



## Original Article

# Prevalence of CIN by Colposcopy among the Patient of Clinically Unhealthy Cervix in a Tertiary Care Hospital in Rajshahi

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### Abstract

We evaluate 600 patient with clinically unhealthy cervix with colposcope and cervical punch biopsy was taken from each patient for further evaluation.

#### Patient & Methods:

This is a cross sectional descriptive study carried out in colposcopy center of RMCH from January to December 2014. We reviewed all patient aged 18 to 60 years having clinically unhealthy cervix, who attended colposcopy center during study period.

#### Results:

Among 600 patient with unhealthy cervix 150 patient present with cervical erosion that is 25% patient present with erosion, 96 patient presented with congestion that is 16% with congestion, 30 patient presented with polyp that is 5%, 84 patient presented with excessive P/V discharge that is 14%, 73 patient with hypertrophied cervix that is 12%, patient with hypertrophied cervix and among all patient 96 patient was colposcopically diagnosed as CIN (72 with CIN-I, 12 with CIN-II, 12 with CIN-III, that is 16% patient has CIN, in 97 patient findings was unsatisfactory.

Histopathologically 72 has CIN, among these 48 has CIN-I, 18 with CIN-II, & 6 with CIN-III that is 12% patient was histopathologically diagnosed as CIN. And 6 patient diagnosed as invasive carcinoma.

#### Conclusion:

So from this study we get a good information regarding prevalence of CIN among unhealthy looking cervix. And there is good correlation between colposcopy & histopathology findings.

**Key word:** Visual Inspection of cervix (VIA), colposcopy, unhealthy cervix, per vaginal examination findings, CIN (Cervical intraepithelial Neoplasia).

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### Introduction

Cervical cancer is the 2<sup>nd</sup> most common causes of female cancer after breast cancer accounting for about 8% of total cancer cases and total cancer death of women<sup>(1)</sup>.

Approximately 70% of cervical cancer occurs in developing countries<sup>(2)</sup>.

Cervical cancer can be identified in its precancerous form and if treated successfully the lesion do not develop into invasive cancer. In developed countries the wide spread use of cervical screening program has dramatically reduce the rate of carcinoma cervix<sup>(3)</sup>.

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So successful screening program is one of the effective ways for early diagnosis & prevention of this cancer.

Patient with clinically unhealthy cervix are diagnosed by Speculum examination like cervical erosion, broad & hypertrophied cervix, cervico-vaginitis etc. patient with abnormal symptom like excessive per-vaginal whitish discharge, post-coital bleeding inter menstrual bleeding or post menopausal bleeding are also included in this study. In our study we include 600 patient for colposcopic evaluation. Colposcope is a low power, stereoscopic, binocular field microscope with a powerful light source used for magnified visual examination of the uterine cervix to help in the diagnosis of cervical neoplasia. Colposcopy helps in evaluation, treatment, assessment of progress and follow up of cases. It is advisable for an women with clinically unhealthy cervix to be referred for colposcopy in all medical institution in view of the possibility of early detection of invasive cancer and instituting appropriate management<sup>(4,5)</sup>.

Bangladesh Govt. adopted VIA, colposcopy, HPV-DNA testing for screening of carcinoma cervix. VIA for all married women above the age of 30 years & last two in selective center. Now VIA is performing by doctors & trained paramedics in selected health care facilities at UHC, District Hospitals, MCH, MCWC, UHFWC, BSMMU & all tertiary level hospital & in some NGOs. VIA positive cases are referred to colposcopy center where further evaluation & subsequent management done. Early treatment for CIN like LEEP, cryocoagulation & cold coagulation significantly reduces development of invasive carcinoma of cervix. As because carcinoma cervix is a slowly progressing carcinoma & takes about 10-20 years for development of invasive carcinoma from mild dysplasia or CIN, so our goal is early diagnosis of carcinoma cervix in preinvasive form.

### Patients & Method

In the study period total 1307 patient attend colposcopy clinic. Among them 600 included in our study who fulfill the inclusion criteria like age

18-60 years, clinically unhealthy cervix by speculum examination like erosion, congestion, ulceration, broad, hypertrophied, cervix matted with thick discharge & hard on bimanual examination. First of all VIA done for all patient. Then colposcopic evaluation done for all patient and punch biopsy taken with cervical punch biopsy forceps & sent for histopathology. Then after confirmation of diagnosis prevalence rate was calculated.

### Results & Observation

**Table 1:** Age distribution

| Age in years | No of cases n-600 | Percentage |
|--------------|-------------------|------------|
| 20-29        | 90                | 15         |
| 30-39        | 252               | 42         |
| 40-49        | 228               | 38         |
| >50          | 30                | 5          |

Table 1 Shows age distribution of study subjects. Among 600 women 15% were between 20-29 years, 42% (majority) were between 30-39 years, 38 % belonging to 40-49 years and 5% (least) were > 50 years. In this study majority 42% of the subjects are in 30-39 years age group, while the age group above 50 years in the least 5%.

