



IMPORTANCE OF VISUAL INSPECTION WITH ACETIC ACID OVER PAP SMEAR AS A TEST FOR CERVICAL CANCER SCREENING

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ABSTRACT

The lower fibromuscular part of the uterus, measuring 3-4 cm in length and 2.5 cm in diameter, is referred to as the cervix. The cervix is made up of epithelium and stroma under it. It appears reddish in colour on visual inspection because the thin single cell layer allows the coloration of the stroma's underlying vasculature to be seen more easily. A variety of risk factors have been reported in epidemiological studies that lead to the development of cervical cancer precursors and cancer. Infection with some oncogenic forms of human papillomaviruses, early marriage, multiple sexual partners, multiparity, long-term oral contraceptive use, cigarette smoking, low socioeconomic status, infection with Chlamydia trachomatis, micronutrient deficiency, and a diet lacking in vegetables and fruits are all examples. The 150 women in the sample ranged in age from 21 to 70 years old (mean 35.8 7.8 years). Nearly 41.0 percent of women had completed primary school, 21.0 percent were illiterate, and 30.0 percent had completed secondary or higher secondary school. Nearly 91.5 percent of women were stay-at-home moms, while 4.5 percent worked for the government. Almost 21% of those surveyed had a monthly income of less than Tk. 3000, while 43% had a monthly income of Tk. 3000 to 8000. VIA was found to have higher sensitivity and precision than the Pap smear exam. The study found that VIA can be used as an effective screening test in India to identify precancerous and cancerous cervix lesions. In resource-constrained environments, the VIA for cervical cancer screening is a credible alternative to Pap smear.

Key words Cervical Cancer, Pap Smear, Screening, Acetic Acid, Diagnosis.

INTRODUCTION

The lower fibromuscular part of the uterus, measuring 3–4 cm in length and 2.5 cm in diameter, is referred to as the cervix. The cervix is made up of epithelium and stroma under it. It appears reddish in colour on visual inspection because the thin single cell layer allows the coloration of the stroma's underlying vasculature to be seen more easily. As an individual progresses from the reproductive to the perimenopausal age groups, the current squamocolumnar junction travels closer to the external os on the ectocervix. The new squamocolumnar junction is frequently noticeable

on visual inspection in postmenopausal women. A variety of risk factors have been reported in epidemiological studies that lead to the development of cervical cancer precursors and cancer. Infection with some oncogenic forms of human papillomaviruses, early marriage, multiple sexual partners, multiparity, long-term oral contraceptive use, cigarette smoking, low socioeconomic status, infection with Chlamydia trachomatis, micronutrient deficiency, and a diet lacking in vegetables and fruits are all examples.

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Cervical cancer accounts for 12% of all cancers in women worldwide, with a higher prevalence in developing countries, especially India, respectively, have an annual occurrence of 11,900 and 125,952 patients. Pap smear, unaided visual inspection, including visual inspection of the cervix after application of acetic acid (VIA), visual inspection with Lugol's iodine, aided visual inspection (colposcopy), and checks for human papilloma viral markers are all examples of cervical cancer screening methods. After staining with 3–5% acetic acid on Through, precancerous lesions appear temporarily white (vinegar). VIA can be used in a variety of environments since it does not require laboratory processing, the findings are immediate, and care can be recommended during the same visit. Since visual assessment is subjective, it is important to standardize criteria for positive and negative assessments, as well as to pay particular attention to frequent and reliable quality assurance.

Cervical cancer accounts for about 22%–29% of all female cancers in India , depending on where you live .Approximately 80% of women seek care at an advanced point. The lack of an efficient screening programme is one of the major reasons for this, and down-staging screening combined with cytological screening can be beneficial. Cost-effective, acceptable, repeatable, and accurate screening tests should be used. According to some studies, VIA may produce results that are comparable to or better than Pap smear

AIM AND OBJECTIVE

The aim of this study was to see whether VIA could be used to complement or replace the Pap smear in cervical cancer screening.

MATERIAL AND METHODS

The Medical University conducted this retrospective cross-sectional analysis from January to June 2019. Approximately clinical data of 150 married women who attended the Department of Obstetrics and Gynecology's Cervical and Breast Cancer Screening Program and outpatient department (OPD) were conveniently chosen. Unmarried women, those in their menstrual phase, those who had a hysterectomy or wedge resection, and those who had been diagnosed with cervical cancer were all excluded. Data was collected for clinical tests, and procedures, using a standardized, pretested questionnaire and checklist. When the Aceto-White reaction was clearly visible, through test was deemed positive. When a cytology report revealed atypical squamous cells of unknown significance (ASCUS) lesions or more, the Pap smear test was deemed positive. Coloscopic-directed biopsy and detailed colposcopic analysis were performed as required. The findings of the cytology and visual examinations of the cervix were compared to the colposcopic and/or histological diagnosis. Biopsies, on the other hand, were only performed on

patients who had colposcopic anomalies. The colposcopic finding served as the gold standard against which standard statistical methods were used to assess the sensitivity and specificity of cytology and acetic acid application.

