

## Experience of Conducting Cervical Cancer Screening During Covid-19 Pandemic

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### Abstract

**Objective:** Cervical cancer contributes to a significant number of cancer cases every year specially in the developing countries. With COVID-19 pandemic screening services were paused for long periods. Innovative tests and healthcare delivery can help restart screening services to reach the goal set by WHO to eliminate cervical cancer.

**Methods:** We had planned for camp-based screening, however with the pandemic situation we had to change plans. Women visiting the outpatient department were sent to a dedicated facility for screening. Screening was done using Pap smear followed by ready to use VIA test Kit. Biopsy was done if VIA was positive or if indicated by PAP smear.

**Results:** Majority of the patients in our study were aged between 31-40 years of age. Vaginal discharge was the most common presenting complaint. In our study accuracy of VIA was at 91%.

**Conclusion:** We could offer screening services in our hospital maintaining social distance. The VIA Kit was helpful as we always had the necessary items to conduct the test faster. It reduced the exposure time in the hospital. In addition, adopting VIA as screening procedure helped us in reducing hospital visits for the women by providing instant results and decision on next steps.

### Introduction

Every year a total of 569847 new cases of cervical cancer are detected globally with approximately 311365 deaths.<sup>1</sup> About 85% of these deaths occurred in low and middle-income countries.<sup>2</sup> In India there are about 75000 new cases detected annually.<sup>3</sup> The

high mortality rate from cervical cancer globally can be reduced through a comprehensive approach that includes primary prevention, effective screening, and treatment programs.<sup>2</sup> Effective screening is a powerful tool to reduce the burden of mortality and morbidity of cervical cancer.

However, with the COVID 19 pandemic preventive services like cancer screening were severely affected. This situation has caused a significant delay in people seeking early care. On one hand, the healthcare system was stretched beyond its capacity and providing

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emergency care was also a challenge. On the other hand, having a gathering of people to conduct a camp-based screening was not possible for the fear of spread of infection.

While our initial plan was to restart cervical cancer screening services in our center through a camp-based approach, we had to defer this till the peak of pandemic was over. Even then it was not possible to organize camps in traditional sense with hundreds of women being examined in single day. Hence, we looked at organizing this in our hospital daily where all women in the age group of 30-65 years attending the OPD were sent for screening to a designated facility in the campus. The objective was to provide preventive care while maintaining social distance.

The present study aims to look towards one such simple measure of a readily available VIA Kit for screening of cervical cancer. The objective was to get an understanding on conducting cervical cancer screening in an outpatient center by a gynecologist using naked eye VIA method using a disposable readily available VIA Kit. In addition to this the secondary objective was to obtain feedback on VIA based kit testing in the existing healthcare infrastructure.

## Materials & Methods

This was a cross sectional study involving a total of 100 women who were recruited in the out-patient unit of Gynecology department of medical college hospital. Institutional Ethical Committee approval was obtained for the study and patient consent was taken.<sup>4</sup> The recruited women were aged between 30 – 65 years of age with no previous history of hysterectomy and presented to the gynecology outpatient unit with various complaints.

Brief clinical history was obtained followed by naked eye inspection of cervix and vagina. Pap smear sample was collected which was followed by visual inspection with acetic acid using a disposable kit. The cerVIA™ Kit developed by Dalrada Health consisted of a bivalve speculum, gloves, saline solution for cleaning the secretions, cotton buds, pre-diluted 5% acetic acid, waterproof drape to be placed under the buttocks which are needed to perform VIA test on the cervix. Biopsy was done for all the cases which were either VIA positive or Pap smear showed any epithelial

abnormality and as part of case management protocol of the institute.

All cases were examined by a post graduate student pursuing education in Dept of Obstetrics and Gynecology. VIA results were documented as positive or negative and Pap smear results were documented as per Bethesda classification.

## Results

A total of 100 women were screened with Pap smear and VIA using the cerVIA™ kit. The age wise distribution, the clinical symptoms and signs of the subjects are tabulated as follows in Table 1. Majority of the patients were aged between 31-40 years of age and the group between 60-65 years of age had the least no of cases.

