

# FREQUENCY OF SMEAR POSITIVE PRECANCEROUS CERVICAL LESIONS IN PATIENTS ATTENDING OUTPATIENT DEPARTMENT OF A TERTIARY CARE HOSPITAL

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## ABSTRACT

**Objective:** To find out the frequency of precancerous cervical lesions by doing Pap smear.

**Methodology:** It was a descriptive study conducted by Pakistan Medical and Research Council in outpatient department of Obstetrics and Gynaecology at Hayatabad Medical Complex Peshawar from 1st July 2007 to 30th June 2008. Four hundred and fifty patients all married, sexually active, between 20 and 60 years of age were included in the study. Those who were menstruating or with a suspicious looking cervix, a history of Cervical Intraepithelial Neoplasia (CIN), Carcinoma of the Cervix, Ovary or Endometrium or pregnancy were excluded from the study. A detailed history and examination was done and a Proforma was filled. Pap smear was done in the outpatient department and was sent to cytologist for reporting. Data was analyzed by SPSS version 13.

**Results:** The Pap smear result showed inflammatory smear in 112 (24.88%) cases, 248 (55.11%) cases had a normal smear, 85 (18.88%) reported to be inadequate. Low grade squamous intraepithelial lesion was reported in 5 (1.11%) cases and none of these cases on colposcopic guided punch biopsy had CIN.

**Conclusion:** The most frequent abnormality found in Pap smear study was infective bacillary background. The frequency of premalignant lesion was found to be very low in this largest study conducted in KPK. More studies are needed to confirm this finding in this ethnic population.

**Key Words:** Cervical lesion, Pap smear, Cervical Intraepithelial Neoplasia (CIN).

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## INTRODUCTION

Carcinoma of the cervix is the second commonest cancer worldwide with only breast cancer oc-

curing more commonly. Worldwide, cervical cancer accounts for about 500,000 new cases diagnosed and 250,000 deaths every year<sup>1</sup>. Of the new cases, 80% occur in the less developed countries and in some of these countries, cervical cancer is the commonest cancer in women. Cervical cancer incidence is extremely high in Latin America and Southeast Asia, while its incidence in European countries, Australia and North America are considered low. This situation is compounded by the fact that in underdeveloped countries 75% present with advanced stage, which is the converse of presentations in the developed countries who present early and cure can be realistically expected. This is partly due to education and empowerment of women so that in developed countries they present early because of symptoms and as part of screening programs for cervical cancer<sup>2</sup>.

It has been found that there is a marked reduction in the risk of cervical cancer among women

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who gave a history of ever having undergone even a single Pap smear, and a 50% reduction in HPV prevalence among woman who had undergone two or more smears<sup>3</sup>.

Ideally, determining the sensitivity and specificity of a screening test would involve a study that applies a “gold standard” test (such as colposcopy with appropriate biopsy) to all participants (whether the screening test is positive or negative). Studies that compare the Pap test with repeat Pap testing have found that the sensitivity of any abnormality on a single test for detecting high-grade lesions is 55% to 80%.<sup>3</sup> Because of the usual slow-growing nature of cervical cancer, the sensitivity of a program of regular Pap testing is likely higher<sup>4</sup>.

Risk factor assessment is also necessary along with the Pap smear. In Pakistan, Pap smear screening is mostly almost non-existent. Our infrastructure on public health posts is poor and Pap smear screening is mostly non-existent, or of low quality. Even when it is properly done, it is often available only in urban settings or from the private sector which serves a relatively small proportion of the female population and more often, there is no subsequent curative treatment of pre-invasive lesions.

This study conducted in Khyber Pukhtoonkhuwa was first of its kind in this province with a large number of Pap smears to find out the frequency of precancerous lesions in this population.

**METHODOLOGY**

It was a descriptive study done in 450 married patients between the age group 20 and 60 years coming to the outpatient department of obstetrics and gynaecology at Hayatabad Medical Complex,

Peshawar, from 1st July 2007 to 30th June 2008. Convenience Sampling was used and patients in the reproductive age were randomly selected. Patients whether pregnant or menstruating and those with suspicious looking cervix, CIN, Carcinoma cervix, endometrium and ovary were excluded from the study. Informed consent was taken and a proforma was then filled by taking a detailed history and examination.

The proforma comprised of biodata, socioeconomic status, age at the time of marriage, smoking, parity, and history of genital warts/ulcer for wife and husband, history of postcoital bleeding and contraception. The per speculum examination was done under good light. Pap smear was done with the Ayers spatula by the standard method of rotating it at an angle of 360 degree in the cervix so that cells can be properly picked up from the squamocolumnar junction. Two slides of Pap smear were prepared that were fixed with ethyl alcohol. This was followed by bimanual examination. The tests were sent to ??Dera Ismail Khan for cytology.

Data was analyzed in SPSS (version 13.0). Frequencies and percentages of all variables in the proforma were generated. Means, standard deviations of quantitative variables like age of patients and parity were also computed.

**RESULTS**

A total of 450 patients were enrolled. Out of these, 206 (45.7%) were less than 30 years. The mean age was 32.06+17.59 years. The mean parity was 4.73+2.48.

