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COMPARATIVE EVALUATION OF PREVALENCE OF BACTERIAL VAGINOSIS AMONG GYNAECOLOGY OUTPATIENTS WITH PATIENTS WITH HIGH RISK BEHAVIOUR

Microbiology

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ABSTRACT

Introduction: Bacterial vaginosis is a condition due to the change in the vaginal microflora leading to vaginal discharge. It is a common cause of vaginitis and also increases the risk of acquiring other STIs including HIV by two to five times.
This study was conducted from January 2016 to December 2016 to know the prevalence of bacterial vaginosis in patients attending Gynaecology outpatient department in a tertiary care hospital and compare with the prevalence among commercial sex workers/ females with high risk behavior attending an STD clinic in their area.

Methods : 866 and 166 vaginal swabs were processed in the one year period from Gynaecology outpatient department and STD Clinic (high risk group) respectively for Gram Staining for Nugent score and Candida culture. Records were also analyzed for HIV seropositivity in these patients.

Results : Bacterial vaginosis was the most common condition followed by Candidiasis in both the groups. The prevalence of BV was 36.95% and 51.2% in the Gynaecology outpatients and High risk patients respectively. The prevalence of Candidiasis was comparable in both the groups at 18.59% and 13.85% in the Gynaecology outpatients and High risk patients respectively. HIV seropositivity in the Gynaecology outpatients was 3.23% and in High risk patients was 8.43%.

Conclusion and Recommendation: Bacterial vaginosis is the most common etiology followed by Candidiasis in vaginal discharge. Hence regular screening of women attending various healthcare facilities should be made mandatory to reduce the risk and spread of STIs. Emphasis should also be given to reproductive healthcare and education to patients attending high risk OPDs.

KEYWORDS

Bacterial vaginosis, Candidiasis, Gynaecology Outpatients, STI clinics

Introduction:

Bacterial vaginosis is a condition resulting from an overgrowth of bacteria like Gardnerella , *Lactobacillus, Bacteroides, Peptostreptococcus, Fusobacterium* and others. These multiple bacteria replace the normal major vaginal flora of lactobacillus. This imbalance results in a thin greyish vaginal discharge with a foul odor in contrast to the other common causes of vaginitis like candidiasis which causes a thick, curdy white discharge and trichomoniasis giving a greenish frothy discharge.

Bacterial vaginosis is a common cause of vaginitis in women who are sexually active during child bearing age. Women with bacterial vaginosis are at increased risk for genital infections and adverse pregnancy outcomes. This disease may increase the risk of HIV transmission also.

This study was conducted from January to December 2016 to know the prevalence of bacterial vaginosis in patients attending Gynaecology outpatient department in a tertiary care hospital and compare with the prevalence in commercial sex workers/ females with high risk behavior attending an STD clinic in their area.

Materials & Methods:

866 vaginal swabs were collected from sexually active females from age groups of 15-45 years complaining of itching/ vaginal discharge and attending Gynaecology outpatient department (OPD) in a tertiary care hospital. 166 swabs were collected from commercial sex workers/ females with high risk behavior attending an STD clinic in their area. The swabs were processed for Nugent Score by Gram staining and Candida culture on Sabroud Dextrose Agar. Records were also analyzed for HIV seropositivity in these patients.

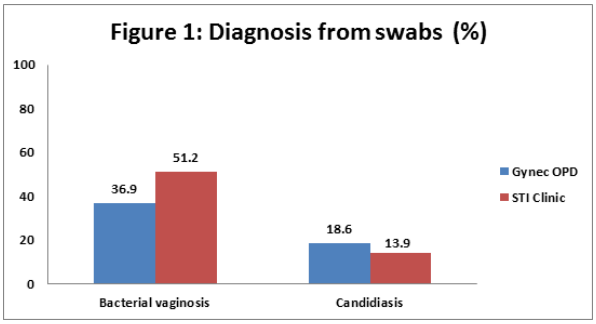
Results:

Out of 866 swabs collected from Gynaecology OPD, 320 patients (36.95%) had Nugents score above 7, thereby diagnosed as Bacterial vaginosis (BV). Out of 166 swabs collected from STD clinic, 85 patients (51.20%) had Nugents score above 7. (Table-1& Figure 1) 161 patients from Gynaecology OPD and 23 patients from STD clinic were positive for Candidiasis. HIV seropositivity in the Gynaecology outpatients was 3.23% and in High risk patients was 8.43%.

Table:1

	Gynecology OPD (N=866)	STI Clinic (N=166)	P value	Significance
BV	320 (36.9%)	85 (51.2%)	**< 0.001**	**Significant**
Candidiasis	161 (18.6%)	23 (13.9%)	0.177	Not significant
HIV	28 (3.23%)	14 (8.43%)	**< 0.001**	**Significant**

(Chi square test) (P < 0.05 – Significant)



Discussion:

India has a high burden of reproductive morbidity, and BV has been documented as a risk factor for both adverse birth outcomes and HIV.

Our study saw a prevalence of 36.5% in females from Gynaecology OPD from 15 to 45 years of age whereas Madhivanan et al in Mysore found a prevalence of 19% BV. [1] In Delhi, a study by Bhalla et al diagnosed BV in 70 (32.8%) subjects. [2] Another study conducted by Barauh et al showed a higher prevalence of 51.5% in Assam. [3] This shows that prevalence of bacterial vaginosis varies widely among different areas and communities within the country. This may be because of various reasons such as differences in study population, economic status and educational background, contributing to difference in hygienic practices.

In the patients from STD Clinics (high risk groups) the prevalence of BV was found to 51.20% and HIV seropositivity was 8.43%; which

was higher than the prevalence among outpatients. A study conducted in commercial sex workers in Chennai by Uma et al also found that BV was present in 45% of the enrolled patients and was directly related to concurrent infection with HSV-2, T vaginalis, T. pallidum and HIV.[4] HIV infection may promote abnormal vaginal flora, or BV may increase susceptibility to sexual transmission of HIV. Alternatively BV may be a marker or a cofactor of HIV transmission. As multiple sexual partners, douching, low socioeconomic stress, use of diaphragms and previous sexually transmitted diseases are considered as risk factors for acquiring BV.[5] The increased prevalence in high risk groups could be due to the multiple sexual partners.

The prevalence of Candidiasis in the outpatients and STD clinic patients was 18.59% and 13.85% respectively, which is comparable. Similar findings were seen in the study conducted by Bhalla et al [2] who reported a prevalence of 16.9%. A slightly higher prevalence of 29.75% was seen in study conducted by Gandhi et al. [6] In both these studies Candidiasis was the second most common infection after bacterial vaginosis.

This study shows that bacterial vaginosis is the most predominant etiology followed by Candidiasis. BV leads to alteration in vaginal microflora which may predispose the patients to acquire other STIs including HIV infection. Therefore regular screening of women attending various healthcare facilities to reduce the risk and spread of STIs. Emphasis should also be given to reproductive healthcare and education to patients attending high risk OPDs.

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Conflict of interest statement

We declare that we have no conflict of interest.

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