

## “Colposcopic Evaluation among VIA Positive Women in a Tertiary Care Hospital, Pabna, Bangladesh”

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### Abstract

### Original Research Article

Visual inspections of the cervix after acetic acid application (VIA) are widely recommended as the method of choice in cervical cancer screening program in resource-limited settings. The purpose of the present study was to evaluate the status of VIA test result in a tertiary care hospital, 250 Bedded General Hospital, Pabna, Bangladesh. It was a cross sectional study and was carried out from July 2018 to June 2019. VIA was performed and colposcopy was done among the VIA positive patients. A total number of 50 VIA positive patients were evaluated colposcopically in this study. In the subjects, colposcopically positive was in 20 (40.00%) cases. Among colposcopically positive patients CIN-I was in 7 (35%), CIN-II was in 1 (5%) and CIN-III was in 1(5%) patients, respectively. Cervical cancer is a preventable disease as the different screening, diagnostic and therapeutic procedures are effective.

**Keywords:** VIA, Colposcopy, Screening program.

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## INTRODUCTION

Cervical cancer is the leading malignancy among world and it is about 9% of all female cancer [1]. Developing country carry biggest burden of cervical cancer [1]. The incidence of cervical cancer has fallen in many countries by screening procedure. Conventional cervical cytology is the most widely used cervical cancer screening test in the world. Cytology screening program in several developed countries have been associated with impressive reduction in cervical cancer burden [2]. Cytology screening program in several developed countries have been associated with impressive reduction in cervical cancer burden [3]. The Papanicolaou's (PAP) smear is a simple, safe, noninvasive, and effective method for detection of precancerous, cancerous, and noncancerous changes in the cervix and vagina [4]. An effective Pap smear screening program requires many consecutive steps, including the collection in the clinic of cells from the transformation zone of the cervix and the endocervix, smearing the cells on a slide and fixing them, staining and reading the slide by a cytopathologist, transmitting the cytology results to the health care provider,

communicating the cytology results to the woman and arranging for a second visit if the smear is abnormal, and a second visit by the woman for additional tests like colposcopy and cervical biopsy or for treatment. The infrastructure required for all these steps have not been available in the developing world [2] and there has been a strong need for a screening test that is simpler and can be interpreted immediately and combined with treatment, if necessary, at the initial screening visit.

The use of acetic acid during visual examination of the cervix, termed visual inspection with acetic acid (VIA), has been advocated as an alternative screening method to Pap smear in developing countries [5]. The attractive features of VIA include low cost, simple administration, real-time screening, of results, and accuracy comparable to good quality Pap smears [6]. In a developing nation like Bangladesh VIA would be a possible alternative screening tool for early detection of cervical cancer in a low resource setting. A colposcopy is a special way of looking at the cervix. It uses a light and a low-powered microscope to make the cervix appear much larger. This helps health care provider to find suspicious area and then biopsy is taken

from abnormal areas in cervix. Colposcopy is a worldwide-accepted method for detection of early cervical neoplasia [7]. VIA is subjective because the outcome depends on the clinician's interpretation of what is seen on the cervix [8]. Common problem encountered in colposcopy is inadequate expertise, interpretation difficulties, disagreements, and failure to follow standard diagnostic protocol [9]. So it is better to do colposcopy in all VIA positive patients rather as a screening procedure. A large number of incorrectly diagnosed VIA positive cases will lead to unnecessary colposcopy examination. It will lead to overload for medical persons. The purpose of this present study was to find out the proportion of false positive results in VIA cases in tertiary level hospitals. This will help to take action for improving quality of VIA service in treating patients with cervical cancer.

## OBJECTIVES

### General objective

- To evaluate the Colposcopic Findings among VIA Positive Women in a tertiary care hospital, Pabna, Bangladesh

### Specific objective

- To find out the proportion of false positive result in VIA cases.
- To assess the Cervical Intraepithelial Neoplasia (CIN) in VIA Positive Patients in a tertiary care hospital, Pabna, Bangladesh

## METHODOLOGY AND MATERIALS

It was a cross sectional study conducted among VIA positive women, aged between 25 to 50 years who were attended in the Department of Obstetrics and Gynecology at 250 Bedded General Hospital, Pabna, Bangladesh from July 2018 to June 2018. The total study participants were 50 in number. A structured questionnaire was designed including all the variables of interest. Purposive sampling was done. All pregnant women, menopausal women with frank growth of cervix with active vaginal bleeding were excluded from study. Complete histories of patient pertaining to complaints, any white discharge per vagina, post coital bleeding, obstetric and menstrual history were obtained. Informed written consent was taken from all the study participants. Per speculum examination of cervix was done. Squamo-columnar junction was visualized. A solution of 5% acetic acid