In this study majority of patients belonged to Pakhtoon background, i.e. 57.4% of patients were

**Table 1: Percentages of the ethnic group**

Ethnicity	Percentage
Pathan	57.4%
Afghani	17%
Peshawari	11.8%
Punjabi	1%
Christian	0.4%
Chitrali	0.2%
Persian	0.2%
Others	12%

**Table 2: Results of papsmear in 450 cases**

Pap smear results	n (%)
Low Grade Squamous Intraepithelial Lesion	5 (1.1%)
Inflammatory Smears	112 (24.88%)
Normal	248 (55.11%)
Inadequate	85 (18.88%)

Pathans, as shown in Table 1. Seventy four percent of patients were illiterate.

The commonest presenting complaint was vaginal discharge 72%, followed by abdominal pain in 53.1%, dysuria 36.6% and postcoital bleeding 10.2%. The commonest risk factor was low socio-economic condition present in 335 cases (74.44%). 206 (45.77%) patients were married before 30 years of age. 414 (92%) were multiparous. Only 35(7.77%) used OCPs and 4(0.88%) were smokers.

The Pap smear result showed inflammatory smear in 112 (24.88%) cases, 248 (55.11%) cases had a normal smear, 85 (18.88%) reported to be inadequate. Low grade squamous intraepithelial lesion was reported in 5 (1.11%) cases and none of these cases on colposcopic guided punch biopsy showed CIN as shown in Table 2.

## DISCUSSION

In this study 5 (1.11%) patients had a positive smear with no patient diagnosed as CIN after colposcopic guided punch biopsy, these results were comparable to another study done by Zamani N at Shaikh Zayed Hospital, Lahore in 1990, in which a very low incidence of CIN was found i.e. (CIN I - 1.2%, CIN II - 1.42% and CIN III - 0.40%)<sup>5</sup>.

In contrast to this, in another study done by Sadia et al, the rates of positive smears were very high. 46% of the patient had CIN out of which CIN I was positive in 27% of cases, CIN II in 17% and CIN III in 12%<sup>6</sup>. In another study conducted in DHQ Hospital, Faisalabad, high rates were observed with CIN I in 32%, CIN II - 17.7%, CIN III - 3.23% and invasive carcinoma in 1.61%<sup>5</sup>. In another study done by Khan and his colleagues the percentage of lowgrade squamous intraepithelial lesion was 3.12% and 2.02% had carcinoma in situ<sup>7</sup>.

In a study done in KPK in 1997 in LRH Pap smears revealed that 8 (2.67%) patients were having cervical intra-epithelial neoplasia 0.3% as carcinoma in situ<sup>8</sup>.

Ours was the largest study conducted in KPK on pap smears and shows a very low incidence of positive smears in this ethnic population which when compared to the studies conducted in Punjab showed high rates of CIN<sup>6,7</sup>. Further studies are needed in KPK to explain this disparity.

In another study conducted on 300 patients in KPK by Tanveer S, the rates of CIN were higher than our study. This study was done on smaller sample than our study and also it was done on symptomatic patients<sup>9</sup>.

The number of inadequate sample in this study was 18.88%. One of the main problems in this research was that the cytologist was in another city and the slides were being sent to him there, which may be one of the reasons for the high numbers of inadequate samples. In another study done by Harrison et al there was wide variation shown in the proportion of inadequate smears<sup>10</sup>. The proportion of inadequate smears is influenced by two distinct sources of variation – general practices and cytology laboratories. The National Institute for Clinical Excellence (NICE) has recently recommended the adoption of liquid based cytology (LBC)<sup>11</sup>.

A systematic review and meta-analysis showed that the extended tip spatula is more effective than the Ayre's spatula for detecting karyosis in cervical smear<sup>12</sup>. The most effective combination appears to be the cytobrush with an extended tip spatula. The rate of detection of endocervical cells appears to be a valid and convenient surrogate for the ability to detect dyskaryosis and for adequate smear rates. The ability of the extended tip spatula with the cytobrush compared with the extended tip spatula alone to detect disease, needs to be evaluated in a trial<sup>13</sup>.

In our study, we found out that 74% of the patients attending outpatient department were with no education and awareness about carcinoma cervix and hence Pap smears, so awareness programs at mass level and continuous medical education at health professional level including the nursing and Para medical staff is required. Also other alternative and cheap methods which can decide the cases for

further management there and then can be considered. Visual inspection of the cervix with acetic acid (VIA) wash is a promising alternative to cytology for cervical cancer screening<sup>14</sup>. The negative predictive value of VIA is 100%, while the positive predictive value is 20%. Such methods can be very effective tools for cervical cancer screening in low resource settings and papsmears can just be used for high risk cases.

## CONCLUSION

Our study showed that the frequency of low grade squamous intraepithelial lesions found was very low in this province, though larger sample sized studies are needed to clarify this point. At the moment because of lack of support from the government and NGOs Pap smear can be limited to high risk cases and programs both at government and NGOs level should be arranged to provide funds for awareness and mass screening.

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## CONTRIBUTORS

SS conceived the idea, planned and wrote the manuscript of the study. LH supervised the study. IH did the data analysis. All the authors contributed significantly to the research that resulted in the submitted manuscript.