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Original Research Article

Prevalence of bacterial vaginosis in females in the reproductive age group in Kadur, Karnataka, India

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ABSTRACT

Background: Bacterial vaginosis, well known as the nonspecific vaginitis is caused by the normal resident flora of the vagina, predominantly by the peroxides producing lactobacillus species, when there is a disparity in their proportion and replaced by *Gardinerella vaginalis*, *Mycoplasm hominis*, *Mobilunceus* species, *Bacteroids* species, *Prevotela* species, *Fusobacterium* species and *Porphyromonus* species, *Peptostreptococcus* species.
Methods: A cross section study was performed to study the prevalence of bacterial vaginosis in the reproductive age group women and the associated risk factors. The diagnosis of the vaginosis was made from the smear and Amsle's clinical criteria.
Results: Out of 250 patients 112 (44.8%) were diagnosed to have BV, 20-29-year age group had the largest percentage of infection 69 (61.6%). IUCD users 36 (32.14%) are found to be suffering from BV. Vaginal candidiasis, trichomonas vaginalis and atypical cell of unknown significant was seen in 32 (28.5%), 9 (8.03%) and 17 (15.17%) women respectively.
Conclusions: A routine high vaginal swab for smear and culture must be performed for every woman presenting with chronic white discharge and itching, to prevent misuse usage of antibiotic. Further studies are needed to study the associated risk factors for BV.

Keywords: Bacterial vaginosis, Intrauterine contraceptive device, Prevalence, Reproductive age group

INTRODUCTION

In the sexually transmitted infections, which poses to be a major public health problem in developing country likes our bacterial vaginosis contributes to as much as 40-50% by itself.[1] Every minute there is a growth of the sexually transmitted disease and diagnosing them at an early stage and treating them remains a major challenge in a developing country like ours.

The burden of the disease is mainly in the underprivileged population, due to lack of knowledge and widening health facility within the populations. Globally it is estimated that 36 million adults are infected with gonorrhoea, syphilis, trichomoniasis, chlamydia and genital herpes.[2,3] Bacterial vaginosis is the commonest cause of abnormal vaginal discharges in the reproductive age group women and also has a strong association with preterm labor, preterm premature rupture of membranes and low birth weight.[4,5] Multiple study has found that there is a strong association between sexually transmitted infections (STIs) and early age of first intercourse and multiple sexual partners.[6,7]

Discharge from the vagina is a normal phenomenon to maintain the normal vaginal flora and environment, normal vaginal discharge is clear or milky with no foul smell. Whereas an abnormal discharge there is an altered color, amount, associated with itching/ malodor, which is caused by the alteration in the normal vaginal flora.

Unsafe habits of overusing vaginal douching, sprays, bubble bath, antibiotics, steroids, abnormal sugar levels lead to the alteration of the normal flora.[8] This study was conducted the study the prevalence of bacterial vaginosis among the reproductive age group women, in the rural population of Kadur, the associated risk factors and associated vaginal infections and the organisms causing it.

METHODS

We conducted a community based cross sectional study, on all the women residing in Kadar taluk. The study was conducted in March 2017, over a period of 7 days. Following a verbal consent of all the women in their reproductive age group who presented with complains of chronic white discharge. We collected basic patient like name, age, parity, marital history, potential risk factors were all collected in the questioner. A total of 120 women were examined, who were all sexually active, between the age group 16 to 40 years were included in the study.

Following a complete general examination, per abdomen examination and pelvic examination was performed. For the diagnosis, the Nugent's scoring of gram staining was used. Laboratory investigations were completed in the Kadar pathology labs and diagnostics, Kadar. Data was analyzed using the SPSS version 20.0.

RESULTS

Of the total 250 women who were enrolled in the study 112 (44.8%) of the women had a positive result.

Table 1: Characteristics of the women.

Characteristic	Patients	Percentage
Age		
<19	32	28.57
20-24	56	50
25-29	13	11.6
≥30	11	9.8
Parity		
Nulligravida	14	12.5
1-3	94	83.9
>3	4	3.5
History of abortion	34	30.3
PID	46	41.07
STD	23	20.5
Contraceptive usage		
Condom	46	41.07
IUCD	36	32.14
OCP	5	4.46
Injectablable hormones	0	0
Habits		
Tobacco chewing	29	25.8
Smoking	2	1.7
Alcoholism	12	10.71

50% of the women were between the age group 20-24 years of age, 87.4% of the women were married and had at least one child. Previous history of abortion, pelvic organs infection and other sexually transmitted infection was seen in 30.3%, 41.07% and 20.5% respectively. 41.07% of the women gave history of using barrier method of contraception.

Vaginal discharge collected was smeared on glass slides, dried, heat fixed followed by staining with Gram's staining. The bacterial morph type was studied using the following scheme: 1+, 30 per field. Large Gram-positive rods were lactobacillus morphotypes; small Gram-negative to Gram-variable rods were considered as *G. vaginalis* and *Bacteroides* spp. morphotypes; curved Gram variable rods were considered as *Mobiluncus* spp. morphotypes.

Table 2: Nugents scoring of gram staining diagnosis of BV.