was applied to cervix using a cotton swab. The cervix was then examined for 1-2 minutes under an adequate light source. The detection of any distinct acetowhite area was considered positive result. If no aceto white areas were recorded, or if a whitish appearance was doubtful, the test result was considered. All the precautions were taken properly. All patients who tested positive on screening underwent a colposcopy-guided biopsy. Colposcopy saline was used initially to clean the surface and then vascular lesions and surface lesions were assessed. Abnormal vessels were examined with the aid of green filter. As the solution 5% acetic acid was then applied to mucosal epithelium and it caused disappearance of cervical mucus. If any acetowhite lesions were noted, their intensity, speed of appearance, and disappearance were noted. On colposcopy, findings such as dense acetowhite epithelium, sharply bordered acetowhite epithelium, dilated caliber, irregular-shaped or coiled vessels, coarse punctuation, mosaic appearance, atypical vessels, and irregular surface contour indicate dysplastic epithelium or imminent cancer. A biopsy was taken using a punch biopsy forceps from abnormal areas detected under colposcopic guidance. Data were collected through direct interview with the patients. We used software SPSS (Statistical Package for Social Sciences) version 16 for analyzing data.

## RESULTS

It was a cross sectional study conducted among VIA positive women, aged between 25 to 50 years who were attended in the Department of Obstetrics and Gynecology at 250 Bedded General Hospital, Pabna, Bangladesh during the period from July 2018 to June 2019. The total study participants were 50 in number. In our study, VIA positive patients 20(40%) were colposcopically positive, so false positive results of VIA is 30 (60%). Among colposcopically positive patients CIN-I was in 7 (35%), CIN-II was in 2 (4%), and CIN-III was in 2 (4%) patients, (Figure II).

**Table-I: Frequency of colposcopic findings in VIA positive patients (n=50)**

Colposcopic findings	n	%
Normal	45	64.28
Positive	25	35.71
Total	70	100



Fig-I: Ratio of colposcopic findings in percentage in VIA positive patients (n=50)



Fig-II: Total findings of the study regarding colposcopic and VIA tests as well as CIN status of participants. (n=50)

## DISCUSSION

This cross sectional study was conducted among VIA positive women, aged between 25 to 50 years who were attended in the Department of Obstetrics and Gynecology at 250 Bedded General Hospital, Pabna, Bangladesh during the period from July 2018 to June 2019 and the total study participants were 50 in number. Mean age of them were  $34.87 \pm 8.13$ . In this study VIA was performed in a Medical College Hospital by gynaecologist and trained nurses. One study was conducted by Jeronimo *et al.*[10], where gynecologists performed the whole procedure. However in another study the colposcopy was done under supervision of six gynecologists. In contrast, trained nurses and midwives were involved in few studies. Colposcopy was done only in all VIA positive cases. Biopsy was taken when colposcopy revealed positive. But in our study, due to limitation of our time, comparison with histopathological findings could not be included. Another study investigated effectiveness of VIA, human papillomavirus DNA testing and Pap cytology in population based study [11]. VIA can be performed at any time during the menstrual cycle, including during menses providing flow is not too heavy, during pregnancy, at a postpartum examination, or during a post abortion checkup [12]. It can also be done when a woman comes for care related to STIs, HIV screening, or follow-upcare. In this study overall false positive result was 45 (64.29%), among them proportion of CIN-I was greater in number. The screened women who came to standard hospital with various symptoms would belong to a high risk group. That would be another contributory factor to low incidence of false positive result. In another study there were also many false positive cases which make undue burden on colposcopy [12]. Though it was not related to the objective of this study, association of colposcopic

findings with naked eye examination, vaginal discharge and age of marriage was done. In another study the results of VIA were usually reported as VIA-negative, VIA- positive, or suspicious for cancer [4]. VIA-negative means there are no significant acetowhite lesions. It is the most challenging category in VIA because there are so many variations of acetowhite areas that can appear. There may be bluish white lesions or doubtful lesions without definite margins. Nabothian cysts and polyps may also turn acetowhite, but they are not precancerous lesions [6]. There may be a faint line, appearing to be acetowhitening at the junction of columnar and squamous epithelium. There may be acetowhite lesions far away from the squamo-columnar junction or streak like acetowhitening[7]. Advantages of VIA is that it is a real-time screening test where results are immediately known and appropriate counseling and referral for treatment can be given. But due to its false positivity, there may be higher number of referral for colposcopy and biopsy when VIA is used. This is a potential disadvantages of VIA. But still, VIA is the appropriate screening test for developing country like Bangladesh. So, more studies should be conducted with large sample size.

### Limitations of the study

This was a single center study with small sample size. So, study results may not be reflected in the whole community.

## CONCLUSION

We found VIA test is positive in a large number of patients and among them great number of abnormalities was found. Any clinically suspicious cases should be screened properly to see any abnormalities for early detection of pre-malignant

condition of cervix and to prevent the incidence of cervical cancer.

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