**Table 1: Characteristics of patients in the study**

	Characteristic	Sample size
Age group	31-40	38
	41-50	31
	51-60	28
	61-65	3
SYMPTOMS		
Asymptomatic		55
Discharge per vaginum	Present	35
Abnormal bleeding	Present	7
Something coming out of vagina		3

## Comparison between Pap and VIA

The comparison between Pap and VIA results is as follows in Table 2

**Table 2: Comparison of VIA and Pap**

	Pap Positive	Pap Negative
VIA Positive	9	9
VIA Negative	0	82

(VIA=visual inspection with acetic acid; PAP= Papanicolaou test)

All the 9 cases which were positive by both VIA and Papsmeared were confirmed to be malignant by biopsy. VIA was 100% specific while sensitivity was 50% and accuracy was at 91%. Out of 100 cases 55 were asymptomatic, 35 cases white discharge and rest 7 had abnormal uterine bleeding as associated findings. Seven out of ten cases with abnormal uterine bleeding

showed acetowhite changes on VIA and Papsmear showed evidence for intraepithelial malignancy. Remaining three cases had prolapse of uterus.

## Discussion

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COVID-19 pandemic has affected more than 200 countries with more than 210 million cases worldwide. India reported 33 million cases of COVID 19. This pandemic brought about many changes in our society and healthcare system. Countries had complete lockdown to different levels of travel restrictions imposed.

Example of one such restriction was on 19th May 2020, due to the COVID-19 pandemic impact, the Government of India suspended the door-to-door screening of people above 30 years of age as part of the national program based on the risk associated oral cavity examination., the early detection of cancer services will primarily be restricted now to out-patient settings in primary, secondary, and tertiary care centers. till the peak of pandemic was over.

While our initial plan was to restart cervical cancer screening services in our center through a camp-based approach, we had to defer this based on GOI guideline. Our hospital being a tertiary care centers caters to a population around 100km radius. During lockdown period patients could not travel to seek hospitals services unless it was an emergency and when the restrictions were lifted there was fearing of contracting infection and loss of work wage which had just resumed. This showed a drastic decline in healthcare services availed.

According to a study done by hospitals participating in National Cancer Grid there was a more than 60% reduction in outpatients in India.<sup>6</sup> According to a study by Bakouny et al cancer screening rates declined by 60 to 80% compared to pre pandemic screening rates.<sup>7</sup> This was across all cancers like breast, cervix, lung, prostate, and colon. The consequences of this are likely to be witnessed in the coming years such as delayed diagnosis and advanced stage at presentation.

Several approaches are being discussed to provide continued services using innovative approaches. For example, teleconsultation services utilization increased by more than 500% during the pandemic, home test kits were developed to provide easy access to diagnostic services and care closer to home. One

such innovation is the VIA Kit which enables quick examination compared to standard preparation time of getting all necessary instruments, disposables and reagents prepared. This will help in less time spent in a healthcare facility. In addition, there is no risk of cross infection between patients as all items are single use for one patient.

This study of Pap Smear and VIA was done in OPD setting in a tertiary care hospital, while VIA is usually done in peripheral health centers. In our study we used a ready-to use “kit” instead of preparing 5% acetic acid solution each time and procuring the other items like glove, speculum etc. separately. The VIA kit was very handy in conducting the test quickly and easily. The concentration of the acetic acid solution was fixed thereby reducing the variability of the results observed during the study. This could further lead to use of automated image analysis in the future.

The examination was conducted by resident doctors in training. Accuracy of VIA was 91% in our study and sensitivity was 50% which is reported in literature. However, we feel this can improve with sufficient training to distinguish positive and false positive case and with practice.

In summary we could offer screening services in our hospital without crowding and maintaining social distance. The VIA Kit was helpful as we always had the necessary items instead of waiting for availability of 5% acetic acid solution, sterilization etc. We had reduced work force during pandemic for routine healthcare services and this helped in saving time and resources. It reduced the exposure time of the women in the hospital. In addition, adopting VIA as screening procedure helped us in reducing hospital visits for the women by providing instant results and decision on next steps.

## Acknowledgements

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## Conflict of Interest

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We declare no conflict of interest in the conduct of the study.

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## ABBREVIATIONS

- WHO- World Health Organization
- VIA- Visual inspection with Acetic Acid
- OPD – Outpatient department