



CODEN [USA]: IAJPBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF  
**PHARMACEUTICAL SCIENCES**

<http://doi.org/10.5281/zenodo.3457109>Available online at: <http://www.iajps.com>

Research Article

**ANALYSIS OF VISUAL INSPECTION OF CERVIX WITH  
ACETIC ACID WITH CONVENTIONAL PAP SMEAR AMONG  
LOCAL POPULATION OF PAKISTAN**

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Article Received: July 2019

Accepted: August 2019

Published: September 2019

**Abstract:**

**Introduction:** Cancers of female genital tract are of much concern worldwide. Among them, cancer of cervix is a major cause of death and disability.

**Objectives of the study:** The main objective of the study is to analyze the visual inspection of Cervix with acetic acid with conventional Pap smear in cervical cancer patients.

**Material and methods:** This descriptive study was conducted in Bahawal Victoria hospital during January 2019 to July 2019. All women of age 15 to 65 years were included in this study. Women who were having bleeding P/V, PID, Pregnant women, Women >65 years of age and women who were unwilling to participate in study were excluded. One hundred and twenty women of reproductive age, who meet the inclusion criteria were included in this study. All the demographic and social data of the patients were collected. Those females who had these findings and turn positive on smear were enrolled for colposcopy.

**Results:** The data was collected from 120 female patients. The mean age of the patients was  $41.84 \pm 13.74$  Minimum age was 20 and maximum age was 65. In this study the mean value of the marriage age of the patients was  $22.26 \pm 2.69$  years with minimum and maximum marriage years of 18 & 28 years respectively. The study results showed that total 18 patients turned out to be positive on screening test (VIA and Pap smear). Of these 18, Pap smear alone was positive for premalignant condition in 4(3.33%) patients while VIA alone was positive in 6(5%) patients.

**Conclusion:** It is concluded that visual inspection of the cervix with acetic acid is a feasible and suitable screening test for cervical cancer in Pakistan. Its performance is comparable to the Papanicolaou test.

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Please cite this article in press Minahil Haq et al., Analysis of Visual Inspection of Cervix with Acetic Acid with Conventional Pap Smear among Local Population of Pakistan., Indo Am. J. P. Sci, 2019; 06(09).

**INTRODUCTION:**

Cancers of female genital tract are of much concern worldwide. Among them, cancer of cervix is a major cause of death and disability. After breast cancer, the second commonest cancer is cervical cancer in women. A study showed that around 530,000 women were affected by cervical cancer in 2008 and 85% of these were diagnosed in [developing countries](#) comprising 13 % of total female malignancies. [1] After the introduction of successful screening programs in developed countries, new cases and death rates caused by cancer of cervix have reduced over 80%. But this trend has not been observed in developing countries. [2] Pakistan was initially a low-risk country but now it is moderate-risk country for cancer of cervix. The number of affected females was doubled from 2002 to 2008. It was 9 per 100,000 women in 2002 but was 19.5 per 100,000 women in 2008. [3] Cervical cytology by conventional method is being widely used as a screening test for the detection of cancer of cervix worldwide. Cervical screening programs by cytology have been implemented in developed countries which have led to markedly reduced incidence of cervical cancer. [4] For diagnosing all stages of changes in the cervix and vagina, Papanicolaou smear also known as Papanicolaou smear is an effective method. It is also simple, safe and noninvasive method. [5] Colposcopy is a globally renowned procedure to detect cervical cancer at early stage. [6] But because of the following commonly encountered problems i.e., increased cost, less expertise, problems in interpretation, less willingness for procedure, and unable to follow standard diagnostic protocol is not frequently available in less developed countries. [7] Among developing countries, the procedure of visual examination of the cervix after applying acetic acid, called VIA, is replacing Papanicolaou smear as an alternative. [8]

**Objectives of the study:**

The main objective of the study is to analyze the visual inspection of Cervix with acetic acid with conventional Pap smear in cervical cancer patients.

**MATERIAL AND METHODS:**

This descriptive study was conducted in Bahawal Victoria hospital during January 2019 to July 2019. All women of age 15 to 65 years were included in this study. Women who were having bleeding P/V, PID, Pregnant women, Women >65 years of age and women who were unwilling to participate in study were excluded. One hundred and twenty women of reproductive age, who meet the inclusion criteria were included in this study. All the demographic and social data of the patients were collected. Those females who had these findings and turn positive on smear were enrolled for colposcopy. Biopsy was taken from acetowhite positive areas and specimen was sent for cytological examination.

**Statistical analysis:**

The data were collected and analyzed using SPSS version 19.0. All the values were expressed in mean and standard deviation.

**RESULTS:**

The data was collected from 120 female patients. The mean age of the patients was  $41.84 \pm 13.74$  Minimum age was 20 and maximum age was 65. In this study the mean value of the marriage age of the patients was  $22.26 \pm 2.69$  years with minimum and maximum marriage years of 18 & 28 years respectively. The study results showed that total 18 patients turned out to be positive on screening test (VIA and Pap smear). Of these 18, Pap smear alone was positive for premalignant condition in 4(3.33%) patients while VIA alone was positive in 6(5%) patients.

**Table 01:** Frequency distribution Table

Test	frequency	Percentage
PAP smear only	4	3.33
VIA	6	5
Pap smear + VIA	8	6.67
Colposcopic Biopsy	Positive	15
	Negative	105
	Total	18
		100

**Table 02:** Comparison of VIA with Colposcopic Biopsy

		Colposcopic Biopsy		Total	p-value
		Positive	Negative		
VIA	Positive	13	1	14	0.000
	Negative	2	104	106	
Total		15	105	120	

**DISCUSSION:**

Many studies now provide evidence of the feasibility and cost-effectiveness of screening and treatment approaches for cervical cancer prevention. Premalignant lesions of cervix take about 5 to 15 years to progress to advanced cancer. [8] If timely identified, pre-invasive disease has almost 100% cure rate with simple surgical treatment, while survival rates is < 35% in case of invasive disease.<sup>6</sup> According to our study results, the sensitivity, specificity, PPV and NPV of PAP for detection premalignant condition was 66.67%, 98.09%, 83.33%, 95.37% respectively taking colposcopy as gold standard. Similarly, the sensitivity, specificity, PPV and NPV of VIA for detection premalignant condition was 86.67%, 99.05%, 92.86%, 98.11% respectively taking colposcopic biopsy as gold standard.<sup>9</sup> Statistically significant difference was noted between the VIA and colposcopic biopsy. i. e., p-value=0.000. Some of the studies are discussed below showing their results as. VIA accuracy studies have resulted in a range varying approximately 60-90 % of sensitivity and specificity values. [7] U of Zimbabwe et al [8] interpreted that VIA was more sensitive but less specific than cytological examination. Sensitivity was 76.7% for VIA and 44.3% for cytology. Specificity was 64.1% for VIA and 90.6% for cytology. This clearly shows high sensitivity of VIA and points out that VIA may be valuable in detection of early staged lesions of the cervix. [10]

**CONCLUSION:**

It is concluded that visual inspection of the cervix with acetic acid is a feasible and suitable screening test for cervical cancer in Pakistan. Its performance is comparable to the Papanicolaou test.

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