**Table 2:** Clinical characteristics of study subjects

| Complaints   | Total cases n = 600 % |    | CIN cases N=72 |
|--|-----------------------|----|----------------|
|  |                       |    |                |
| No symptom   | 60                    | 10 | 6              |
| Vaginal discharge (with itching, without itching, foul smelling and blood stained) | 306                   | 51 | 22             |
| Irregular P/V bleeding   | 72                    | 12 | 12             |
| Post coital bleeding   | 102                   | 17 | 16             |
| Dyspareunia  | 42                    | 7  | 4              |
| Post menopausal bleeding   | 18                    | 3  | 12             |

Table 2 shows the distribution of clinical characteristics of the study subjects, and common complaints are P/V discharge. (306 out of 600 patients) that is 51%, patient present with excessive P/V discharge. Among them 22 patient had CIN. Other major complaints were per vagina bleeding either intermenstrual, post coital or post menopausal (72, 102, 18 patient respectively). This table also shows 6 patient had CIN without having any symptoms.

**Table 3:** Per speculum findings of cervixes of the study groups.

| Per speculum findings   | Total cases N=600 % |    | CIN N= 72 | Percentage |
|-------------------------|---------------------|----|-----------|------------|
|                         |                     |    |           |            |
| Apparently healthy      | 60                  | 10 | 6         | 8.33       |
| Atrophy                 | 18                  | 3  | -         | 0          |
| Congestion              | 96                  | 16 | 6         | 8.33       |
| Erosion cervix          | 150                 | 25 | 18        | 25         |
| Hypertrophy +congestion | 36                  | 6  | 12        | 16.66      |
| Hypertrophy +erosion    | 72                  | 12 | 6         | 8.33       |
| Polyps                  | 30                  | 5  | -         | 0          |
| Bleed on touch          | 54                  | 9  | 14        | 19.44      |
| Excessive P/V discharge | 84                  | 14 | 10        | 13.88      |

Table 3 shows per-speculum findings of study patient. 8.33% patients had CIN with apparently healthy cervix, majority that is 25% patient had cervical erosion, 5% patient with bleeds to touch, other important findings were hypertrophy, congestion, excessive P/V discharge 14% & 10% patient has apparently healthily cervix inspite of significant complaints & 16% patient present with congestion of cervix.

**Table 4:** VIA findings of study group.

| Acetowhite area within transitional zone No acetowhite area                       | Total cases n = 600 % |    | CIN Cases n =72 |        |
|---|-----------------------|----|-----------------|--------|
|   |                       |    |                 |        |
| 1. Flat Acetowhite areas with sharp margins                                       | 120                   | 20 | 30              | 41.66% |
| 2. Dense, opaque acetowhite area with sharp margins with punctuate/mosaic pattern | 48                    | 8  | 42              | 58.33% |
| Total   | 600                   |    | 72              | 100%   |

This table shows 432 that is 72% patient had no A/W area. Among those with A/W positive area

**Table 7:** Co-relation between colposcopy and directed biopsy findings.

| Colposcopic impression | Biopsy findings |       |                 |       |        |         |                    |       |
|------------------------|-----------------|-------|-----------------|-------|--------|---------|--------------------|-------|
|                        | Normal          | Polyp | Chr. cervicitis | CIN-I | CIN-II | CIN-III | Invasive Carcinoma | Total |
| Normal                 | 60              | 40    | 20              |       |        |         |                    |       |
| CIN-I                  | 72              | 12    | 16              | 44    |        |         |                    |       |
| CIN-II                 | 12              | 12    |                 | 4     | 8      |         |                    |       |
| CIN-III                | 12              | 12    |                 |       | 4      | 4       | 4                  |       |
| Erosion                | 200             | 94    | 106             |       |        |         |                    |       |
| Unsatisfactory         | 96              | 70    | 16              |       | 6      | 2       | 2                  |       |
| Inflammatory change    | 118             | 20    | 98              |       |        |         |                    |       |
| Polyp                  | 30              |       | 30              |       |        |         |                    |       |
| Total =                | 600             | 236   | 30              | 256   | 48     | 18      | 6                  | 600   |

flat A/W areas in 41.66% that is CIN-I and dense opaque A/W area that is 58% had CIN-II. Flat A/W areas with sharp margins within the transformation Zone indicated immature metaplasia or Low grade CIN.

