-Neoplastic findings

- Endometrial cells in woman  $\geq 45$  years of age
- Other malignant neoplasms (specified)

All the women with abnormal finding were followed up and underwent treatment as per standard protocol.

### 3. RESULTS:

None of the women who participated in the study had pap smear examination earlier in their life.

Table 1: Clinical presentation

Chief complaint	Number	Percentage
Discharge per vaginum	50	45%
Irregular menses	30	27%
Post coital bleeding/ pain	04	04%
Pain Abdomen	22	20%
Post-menopausal bleeding	04	04%
Total	110	100%

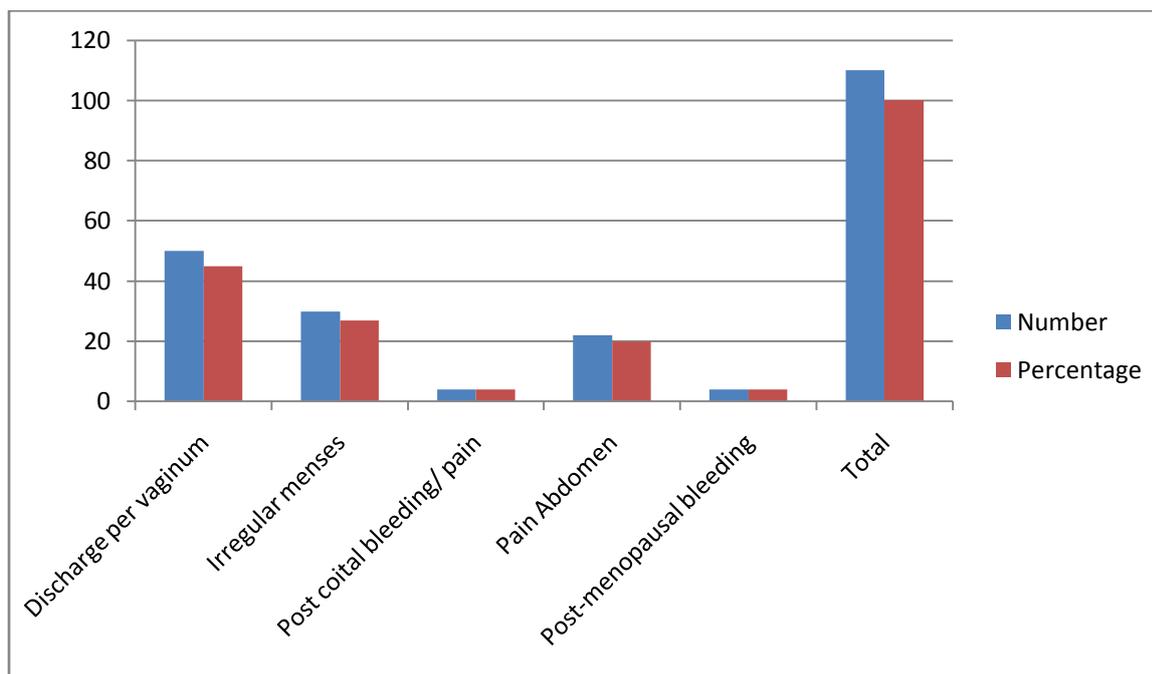


Table 2: Speculum findings

Speculum findings	Number	Percentage
Healthy cervix with mucoid discharge present	50	45%
Cervical erosion	16	14.5%
Bleeding on touch	04	3.5%
Cervix hypertrophied	40	37%