RESULTS AND DISCUSSION:

The 150 women in the sample ranged in age from 21 to 70 years old (mean 35.8 7.8 years). Nearly 41.0 percent of women had completed primary school, 21.0 percent were illiterate, and 30.0 percent had completed secondary or higher secondary school. Nearly 91.5 percent of women were stay-at-home moms, while 4.5 percent worked for the government. Almost 21% of those surveyed had a monthly income of less than Tk. 3000, while 43% had a monthly income of Tk. 3000 to 8000.

Cervical cancer had been heard of by 83.5 percent of the research population, but only 9.5 percent knew what it meant. Nearly 18 percent of women were aware of cervical cancer screening. Pap smear was known by nearly 71.50 percent of the study participants, while VIA was known by just 7.50 percent. Around 88 percent of women learned about cervical cancer screening from their physicians, while just 7.0 percent learned about it from radio/TV or a poster/brochure. Cervical cancer affected about 8.50 percent of the study participants in various forms. VIA positivity was found in 25% of the women, while VIA negativity was found in 83% [Table 1]. The distribution of Pap smear results is shown in the table. Pap smear positive is described as ASCUS and worsening lesion. Pap smear positivity (ASCUS or worse lesions) was seen in 20% of the women, whereas 81 percent had regular colposcopy, 12 percent had irregular colposcopic results, and 7% had an unsatisfactory procedure.

[Table 2] summarises the screening test results and the intervention distribution based on those results. A total of 122 women had both VIA and Pap smear results that were negative. 120 of them had normal and satisfactory colposcopy results, while 30 required biopsy. 28 respondents had both VIA and Pap smear results that were positive. 15 of them had a regular and adequate colposcopy, while the other 5 needed biopsy. 7.5 percent had chronic cervicitis/koilocytic changes on colposcopy, 4.5 percent had cervical intraepithelial neoplasia (CIN) II, 1.50 percent had CIN-III, 0.50 percent had invasive cancer, and 2.00 percent had typical histopathological characteristics.

In the Cervical and Breast Cancer Screening Program and outpatient department (OPD) of the Department of Obstetrics and Gynecology, the current research was conducted to assess the efficacy of VIA as a tool for cervical cancer screening. In this sample, 150 people were included on purpose, the majority of whom were Muslim, as is typical in India. In resource-constrained environments, VIA is a reliable alternative to Pap smear, according to this report. Our findings are largely in line with those of these previous studies. The percentage of people in our survey who had cervical cancer was estimated

based on colposcopic findings, which was considered the gold standard investigation. However, only those patients Various forms of cervical cancer, which is significantly lower than the 21.5 percent figure quoted in India cancer registry survey. Table 3 shows the association between cervical biopsy reports with the help of PAP smear test. Among 150 patients, 55 women were found to be positive in PAP smear and 45 women were found to be negative (biopsy + actual) in PAP smear .Interpretation ‘it was found that there is significant association between histopathology report and PAP smear report.

The pap smear negative result correlate well with biopsy negative cases So the negative predictive value pap

with colposcopic anomalies were subjected to a biopsy. Our findings show that 8.5 percent of the study population had smear is good. Correlate well with biopsy positive result. So the positive predictive value of PAP SMEAR is not so good.

Out of 150 cases , PAP positive for epithelial cell abnormality cases were 10%, PAP negative for epithelial cell abnormality – negative for intraepithelial lesions/ malignancy (NLM) were 25 (16.6%).

In the present study, out of 150 cases, Visual Inspection with acetic acid test was positive in 88 cases (58.66%) and 62 cases (41.33%).

	N (%)
Cervical cancer	
Present	18 (12%)
Absent	132 (88%)
VIA findings	
Positive	25 (16.6%)
Negative	125 (83.3%)
Pap Smear findings	
Positive	30 (20%)
Negative	120 (80%)
Total	150

VIA	Pap smear	n	Referred for colposcopy	Normal and colpscyp result	Needed for biopsy histopathology
Positive	Positive	10	25	15	5
Positive	Negative	18	30	30	15
Negative	Positive	120	90	52	5
Negative	Negative	2	5	23	5
Total		150	150	120	30

Cervical Biopsy report	Positive	Negative	Total
Pap Smear test			
Positive	55 (true) positive in pap smear	25(false) positive in Pap Smear	80 (Total +ve in pap smear)
Negative	45(biopsy + actually)	25 (biopsy -ve actually)	70 (Total -ve In pap Smear)
Total	100(biopsy +actually)	50(biopsy -ve actually)	150

Pap Smear	Number of cases	Percentage
Pap Negative for epithelial cell abnormality NLM	25	16.6%
Pap positive for epithelial cell Abnormality	15	10%
Ascus LSIL	10	6.6%
HSIL SCC	0	0%
Glandular CELL	40	26.6%
Inadequate	30	20%
Total	10	6.66%
	20	13.3%
Total	150	100

Table 5. VIA positive cases (n=150)

	Number of cases	Percentage
Positive	88	58.66%
Negative	62	41.33%
Total	150	100

CONCLUSION

VIA was found to have higher sensitivity and precision than the Pap smear exam. The study found that VIA can be used as an effective screening test in India to

identify precancerous and cancerous cervix lesions. In resource-constrained environments, the VIA for cervical cancer screening is a credible alternative to Pap smear.

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