**Table 5:** Colposcopic appearance of cervix.

| Appearance           | No. of cases n=600 | Percentage |
|----------------------|--------------------|------------|
| Normal               | 60                 | 10         |
| Erosion cervix       | 200                | 33.33      |
| Inflammatory changes | 118                | 19.66      |
| Polyps               | 30                 | 5          |
| Leukoplakia          | -                  | 0          |
| A/W areas CIN-I      | 72                 | 12         |
| CIN-II               | 12                 | 2          |
| CIN-III              | 12                 | 2          |
| Unsatisfactory       | 96                 | 16         |

Table 5 Colpocopic finding of 600 patient shows CIN in 96 patient, unsatisfactory in 97 patients and major cases are diagnosed as erosion of cervix (200) and inflammatory changes (117), out of 600 number of normal cervix in 60 patient and 30 patient had cervical polyp.

**Table 6:** Distribution of colposcopy directed biopsy findings.

| Colposcopy directed biopsy | Number | Percentage |
|----------------------------|--------|------------|
| Chronic cervicitis         | 256    | 42.6156    |
| Cervical polyp             | 30     | 05         |
| Histopathologically normal | 236    | 39.33      |
| CIN-I                      | 48     | 8          |
| CIN-II                     | 18     | 3          |
| CIN-III                    | 6      | 1          |
| Invasive carcinoma         | 6      | 1          |

Among 600 of the target cases the table 6 shows histopathology report of biopsy findings. 12% patient had CIN, among them CIN-I in 8% CIN-II in 3%, CIN-III in 1% patient.



Table 7 shows on colposcopic examination 60 patient has normal biopsy report, out of them 20 has chronic cervicitis. Colposcopically 72 women were found as CIN-I, 12 with CIN-II and 12 with CIN-III. Among 72 colposcopically CIN-I patient 44 has histopathologically CIN-I and 12 with CIN-II, histopathologically 8 with CIN-II & 12 with CIN-III 4 patient was histopathologically CIN-III.

### Discussion

In the present study screening was done in 600 women with abnormal symptoms like excessive white discharge, post coital & post menopausal bleeding & on per-speculum examination unhealthy cervix. Among 600 cases, 60 cases have apparently healthy cervixes in spite of suspicious clinical complaints. Colposcopy done for all cases & colposcopy guided biopsy taken from all patients.

Regarding age distribution high incidence of CIN was found among the age group of 30-49 years with mean age 41 years. Khustagi and Fernands, in their study showed the prevalence of CIN was higher in woman over 30 years.<sup>8</sup>

Regarding per speculum examination the most common findings were cervical erosion in about 25% patient where squamous epithelium of ecto-cervix was replaced by the columnar epithelium of endo-cervix. Rest of the patient showed congestion in 16%, hypertrophy & congestion in 6%, hypertrophy with erosion in 12% & polyp in 5%. Visual inspection with 5% acetic acid produces suspicious area in 28% patient.

Among these 120 patient that is 20% patient was with flat aceto-white area with sharp margin & 48 patient that is 8% patient have dense, opaque A/W area, with sharp margin. Among these with opaque A/W area most of the patient were CIN positive. Colposcopic examination showed, 60 patient that is 10% patient was colposcopically normal. Most of the patient present with cervical erosion (200 patient) & inflammatory changes including trichomoniasis & candidiasis in 118 patient. 96

patient was CIN positive that is 16% patient was CIN positive.

Histopathology from all patient show 12% patient had CIN (CIN-I in 48, CIN-II in 18 & CIN-III in 6 & invasive carcinoma in 6 patient). Chronic inflammation in 137 patient that is 42.66% cases. In one study carried out in Bangladesh showed incidence of CIN-I in 34.56% CIN-II in 13.9% & CIN-III in 9.56% & invasive carcinoma in 4.41% which were higher than our study. But in our study rate of inflammation is higher that is. 42% whereas the study mentioned above found it lower that is about 37%. This discrepancy may be due to difference in selection criteria of patient.

In this study there is a good correlation between colposcopy findings & biopsy report. Sensitivity is about 91.6% & specifically is about 94.3%.

### Conclusion

From this study we get information about the prevalence of CIN among 600 unhealthy cervix. In spite of this information there was some limitation that inadequate detection of endocervical lesion which needs endocervical curettage/ scraping. From screening our desirable goal is early diagnosis of CIN or Ca-Cx in preinvasive form where local treatment is possible which prevents progression of invasive cancer. Carcinoma cervix is almost curable when diagnosed in early stage. Colposcopy is an excellent tool for evaluation of cervical lesion if operator are properly trained. Our recommendation is to create awareness through national policy for wide range coverage of adult woman through cervical cancer screening programmer & create a national guideline for early diagnosis of Carcinoma cervix.

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