

## ORIGINAL RESEARCH

**Cervical Pap smear study and its utility in cancer screening in patients attending out-patient department in a tertiary care hospital****<sup>1</sup>Dr. Vijayta singh, <sup>2</sup>Dr. Radhey Shyam Verma, <sup>3</sup>Dr. Deepshikha**<sup>1</sup>Assistant professor, Pathology department, MSD, ASMC Bahraich<sup>2</sup>Assistant professor, Pathology department MSD, ASMC Bahraich<sup>3</sup>Assistant professor, Pathology department ASMC Shahjahanpur**Corresponding author:**Dr. Vijayta singh

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**Abstract****Background:**The present study was conducted for evaluating cervical Pap smear study and its utility in cancer screening in patients attending out-patient department in a tertiary care hospital.**Materials & methods:**Screening of a total of 1000 women within the age range of 20 to 40 years was done. After the patients were in the lithotomy posture, the vagina was punctured with a sterile bivalve speculum. The posterior vaginal wall was retracted posteriorly and the anterior vaginal wall anteriorly to give appropriate view of the cervix and vaginal wall. The ectocervix was used as the sample source. The sample was rapidly spread out onto a glass slide with a label, and it was fixed with 95% ethyl alcohol in a jar. Lesions that tested negative for both intraepithelial neoplasia and epithelial cell abnormalities (ECA), which comprise squamous and glandular cells, were grouped together. Colposcopy was recommended for women with abnormal Pap test findings, such as atypical squamous cells of unknown significance (ASCUS), low-grade squamous intraepithelial lesion (LSIL), and HSIL. Women who had a suspicious colposcopy finding had a biopsy guided by the results of the colposcopy.**Results:**Pap smears demonstrated inflammation in 36.8 percent of the patients. ASCUS, LSIL and HSIL were the findings in 4 percent, 5.4 percent and 2 percent of the patients respectively. 53.6 percent of the cases were negative for any form of malignancy. White discharge, Abdominal pain, Postictal bleeding, Irregular cycle and Postmenopausal bleeding was seen in 32.7 percent, 4.6 percent, 13.9 percent and 1.9 percent of the patients respectively. While correlating symptoms with Pap smear findings, non-significant results were obtained.**Conclusion:**Pap smear testing is a cost-effective non-invasive and simple procedure to detect potentially precancerous and cancerous lesions of cervix.**Keywords:**Cervical, Pap Smear, Cancer**Introduction**

Cervical cancer is the fourth most common cancer among women worldwide. Primary prevention and screening are by far the most effective modalities for decreasing the healthcare burden and mortality attributable to cervical cancer. In the United States and other developing countries, most screening and diagnostic efforts are directed towards early identification of high-risk human papillomavirus (HPV) lesions through HPV testing and pap smears. A number of risk factors for cervical cancer are linked to exposure to the HPV. Invasive cancer development process could prolong up to 20 years from the precursor lesion caused by sexually transmitted HPV. However, there are also other numerous risk factors (such as reproductive and sexual factors, behavioral factors, etc) for cervical cancers which include sexual intercourse at a young age (<16 years old), multiple sexual partners, smoking, high parity and low socio-economic level.<sup>1, 2</sup>Cervical cancer screening can be achieved using two methods the liquid-based or the conventional method. Both methods collect cells from the transformation zone of the cervix. The liquid-based method involves transferring cells into a vial of preservatives, which can undergo further processing in a laboratory. The liquid-based technique allows for easier interpretation, filtering of excess debris, and more importantly fewer unsatisfactory results. Another advantage of using the liquid-based technique includes using a single specimen to perform cytology. There are two acceptable techniques for collecting the Pap Smear: liquid-based and conventional. A clinician will place a speculum into the woman's vagina and identify the cervix.<sup>3- 5</sup>There is a need to spread cervical cancer screening awareness programs, educate women regarding the symptoms of cancer, and motivate them to visit the hospital for a cancer screening. Women and all family members should be counseled about the need for cancer screening. Pap smear-positive women need adequate treatment and regular follow-up.<sup>6, 7</sup>Hence; the present study was conducted for evaluating cervical Pap smear study and its utility in cancer screening in patients attending out-patient department in a tertiary care hospital.

### Materials & methods

The present study was conducted for evaluating cervical Pap smear study and its utility in cancer screening in patients attending out-patient department in a tertiary care hospital. Screening of a total of 1000 women within the age range of 20 to 40 years was done. Infertility, secondary amenorrhea, postcoital bleeding, intermenstrual hemorrhage, postmenopausal bleeding, abdominal discomfort, and vaginal discharge were among the symptoms of women that were analysed in this study. Every subject's complete clinical and demographic information was completed. The chief complaint was documented separately from the results of the vaginal and per speculum tests. After the patients were in the lithotomy posture, the vagina was punctured with a sterile bivalve speculum. The posterior vaginal wall was retracted posteriorly and the anterior vaginal wall anteriorly to give appropriate view of the cervix and vaginal wall. The ectocervix was used as the sample source. The sample was rapidly spread out onto a glass slide with a label, and it was fixed with 95% ethyl alcohol in a jar. Lesions that tested negative for both intraepithelial neoplasia and epithelial cell abnormalities (ECA), which comprise squamous and glandular cells, were grouped together. Colposcopy was recommended for women with abnormal Pap test findings, such as atypical squamous cells of unknown significance (ASCUS), low-grade squamous intraepithelial lesion (LSIL), and HSIL. Women who had a suspicious colposcopy finding had a biopsy guided by the results of the colposcopy. The course of treatment was determined by the disease's stage. All the results were analyzed by SPSS software. Assessment of results was done by using chi-square test. P- value of less than 0.05 was taken as significant.