Nugents scoring	Positive patients	Percentage
BV	112	44.8
Intermediate	34	13.6
Normal	104	41.6

0-3 = Normal, 4-6 = Intermediate, 7-10 = BV

Associated with bacterial vaginosis was candidiasis, which was seen in 28.5% of the women, followed by trichomonas's in 8.03% of the women. In concurrence with other studies candidiasis was the commonest associated infection, and was with white discharge for more than 6 months.

Table 3: Association between bacterial vaginosis and presence of other laboratory confirmed sexually transmitted or reproductive tract infections.

Organisms	Positive patients	Percentage
Trichomoniasis	9	8.03
Candiadiasis	32	28.5
HIV infection	1	0.89
Syphilis	8	7.14
Gonorrhea	0	0

DISCUSSION

There has been multiple study performed in various parts of India on the prevalence of bacterial vaginosis. The prevalence of in our study was 44.8% which was much higher than the study conducted previously by Sangeeta et al (40.66%) and in bardados (33%).[9,10] Various other studies have been reported between 25.4% to 38.6%.[11]

In present study, there was a statistically significant association between the parity of the women the prevalence of bacterial vaginosis. Amsel et al reported that in women using intrauterine contraceptive device there was a higher prevalence.[12] In present study, we found 32.14% IUCD user had bacterial vaginosis.

Many a times a vaginal discharged is made un noticed as not a major health problem, for which a woman does not seek treatment, in rural India due to lack of facilities. The real prevalence of the bacterial vaginosis may be under estimated in the study dude to a small sample size and also due to opt out of study of many women due to shyness. Bacterial vaginosis is an important health problem which may lead to intermenstrual bleed, prolonged menstrual bleeding, chronic itching and foul smelling discharge and chronic lower back pain. Serious morbidity like associated HIV and HPV infection and carcinoma in situ were unaware by the study population. Vaginal candidiasis in our study was 28.5% and higher than trichomoniasis like the same found in Watcharotone et al.[13]

CONCLUSION

The study shows us the high prevalence of Bacterial Vaginosis. There was significant association between the parity, uterine manipulation, IUCD user, history of STD with bacterial vaginosis. Health education to the rural areas and need of routine pap smear needs to be emphasized to the women in the reproductive age group. The easy mode of diagnosis and treatment needs to be stressed on to prevent morbidities.

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REFERENCES

1. Spiegel CA. Bacterial vaginosis. Clin Microbiol Rev. 1991;4(4):485-502.
2. Amsel R, Totten PA, Spiegel CA, Chen KC, Eschenbach D, Holmes KK. Nonspecific vaginitis: diagnostic criteria and microbial and epidemiologic associations. Am J Med. 1983 Jan 1;74(1):14-22.
3. Atashili J, Poole C, Ndumbe PM, Adimora AA, Smith JS. Bacterial vaginosis and HIV acquisition: a meta-analysis of published studies. AIDS (London, England). 2008 Jul 31;22(12):1493.
4. Allsworth JE, Peipert JF. Prevalence of bacterial vaginosis: 2001–2004 national health and nutrition examination survey data. Obstet Gynecol. 2007 Jan 1;109(1):114-20.
5. Brotman RM, Klebanoff MA, Nansel TR, Yu KF, Andrews WW, Zhang J, Schwebke JR. Bacterial vaginosis assessed by gram stain and diminished colonization resistance to incident gonococcal, chlamydial, and trichomonal genital infection. J Infect Dis. 2010;202(12):1907-15.
6. Bukusi EA, Cohen CR, Meier AS, Waiyaki PG, Nguti R, Njeri JN et al. Bacterial vaginosis: risk factors among Kenyan women and their male partners. Sexually transmitted diseases. 2006 Jun;33(6):361-7.
7. Vishwanath S, Talwar V, Prasad R, Coyaji K, Elias CJ, de Zoysa I. Syndromic management of vaginal discharge among women in a reproductive health clinic in India. Sexually Transmitt Infect. 2000 Aug;76(4):303-6.
8. Freshwater D, Masiln-Prothero S. Blackwell's Nursing dictionary. 2nd ed. Blackwell publishing Ltd 2005;642.
9. Jogi SR, Babbar K. Prevalence of bacterial vaginosis in sexually active females in Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh. Int J Reprod Contracept Obstet Gynecol. 2015;4:963-7.
10. Levett PN, Taruvinga M, Maheswaran K, Rotchell Y. Genital tract infections in sexually active women in Barbados. West Indian Med J. 1995;44:128-9.
11. Bhalla P, Chawla R, Garg S, Singh MM, Raina U, Bhalla R et al. Prevalence of bacterial vaginosis among women in Delhi, India. Indian J Med Res. 2007;125:167-72.
12. Amsel R, Totten PA, Spiegel CA, Chen KC, Eschenbach D, Holmes KK. Nonspecific vaginitis. Diagnostic criteria and microbial and epidemiologic associations. Am J Med. 1983 Jan;74(1):14-22.
13. Watcharotone W, Sirimai K, Kiriwat O, Nukoolkarn P, Watcharaprapapong O, Pibulmanee S et al. Prevalence of bacterial vaginosis in Thai women attending the family planning clinic, Siriraj Hospital. J Med Assoc Thai. 2004;87:1419-24.

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