

# Frequency of Cervical Intraepithelial Neoplasia in Women Attending Allied Hospital, Faisalabad.

Saadia Saleem, Sumaira Tahir

---

## ABSTRACT

**Objective:** To determine the frequency of cervical intraepithelial neoplasia (CIN) with papanicolaou (PAP) smear and identifying the disease in pre-malignant phase, thus preventing the development of invasive cancer. **Study Design:** Observational type of study. **Place and duration of study:** Outpatient department of Obstetrics & Gynaecology of Allied Hospital, Faisalabad from Jan. 2003 to Dec. 2003.

**Patients & Methods:** All the patients attending the Gynae outpatient department at Allied Hospital, Faisalabad with Gynaecological symptoms were subjected to a detailed history, examination and then underwent papanicolaou smear cytology with wooden Ayers Spatula. Patients having vulvovaginitis, menstruation and obvious cervical growth were excluded. The smear was sent to

College, Faisalabad. **Results:** A total of 500 patients underwent cervical cytology. 47 patients (9.4%) showed positive smears, while 453 patients (90.6%) were negative for cytology. Out of 47 patients 22 (46%) were found to have CIN - I, 13 (27%) CIN - II, 8 (17%) CIN - III and 4 patients (8.5%) showed invasive cancer. Majority of patients (51%) with positive smear were between ages (35-44 years), grand multiparous, presented with abnormal vaginal discharge and belonging to lower social economic status. **Conclusion:** Study shows that our population have significant number of premalignant cervical disease. So screening with pap. smear should have wide application all over the Pakistan to reduce the incidence of cervical cancer. **Key Words:** Papanicolaou smear, cervical intraepithelial neoplasia prevention.

---

## INTRODUCTION

Gynaecological cancers are among the most common malignancies in woman.<sup>1</sup> Cervical cancer still continues to be 2<sup>nd</sup> commonest female cancer worldwide.<sup>2</sup> Incidence of carcinoma of cervix is 8.9/100000 women.<sup>3</sup> It accounts for significant morbidity and mortality worldwide, each year there are approximately 1500 deaths in England & Wales from carcinoma of cervix.<sup>4</sup>

Carcinoma of cervix has pre-malignant condition called CIN (Cervical intraepithelia neoplasia). CIN may progress to invasive cancer over period of 3 – 20 years in 70% cases.<sup>5</sup> Screening of premalignant cervical disease with papanicolaou smear remains highly effective and simple procedure.<sup>6</sup> Papanicolaou smear is the foundation of cervical cancer screening.<sup>7</sup> It will detect 90% of cervical lesions.<sup>8</sup> Frequency of abnormal cervical cytology is 6% in women with high parity and low

socioeconomic status,<sup>9</sup> 8.9% in women aged 41-60 years and Para 3 or more.<sup>10</sup> Other risk factors for cervical cancer are (HPV), smoking, abnormal sexual behavior and genital tract infection.

In developing countries cervical cancer comprises 15% of all cancers of women as compared to < 4% in developed countries.<sup>11</sup> There is dramatic reduction in incidence of cervical cancer in United States and other developed countries, but in developing countries like Pakistan there is still high incidence due to lack of proper screening by papanicolaou smear.<sup>12</sup> So papanicolaou smear is powerful tool for early detection of (CIN), thus reducing the risk of invasive cancer and mortality.<sup>13</sup> The objective of the study was to identify the premalignant cervical disease with papanicolaou smear. Thus preventing the development of invasive cancer.

## PATIENTS AND METHODS

This observational study was conducted on Gynaecological patients from Jan 2003 to Dec. 2003, attending outpatient department of Gynae. & Obst, Allied Hospital, Faisalabad. During the period, 500 patients who fulfilled the inclusion criteria were enrolled in the study. All sexually active women with Gynaecological symptoms were included. Obstetric patients, having menstruation and obvious cervical growth were excluded.