### Results

Mean age of the patients of the present study was 33.7 years. Majority of the subjects were of rural residence. Pap smears demonstrated inflammation in 36.8 percent of the patients. ASCUS, LSIL and HSIL were the findings in 4 percent, 5.4 percent and 2 percent of the patients respectively. 53.6 percent of the cases were negative for any form of malignancy. White discharge, Abdominal pain, Postictal bleeding, Irregular cycle and Postmenopausal bleeding was seen in 32.7 percent, 4.6 percent, 13.9 percent and 1.9 percent of the patients respectively. While correlating symptoms with Pap smear findings, non-significant results were obtained. However; most abnormal Pap smear findings were found in patients with symptoms of white vaginal discharge while HSIL was found in only three patients with postmenopausal bleeding.

**Table 1: Distribution of cases according to Pap smear results**

Result	Number	Percentage
Negative for malignancy	536	53.6
Inflammation	368	36.8
ASCUS	40	4
LSIL	54	5.4
HSIL	2	2

**Table 2: Symptoms**

Symptoms	Number	Percentage
White discharge	412	41.2
Abdominal pain	327	32.7
Postictal bleeding	46	4.6
Irregular cycle	139	13.9
Postmenopausal bleeding	19	1.9
Others	59	5.9

### Discussion

Cervical cancer is cancer that starts in the cells of the cervix. The cervix is the lower, narrow end of the uterus. The cervix connects the uterus to the vagina. Cervical cancer usually develops slowly over time. Before cancer appears in the cervix, the cells of the cervix go through changes known as dysplasia, in which abnormal cells begin to appear in the cervical tissue. Over time, if not destroyed or removed, the abnormal cells may become cancer cells and start to grow and spread more deeply into the cervix and to surrounding areas. Unlike most other malignancies, cancer of cervix is readily preventable when effective programmes are conducted to detect and treat its precursor lesions. Since the introduction of Pap test, a dramatic reduction has been observed in the incidence and mortality of invasive cervical cancer worldwide.<sup>8-11</sup> Papanicolaou (Pap) smear remains the most available, feasible, and cost-effective tool for screening of the cervix premalignant and malignant lesions. Via the pap smear, several premalignant lesion of the cervix including the cervical dysplasia and inflammatory lesion could be diagnosed in early stage of the disease. However, the accuracy of the pap smear has been reported to range between 53 and 78% between various studies with the same method of interpretation.<sup>12, 13</sup>

Mean age of the patients of the present study was 33.7 years. Majority of the subjects were of rural residence. Pap smears demonstrated inflammation in 36.8 percent of the patients. ASCUS, LSIL and HSIL were the findings in 4 percent, 5.4 percent and 2 percent of the patients respectively. 53.6 percent of the cases were negative for any

form of malignancy. White discharge, Abdominal pain, Postictal bleeding, Irregular cycle and Postmenopausal bleeding was seen in 32.7 percent, 4.6 percent, 13.9 percent and 1.9 percent of the patients respectively. Garg P et al analyzed Pap smear reports from women presenting with various gynaecological indications in a tertiary care hospital. Maximum number of cases were in the age group 31-40 years constituting 32.72% of the total cases followed by age group 41-50 years. Vaginal discharge was the commonest chief complaint seen in 32.12% cases followed by menorrhagia. Maximum number of cases reported as non-specific inflammatory smears (64.54%). Among epithelial cell abnormalities incidence of LSIL was 2.42% followed by ASCUS (1.82%).<sup>14</sup> In the present study, while correlating symptoms with Pap smear findings, non-significant results were obtained. However; most abnormal Pap smear findings were found in patients with symptoms of white vaginal discharge while HSIL was found in only three patients with postmenopausal bleeding. The use of the Pap smear screening method for detection of precancerous lesions was evaluated in another study by Sachan et al. The Pap smear test of 93.57% of the women was adequately taken, while 6.42% of the individuals had an inadequate sample. The test was negative for malignancy in 48.84%, and 42.66% had infection or inflammation. Atypical squamous cells of undetermined significance (ASCUS), low-grade squamous intraepithelial lesion (LSIL), and high-grade squamous intraepithelial lesion (HSIL) were detected in 2.90%, 5.09%, and 0.48%, respectively. Women with Pap tests positive for ASCUS, LSIL, and HSIL underwent a colposcopy and guided biopsy.<sup>15</sup> The use of Pap smear screening to find cytological abnormalities and precancerous lesions was assessed in another study by Mishra R et al. Women found negative for intraepithelial neoplasia were 82.94%, while 13.36% had an inflammatory smear. 0.92% atypical squamous cells of undetermined significance (ASCUS), 2.78% Low-grade squamous intraepithelial lesion (LSIL) were found, no woman had High-grade squamous intraepithelial lesion (HSIL).<sup>16</sup> Ashtarian et al, in another study, determined the level of knowledge about cervical cancer and Pap smear and the factors influencing the Pap test screening among women. Almost 50.4% of the subjects had a history of Pap smear test. Pap test performance was significantly higher in those who had higher knowledge ( $P < 0.001$ ). Knowledge about cervical cancer, Pap smear and age was the most important predictors of the Pap test performance ( $P < 0.001$ ). The most important barrier and facilitator to Pap smear test were inadequate knowledge and the recommendations received from family, friends and healthcare professionals.<sup>17</sup>

## Conclusion

Pap smear testing is a cost-effective non-invasive and simple procedure to detect potentially precancerous and cancerous lesions of cervix.

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