Total	110	100%

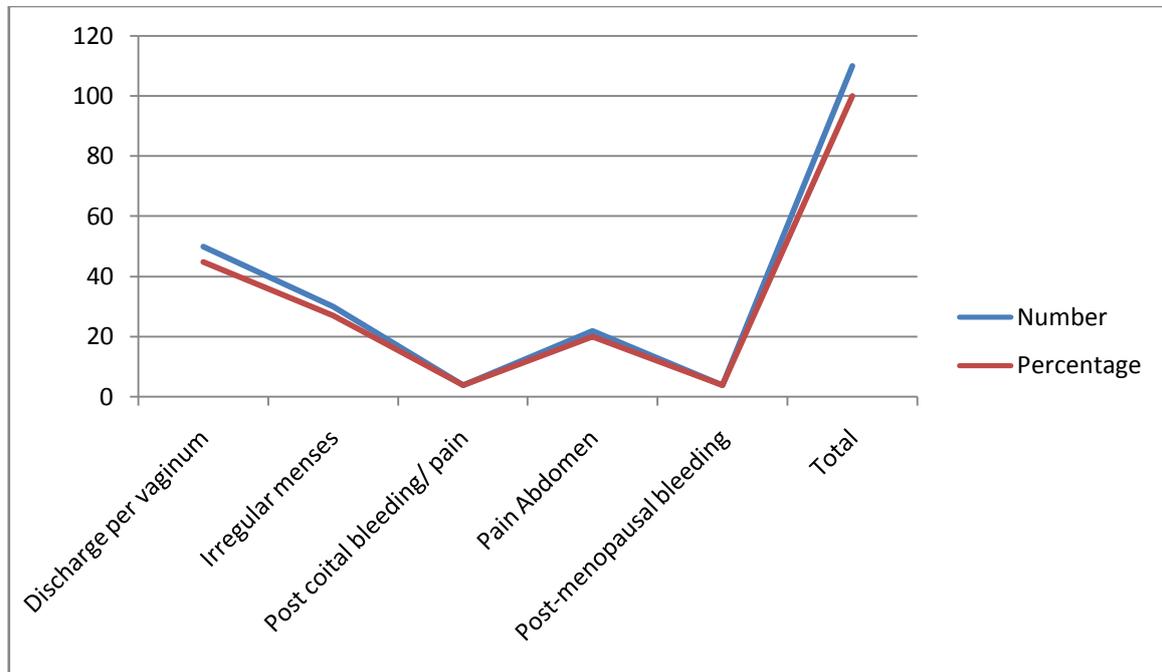
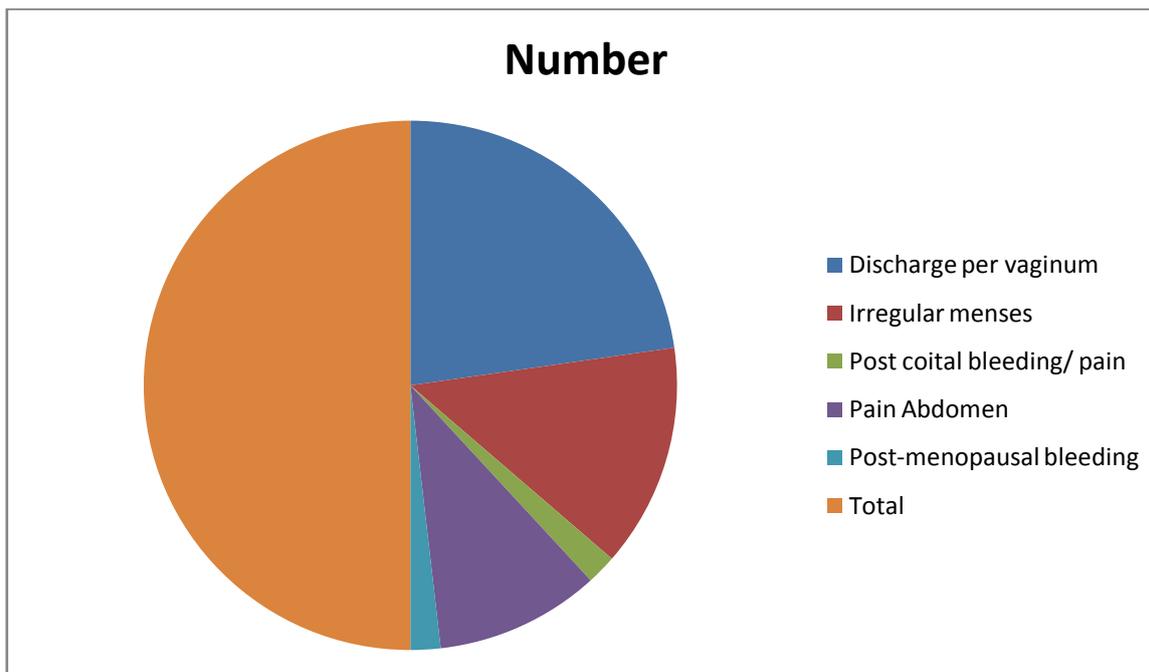


Table 3: Cytology findings

Pap smear cytology findings	Number	Percentage
NILM	26	23%
ASC-US	06	5.5%
ASC-H	02	02%
LSIL	06	5.5%
HSIL	02	02%
BV	46	42%
Candidiasis	20	18%
Unsatisfactory	02	02%
Total	110	100%



The presenting complaints and clinical findings are shown in Tables 1 and 2 respectively. The commonest presenting complaint of women in our study was abnormal vaginal discharge which was 45% followed by irregular menses in 27%. On speculum examination of cervix 45% of women had normal looking cervix with mucoid discharge, 37% had cervical hypertrophy, 14.5% had cervical erosion and 3.5% had bleeding on touch. Cytology was done in all the 110 women in the study, 26(23%) smears were reported as negative for intraepithelial lesions or malignancy (NILM), 06(5.5%) were reported as having ASC-US, 02(02%) were reported as ASC-H, 06 (5.%) % as having LSIL and 02(02%) reported as HSIL. The findings are shown in Table (3).