All patients in this study were subjected to detail history regarding age, parity, marital status, number of sexual partners and detailed gynaecological history especially about contraception and menstrual cycle. Then clinical examination and papanicolaou cytology was done. Examination of the cervix with cuscose speculum was done and papanicolaou smear was taken with Ayers Spatula from transformation zone. The specimen (Exfoliated cells) was uniformly spread over two glass slides fixed with 45% Alcohol (Hair Spray) and sent to Pathology Lab in Punjab Medical College, Faisalabad. The results were analysed by SSPS package and cross tabulation was done.

## RESULTS

A total of 500 pap smears were taken from the patients having gynaecological symptoms and high risk females. It was observed that (By cytopathology report of pap smear), out of 500 smears 165 (33%) patients did not have evidence of any cytological change i.e. Normal smear. 10 patients (2.4%) revealed atrophic pattern smear. 276 (58%) showed inflammatory smears. Out of 500 patients, 47 were (9.4%) positive for cervical intraepithelial neoplasia. 22 patients (4.4%) showed mild dysplasia grade (I). 13 patients (2.6%) had moderate dysplasia and 8 were (1.6%) severe dysplasia. Out of 500 smears only 4 (0.8%) showed malignant cells (invasive cancer), later on confirmed by biopsy.

It was observed that prevalence of positive smears was found maximum in age group 35 – 44 yrs. (51%), Then 45 – 54 yrs. (25%). The youngest women with positive cervical smear was 20 yrs and oldest was 62 yrs. In case of various degrees of dysplasias the peak incidence was noted in age group 35 – 55 yrs.

Most of patients with positive smears were grand multipara (55.3%) (Para 6 – 8). Patients included in

this study, all had Gynaecological complaints. Mostly (76.4%) with abnormal vaginal discharge (30%) with abnormal vaginal bleeding and 22% with post – coital bleeding.

In this study, a high incidence of dysplasia was found in patients belonging to lower socioeconomic status. Forty nine percent positive cervical cytology in class IV, 38.8% in Class III and only 4.12, 8.5% in class I, II respectively.

Majority of patients do not practice any contraceptive method (88.7%). Patients using barrier contraception, non of them was positive for cytology, 87.2% positive smears was found in patients who were practicing no method of contraception 4.2% in patients using IUCD, 6.3% in patients taking Oral contraceptive pills, and 2.1% in bilateral tubal ligation.

On gross examination of the cervix, 60% positive smears was found in suspicious looking cervix, 36% positive in edematous/hypertrophied Cx. and 4% in normal looking cervix.

**Table 1:**  
**Presenting Complaints at Time Of Taking The Smear: N: 500**

|   | Presenting Complaint            | No. of cases | Percentage |
|---|---------------------------------|--------------|------------|
| 1 | Abnormal vaginal discharge      | 382          | 76.40      |
| 2 | Abnormal vaginal bleeding       | 152          | 30.40      |
| 3 | Post costal bleeding            | 110          | 22.00      |
| 4 | Vulval warts/clinical infection | Nil          | 0.00       |

**Table 2:**  
**Results of Pap Smear Cytology**

| S. No. | Interpretation  | No. of Smear | Percentage |
|--------|-----------------|--------------|------------|
| 1      | Negative        | 453          | 90.60      |
|        | a) Normal       | 165          | 33.00      |
|        | b) Inflammatory | 276          | 58.00      |
|        | c) Atrophic     | 12           | 2.40       |
| 2      | Positive        | 47           | 9.40       |

**Table 3:**  
**Cytology pattern of positive smears**

| S. No. | Pattern  | No. (47) | Percentage |
|--------|----------|----------|------------|
| 1      | CIN I    | 22       | 46.00      |
| 2      | CIN II   | 13       | 27.00      |
| 3      | CIN III  | 8        | 17.00      |
| 4      | Invasive | 4        | 8.50       |

**Table 4:**  
**Relationship of positive smear with age**

| Sr. No | Age   | No. of Patients | No. of positive Smear | Percentage |
|--------|-------|-----------------|-----------------------|------------|
| 1      | 16-24 | 40              | 2                     | 4.20       |
| 2      | 25-34 | 102             | 8                     | 17.00      |
| 3      | 35-44 | 208             | 24                    | 51.00      |
| 4      | 45-54 | 130             | 12                    | 25.00      |
| 5      | 55-65 | 20              | 1                     | 2.10       |

