

Original Article

Screening for cervical carcinoma with VIA in Dhaka National Medical College

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**ABSTRACT**

Background: Cancer is the one of the critical diseases that people are face in world wide. In women cervical cancer is commonly seen. Due to unconciosness or lack of knowledge still cervical cancer .cases seen in higher in rural area of bangaldesh. **Objective:** The purpose was to evaluate the outcome of screening procedure of cervical carcinoma by Visual Inspection of cervix with Acetic acid at DNMC. **Methods and materials:** This cross-sectional descriptive study was carried out at Dhaka National Medical College from January 2019 to December 2020, where screening with VIA was provided for 2208 women. A total 2208 patients who were suspected as suffering from cervical carcinoma of uterus and attended gynaecology out-patient department (OPD) were included as sample of this study. Visual Inspection of cervix with Acetic acid (VIA) and lugols iodine test were done at DNMC and colposcopy with targated biopsy for histopathological

examination was done on positive cases. It was an opportunistic screening program. The screening algorithm involved a single visit for screen-negative women and 2-3 visits for screen-positive women, **Results:** Most of the patients belong to 42-51years age group, 60%.and majority were multigravida, 95.8%. 41.7% just completed their secondary level of education followed by maximum patients were from lower socioeconomic family. According to study from January 1, 2019, to December 31, 2020, VIA screening was provided for 2208 women where positive case was found in 192 (15.33%) cases in January 1, 2019, to December 31, 2019, , where as in January 2020 to December 2020 the number of positive cases was to 12.65%. According to colposcopic findings where among 313 patients, 46.32% cases were normal colposcopic findings followed by 82 had CIN-I cases, 38 had CIN-II cases, 19 had CIN-III cases, 9 had invasive carcinoma cases. Where on histopathological examination, 55 women were diagnosed with CIN-I, 13 with CIN-II, 10 with CIN-III, and 5 with invasive cancer. **Conclusion:** From our study we can say that, A VIA-based program would aid in the development of cervical neoplasia screening, diagnosis, and treatment, as well as raise cervical cancer prevention awareness in Bangladesh.

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Key words: Cervical cancer, VIA (Visual inspection of cervix with acetic acid), LEEP

INTRODUCTION

Cervical cancer is the fourth most common cancer in women in the world. Of the 528,000 new cases detected globally in 2012, developing countries accounted to about 85% of its global burden. It kills approximately 270,000 women worldwide each year¹⁻². While the incidence and mortality rates of cervical cancer have declined in developed countries with the advent of successful screening programs, whereas there has been very poor such trend in developing countries³⁻⁵. Screening programs were implemented in developing countries since the early 1980's, yet have failed to reduce the mortality rates successfully. According to WHO only 5% of women in developing countries are screened appropriately. Likely reasons for failure in screening programs and poor follow up include lack of funding, inaccessible rural areas where most of the population in developing countries reside, lack of awareness, illiteracy, and poverty. Globally about 50% of all cancers occur in developing countries, yet only 5% of resources are spent on the fight against cancer. More than 80% of patients diagnosed with this eminently preventable cancer present in clinically advanced, inoperable stages. Given the difficulties and resource constraints in organizing a cervical cytology screening program in Bangladesh, a decision was made to introduce a pilot screening project using visual inspection with 5% acetic acid (VIA) through the existing government healthcare infrastructure in 16 of 64 administrative districts in 2004; its aim was to study the feasibility, acceptability, large-scale roll out, effectiveness, and sustainability of cervical screening. In this study our main goal is to assess the efficiency of visual inspection of cervix with freshly prepared 5% acetic acid for screening of cervical neoplasia in Bangladesh.

OBJECTIVE

- To evaluate the efficiency of visual inspection of cervix with freshly prepared 5% acetic acid for screening of cervical neoplasia at DNMC.

METHODS AND MATERIALS

This cross-sectional descriptive study was carried out from January 2019 to December 2020 at Dhaka National Medical College Hospital, where VIA screening was provided for 2208 women.