#### 4. DISCUSSION:

Cervical cancer is the world's second most prevalent disease among women, although it is the most common cancer in underdeveloped countries. Cervical cancer is the leading cause of death in India, with 122,844 cases reported. Women in India have a 1.6 percent lifetime chance of developing cervical cancer and a 1.0 percent lifetime risk of dying from it, accounting for roughly one-third of all cervical cancer fatalities worldwide (1). The World Health Assembly (WHA 70.12), in its agenda for cancer prevention and control in the context of an integrated approach, calls on governments and the WHO to accelerate action to meet Goal 3.4 of the Sustainable Development Goals (SDG 3.4), which aims to reduce premature mortality from noncommunicable diseases, including cancer, by one-third by 2030 [2]. Some of the approaches for minimising the high incidence of cervical cancer include risk factor control, immunisation, screening, and early detection [3]. Effective screening is the first step toward reducing the burden of cervical cancer. Screening is described as "the systematic application of a test or inquiry to identify persons at risk of a specific disorder." More research or direct preventive intervention for persons who haven't sought medical assistance for signs of that illness is needed [4]. For detecting precancerous cervix lesions, the Pap smear test is a very sensitive and specific treatment. Through a variety of educational programmes, the public must be taught about the Pap smear test.

## 5. CONCLUSION:

The Pap smear test is a simple, effective, and highly sensitive and specific tool for detecting precancerous cervix lesions, minimising treatment burden, morbidity, and death. To reduce treatment burden, morbidity, and death, it should be made a routine screening practise. Even in the postmenopausal period, every woman over the age of 30 should have at least one cervical cancer screening. The Pap test has long been considered the gold standard in cervical screening. The sensitivity for detecting cervical pathology is enhanced when the Pap test is paired with an HPV DNA test. The public should be taught about the Pap smear test, including its purpose and the frequency with which it must be performed, through a variety of educational and media activities..

## 6. REFERENCES:

- [1] Mishra, Raman. "An epidemiological study of cervical and breast screening in India: district-level analysis." *BMC women's health* 20.1 (2020): 1-15.
- [2] Mishra, Raman. "An epidemiological study of cervical and breast screening in India: district-level analysis." *BMC women's health* 20.1 (2020): 1-15.
- [3] Viens, Laura, et al. "Questions about cervical and breast cancer screening knowledge, practice, and outcomes: a review of demographic and health surveys." *Journal of Women's Health* 26.5 (2017): 403-412.
- [4] Britain, Great. National Screening Committee: First Report of the National Screening Committee. Department of Health, 1998.
- [5] Saslow, Debbie, et al. "American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology screening guidelines for the prevention and early detection of cervical cancer." *CA: a cancer journal for clinicians* 62.3 (2012): 147-172.
- [6] Pradhan, B., S. B. Pradhan, and V. P. Mital. "Correlation of PAP smear findings with clinical findings and cervical biopsy." *Kathmandu University medical journal (KUMJ)* 5.4 (2007): 461-467.
- [7] Ranabhat, S. K., R. Shrestha, and M. Tiwari. "Analysis of abnormal epithelial lesions in cervical Pap smears in Mid-Western Nepal." *Journal of Pathology of Nepal* 1.1 (2011): 30-33.
- [8] Sachan, PushpLata, et al. "A study on cervical cancer screening using pap smear test and clinical correlation." *Asia-Pacific journal of oncology nursing* 5.3 (2018): 337.
- [9] Verma, Ashok, et al. "A study on cervical cancer screening in symptomatic women using Pap smear in a tertiary care hospital in rural area of Himachal Pradesh, India." *Middle East Fertility Society Journal* 22.1 (2017): 39-42.
- [10] Padmini, C. P., et al. "Cytological and colposcopic evaluation of unhealthy cervix." *J Evid Med Healthc* 2 (2015): 6920-7.
- [11] Nayani, Zainab S., and Pravin Chandra Hendre. "Comparision and correlation of pap smear with colposcopy and histopathology in evaluation of cervix." *Journal of Evolution of Medical and Dental Sciences* 4.53 (2015): 9236-9248.
- [12] Mishra, Priti, RaginiThapa, and Arvind Kumar Dinkar. "A study on cervical cancer screening using pap smear in urban area in state of Meghalaya, India." *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* 7.8 (2018): 3113-3117.
- [13] Shanmugham D, Vijay A, Rangaswamy T. Colposcopic evaluation of patient with persistant inflammatory papsmear. *Sch J Appl Med Sci.* 2014; 2:1010–3.

- [14] Maleki, Azam, et al. "Prevalence of abnormal papanicolaou test results and related factors among women living in Zanjan, Iran." *Asian Pacific Journal of Cancer Prevention* 16.16 (2015): 6935-6939.