**Table 5:**  
**Contraceptive Method Used**

| S. No. | Contraceptive Method Used | No. of patients with positive smear | Percentage |
|--------|---------------------------|-------------------------------------|------------|
| 1      | Nil                       | 41                                  | 87.20      |
| 2      | Barrier Method            | Nil                                 | 0.00       |
| 3      | IUCD                      | 2                                   | 4.20       |
| 4      | Hormones (OCC Pills)      | 3                                   | 6.30       |
| 5      | Bilateral tubal ligation. | 1                                   | 2.10       |

**Table 6:**  
**Gross Examination of the Cervix**

| S. No. | Cervical Features     | No. of the smears | Percentage |
|--------|-----------------------|-------------------|------------|
| 1      | Normal Looking Cervix | 2                 | 4.00       |
| 2      | Hypertrophied         | 17                | 36.00      |
| 3      | Suspicious            | 28                | 60.00      |

## DISCUSSION

Cervical cytology remains a highly effective and simple, non invasive method for detection of premalignant changes, and offers best means to control invasive type. This study was carried out selectively on the patients with some gynaecological complaints attending the outdoor gynaecological department Allied Hospital, Faisalabad. So results are not representative of the whole population in Faisalabad. Furthermore, positive smear is an indication of colposcopy. But we took only punch biopsy due to lack of facilities.

In our study, out of 500 patients, 47 patients (9.4%) were found to have positive as compared to the study carried out by Abdullah P et al in 1999, in which the percentage of positive smear was (3%)<sup>8</sup>. Also compared with another study carried out by Rasul et al in 1991; in which percentage of positive smear was 1.3%.<sup>14</sup> While Anwar S found 1.6% abnormal smears.<sup>15</sup> Cancer of the cervix may occur at any age ranging form 2<sup>nd</sup> decade of life to senility. The peak incidence of invasive lesion occurs at age of 45 years and dysplasias at about 30 years of age. In my study peak incidence (51%) occur >35 years to 44 years. Also compared with study by Roohi M et al conducted in DHQ Hospital FSD, average age of positive cytology was (43.4 years).<sup>16</sup>

In this study 76% of patients presented with vaginal discharge as compared to 80.5% in a study conducted by Abdullah P et al. Post coital bleeding was 22%. But in contrast to above mentioned study it was only 6% patient who had post coital bleeding. The patients who were practicing no contraception (87.2%) had higher incidence of positive cytology. Brinton in 1991 was found a positive relationship between cervical cancer and oral contraceptives.<sup>17</sup> In this study 3 (6.3%) out of 47 patient were using hormonal method, compared with Roohi M at al study which is (3.77%).

In this study 22 patient 46% showed low grade squamous intraepithelial neoplasia (CIN-I mild dysplasia) 13 patients (27%) showed moderate dysplasia (CIN-II) 8 patients (17%) showed severe dysplasia (CIN-III) and 4 patients (8.5%) had malignant lesions. It was compared with a study conducted by Yahia to determine the incidence of cervical intraepithelial neoplasia in Jordan, It was found that 21% CIN-I, 48% CIN-II, 31% CIN-III.<sup>18</sup>

Another study conducted by Zamani N at Shaikh Zayed Hospital, Lahore in 1990, showed (CIN-I - 1.2%) (CIN-II - 1.42%) and (CIN-III - 0.40%).<sup>19</sup> The results of positive smears in my study was also compared with Roohi M et al. Study conducted in DHQ Hospital, Faisalabad, that showed. CIN-I -32%, CIN-II - 17.7%, CIN-III - 3.23% and invasive carcinoma 1.61%.<sup>16</sup>

In this study 276 patients (58%) showed inflammatory smear. Compared with 47% by Abdullah P. et al study, and only 28.25% in Zamani N study. The incidence of infection is high in our population, probably due to poor hygiene multiparity and malnutrition contributing low resistance and hence susceptibility to infection.

It has been approved by various studies that pap smear is a widely accepted powerful screening technique for early detection of cervical dysplasias. In Pakistan no systematic screening schedule has ever been planned. Almost all studies are hospital based only. Pap smear is a relatively simple and cost effective test and should have wide application.