It was an opportunistic screening program. The screening algorithm involved a single visit for screen-negative women and 2-3 visits for screen-positive women,

After counseling and informed consent, a speculum examination was performed for direct visualization of the cervix and vagina to identify the squamocolumnar junction (SCJ), inflammation, polyps, leukoplakia, and growth. Freshly prepared 5% dilute acetic acid was applied to the cervix.

Care was taken to avoid any bleeding and results were reported 1 minute after application under 100-watt illumination. VIA test was considered positive when a definite, well-defined acetowhiting was observed in the transformation zone in close proximity with the SCJ or when a growth turned acetowhite; when in doubt the test was repeated.

All VIA-positive women were referred with a pink referral card to the colposcopy clinics at BSMMU or nearby medical college hospitals. Women with negative VIA were given a blue card and advised to come back after 3 years.

VIA (+)ve cases are undergone colposcopy targeted biopsy for histopathological evaluation. This pathology findings were recorded as CIN-I, CIN-II, CIN-III, invasive carcinoma. A manual register is kept at each VIA screening centre that provides the number

of women screened, tested positive, and tested negative.

Women with normal histology and CIN 1 reports were advised to return for follow-up after 6-12 months. Women with CIN 1 who wanted immediate treatment or who were unlikely to report for follow-up and those above 35 years were treated with cryotherapy or LEEP. Women with histologically confirmed CIN 2 or 3 lesions were treated with LEEP or cryotherapy and were advised to return for follow-up after 6 months. Women with cervical cancer were referred to cancer treatment facilities for further investigations and treatment.

All collected data were coding and input in SPSS-25 for further analysis. Both descriptive and inferential statistics done. Descriptive statistics included frequency distribution, percent, mean, standard deviation; graph, tables, figures and inferential statistics.

RESULTS

This cross-sectional descriptive study was carried out at Dhaka National Medical College from January 2019 to December 2020, where screening with VIA was provided for 2208 women.

In table-1 shows age distribution of the patients where most of the patients belong to 42-51years age group, 60%. The following table is given below in detail:

Table-1: Age distribution of the patients

	Valid Percent
30-41 years	22
42-51years	60
>52years	18
Total	100.0

In table-2 shows demographic status of the patients where 42% just completed their secondary level of education followed by 43% patients husband were farmer, 80% patients married in 13-17 years age and 78% got 1st pregnant by 14-18 years old.

The following table is given below in detail:

Table-2: Demographic status of the patients

Educational status	%
Illiterate	9%
Primary	11%
Secondary	42%
SSC	25%
HSC	13%
Husband occupation	
Businessman	15%
Farmer	14%
Day labour	
Garments worker	20%
Rickshaw puller	29%
Track driver	16.7%
	6.3%
Income	
10000-15000tk monthly	45.8 %
>150000 monthly	54.2%
Age of marriage	
13-17 years	80%
18-25 years	20%
1st pregnancy age after marriage	
14-18 years	78%
19-25 years	22%
Living area	
Rural	65%
Urban	35%

In figure-1 shows parity distribution where primigravida were 4.2% and multigravida were 95.8% cases. The following figure is given below in detail:

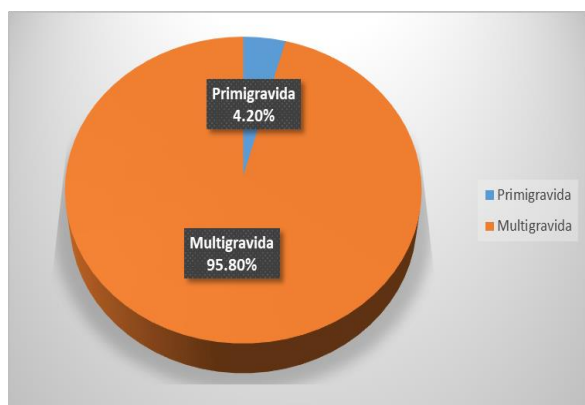


Figure-1: Parity distribution

In table-3 shows number of women screened & those tested positive where From January 1, 2019, to December 31, 2019, VIA screening was provided for 1252 women where positive case was found in 15.33% cases where as in January 2020 to December 2020 the number of positive cases increased to 12.65%. The following table is given below in detail:

Table-3: number of women screened & VIA tested positive cases

Year of screening	Number screened (2208 patients)	VIA Screen positive n (%) total 313 cases	CBE (Clinical breast examination), n(%) (47 cases)
January 2019 to December 2019	1252	192 (15.33%)	33(2.63)
January 2020 to December 2020	956	121 (12.65%)	14(1.46)

Table-4 shows distribution of the patients according to colposcopic findings where among 313 patients, 46.32% cases were normal colposcopic findings followed by 82 had CIN-I cases, 38 had CIN-II cases, 19 had CIN-III cases, 9 had invasive carcinoma cases.

Normal colposcopic findings	%
	145(46.32%)
Colposcopic abnormalities	N(%)
CIN I	82(26.19%)
CIN II	38(12.14%)
CIN III	19(6.07%)
Invasive	9(2.88%)
Unsatisfactory	20(6.39%)

In table-5 shows histopathology results of cases with colposcopic abnormalities where on histology, 84 cases reveal normal findings, 55 women were diagnosed with CIN-I, 13 with CIN-II, 10 with CIN-III, and 5 with invasive cancer. The following table is given below in detail:

Table-5: Histopathology results of cases with colposcopic abnormalities

Histopathology results	N(%)
CIN I	55 (45.65 %)
CIN II	13 (10.79 %)
CIN III	10 (8.3 %)
Invasive	5 (4.15 %)

In table-6 show that, LEEP done in 65% cases. Following table is shown here:

Table-6: Distribution of patients managements

	%
LEEP	65%
Hysterectomy	25%
Cryotherapy	5%

DISCUSSION

Among the cancers, cervical cancer accounts for almost one fifth of cases in women. The cervical cancer burden is closer to that of maternal deaths (13 000

deaths) in Bangladesh. Currently, 32 million women are aged between 30 and 60 years and less than 0.4% are screened annually with a Pap smear. It is not feasible to introduce cytology screening for cervical cancer control in Bangladesh given the resource.

On repeat VIA performed before colposcopy, a little more than half of the women were scored as negative, which indicates the wide variability between the test providers due to the subjective interpretation of the test.

If we extrapolate this finding to the entire study, the test-positive rates are likely to be even lower than 5%.

High parity (3 births or more) increases the risk of Cervical cancer by 51% compared to women with no births. ⁶In our study we found similar results where primigravida were 4.2% and multigravida were 95.8% cases.

The five year survival rate of cervical cancer when detected at the earliest stage is 92% and the combined five year survival rate for all stages is 71% (American Cancer Society 2009). The highest incidence of cervical cancer is observed in Latin America, Caribbean, sub-Saharan Africa, South and South East Asia.⁶

Incidence in India varies from 2035 per 100,000 women between the ages of 35 years and 64 years. In the developed countries the incidence is as low as 1-8 per 100,000 women. ⁷

In one reported study among the females 24% had cervical cancer. Lower education has significant influence on development of cervical cancer. Higher level of secondary education was found to a considerable reduction of Cancer cervix in Kerala of India. ⁸ Where as in our study 41.7% just completed their secondary level of education followed by 38.9% patients husband were farmer, 75% patients married in 13-17 years age and got 1st pregnant by 14-18 years old.

Another study also showed that low educational level contributed independently to the risk of Cervical cancer. ⁹ The low income group may be related to high incidence of early marriage, high parity, low attendance to physician and make this vulnerable for the development of Cervical cancer. ¹⁰

In our study the performance characteristics of VIA to detect CIN 2–3 lesions as assessed among women attending the colposcopy clinic are within the range of values from other published studies of VIA. ¹⁰⁻¹¹

CONCLUSION

From our study we can say that, A VIA-based program would aid in the development of cervical neoplasia screening, diagnosis, and treatment, as well as raise cervical cancer prevention awareness in Bangladesh.

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