## CONCLUSIONS

Study shows that our population have significant number of premalignant cervical disease. So screening with pap. smear should have wide application all over the Pakistan to reduce the incidence of cervical cancer.

## REFERENCES

1. Hashmi HA, Alam SM, Ahsan H, Screening for reproductive tract malignancies. A manual for physician – reproductive health. In: Farooqui MS, Jamad S eds. May 2002; 67-75.
2. Shafi M I. Premalignant and malignant disease of the cervix In: Edmonds K, (edi) Dewhurt's textbook of obstetrics and gynaecology. 7<sup>th</sup> ed. Oxford: Blackwell, 2007;614-23.
3. Howell LP, Gurusingh S, Tabnak F, Sciortino S. Cervical cancer screening in medically undeserved California Latina and non-Latina women: Effect of age and regularity of Pap testing. *Cancer Detect Prev* 2009; 32: 372-9.
4. Monga A. Malignant disease of the uterus and cervix. In: *Gynaecology by Ten teacher*. 18<sup>th</sup> ed. London: Arnold, 2006; 131-142
5. Rivlin ME. Carcinoma of cervix. *Manual of clinical problems in obstetrics and gynaecology*

- In: Rivlin ME, Martin RW, ed. 5<sup>th</sup> ed. Philadelphia: Lipponcott William & Wilkins, 2000; 429-33.
6. Yusuf AW, Yusuf NW. Review of cervical intraepithelial neoplasia-latest concept of screening and management protocol. *Pak J obstet Gynaecol* 1992; 5(1): 23-5.
  7. Waxman AG. Cervical cancer screening in the early postvaccine era. *Obstet Gynaecol Clin of North Am* 2008;35:537-48.
  8. Abdullah P, Mubarik A, Zahir N, Rehman Z. Cervical smear, a screening test or diagnostic test? *J Coll Physicians Surg Pak* 1999: 522-25.
  9. Sohail R, Nazir R, Latif Y, Farrukh Zaman. Evaluation of cervical smear in women attending gynaecological OPD. *J Surg Pak* 2008; 13:121-3.
  10. Zahid B, Khawaja N, Tayyeb R. Prevalence of abnormal cervical cytology and its relation with age and parity. *An King Edward Med Coll* 2005;11: 524-5.
  11. Denny L. Prevention of cervical cancer. *Reprod Health Matters* 2008;16:18-31.
  12. Hakama M, Michel P. Cancer screening: Evidence and practice in Europe 2008. *Eur J Cancer* 2008; 44 : 1404 – 13.
  13. Kainz C, Gitsch G, Heinzl H, Breitecker G. Incidence of cervical smear indicating dysplasia among Austrian women during the 1980s. *BJ of Obstet Gynaecol* 1995; 102: 541-44.
  14. Rasul S, Khan KS, Rizvi JH, Hassan SH, Maniar S. Cervical cancer screening programme in a Muslim country: three year experience in Agha Khan University medical Centre Karachi. *Asia Oceania J Obstet Gynaecol*. 1991; 17: 1-4
  15. Anwar S. Cervical smear. A screening test for carcinoma of cervix. *J Coll Physicians Surg Pak*. 1994; 4: 92-7.
  16. Roohi M, Sahi SC. Incidence of cervical intraepithelial Neoplasia in Faisalabad. *PJMR (Pak J Med R.)* 1993; 32: 162-165.
  17. Brinton LA. Oral contraceptives and cervical neoplasia. *Contraception* 1991; 43: 581-95.
  18. Yahia FD, Yousuf. CIN in Jordan. A ten year retrospective cyto epidemiologic study. *Annals of Saudia. Med* 1995; 15: 354-357.
  19. Zamani N. Management of abnormal cervical cytology. *J Coll Physicians Surg Pak*. 1999; 4: 28-29

---

## **AUTHORS**

- **Dr. Saadia Saleem**

Senior Registrar (Gynae)

Allied Hospital,

Faisalabad.

dr\_sadialeem@yahoo.com

- **Dr. Sumaira Tahir**

Associate Professor (Gynae)

PMC, Allied Hospital

Faisalabad.