



## **To Assess the Prevalence of Bacterial Vaginosis among Women in Selected Rural Areas**

**Snehal N. Dhobe<sup>1</sup> and Manjusha Mahakarkar<sup>2\*</sup>**

<sup>1</sup>Department of Obstetrics and Gynaecology, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences (Deemed to be University), Sawangi Meghe, Wardha, Maharashtra, India.

<sup>2</sup>Department of Obstetrics and Gynaecology Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences (Deemed to be University), Sawangi Meghe, Wardha, Maharashtra, India.

### **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/JPRI/2021/v33i47A33027

#### Editor(s):

(1) Dr. S. Srinivasa Rao, V. R. Siddhartha Engineering College, India.

#### Reviewers:

(1) Mahaboob V Shaik, Narayana Medical College, India.

(2) Zahida Niaz, CCCRC, Oman.

(3) Gaurav Singh, Safdarjung Hospital and VMMC, India.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/73732>

**Original Research Article**

**Received 12 August 2021**  
**Accepted 25 September 2021**  
**Published 27 October 2021**

### **ABSTRACT**

Bacterial vaginosis is condition in which abnormal vaginal discharge can cause. Due to this sexually transmitted diseases are causing in the women. In the bacterial vaginosis there is an imbalance in the vaginal acidity the pH becomes more than 5 the bacteria becomes overgrowth and due to this bacterial infection or bacterial vaginosis leads [1].

**Objective:** 1: To assess the prevalence of bacterial vaginosis among women. 2: To find out the association between prevalence of bacterial vaginosis among women with socio-demographic variable.

**Materials and Methods:** Research Approach- Quantitative research approach. Research Design: Cross sectional survey design. Setting of the Study: The study was conducted at rural hospital and primary health centre. Population: women Sampling technique: non-probability convenient sampling technique. Sample size: 115.

**Results:** The data obtained to describe the sample characteristics including demographic variables (age of women, education, marital status, occupation, age of menarche, menstrual history, use of

contraception, types of contraception), prevalence of bacterial vaginosis women the total participant was 115 women age of 30-50 years. Hence the all findings were describes there was no association between socio demographic variables and prevalence of bacterial vaginosis is 6.1%. Conclusion In this study the finding of the study shows that overall there was n association between bacterial vaginosis and demographic variables. The prevalence of bacterial vaginosis was 6.1% in the present study which was relatively low. However it vaginosis was common among sexually active women. The test was done by pap smear test which gave exact result and interpretation of test.

*Keywords: Assess; prevalence; bacterial vaginosis; women.*

## 1. INTRODUCTION

Bacterial Vaginosis is a condition which occurs commonly at the reproductive age. Often known as not exact vaginitis, bacterial vaginosis is a vaginal disease that can cause vaginal discharge which results from overgrowth in the vagina of certain types of bacteria. Bacterial vaginosis is type of vaginal infection caused by "Gardnerella vaginalis" bacteria. In the bacterial vaginosis there is an imbalance in the vaginal acidity the pH becomes more than 5 the bacteria becomes overgrowth and due to this bacterial infection or bacterial vaginosis leads [1]. Bacterial vaginosis is common among the women who was sexually active [2]. bacterial vaginosis leads to various sexually transmitted diseases for example syphilis, human immunodeficiency virus "(HIV)", etc. bacterial vaginosis causes due to repeated douching by some solutions, the due to coitus with multiple partners or due to firs time sexual intercourse, avoidance of condom use during coitus, it may be cause due to female do sex with female, another causes are use of intrauterine devices, the rare cause is smoking and the repeatedly preterm deliveries can cause be the cause of bacterial vaginosis among women. The symptoms of bacterial vaginosis sometimes women was not experiencing that but if they have symptoms than it should be white/gray discharge per vagina, odor after sex, pain in lower abdomen, surplus itching over vagina, and also burning micturition, and if the symptoms were present that can cause during menstrual cycle and after menstrual cycle. The quantity of discharge can be consider as naturally differs. The amount of vaginal discharge that is abnormal that it should be assessed. Bacterial vaginosis can spread through sexual contacts, not properly clean toilet seats use, or through swimming pool. Bacterial vaginosis can be examined by per vaginal examination, on symptoms by doing pap smear test, by taking high vaginal swab test it can determine whether

women is diagnosed with bacterial vaginosis or not [3].

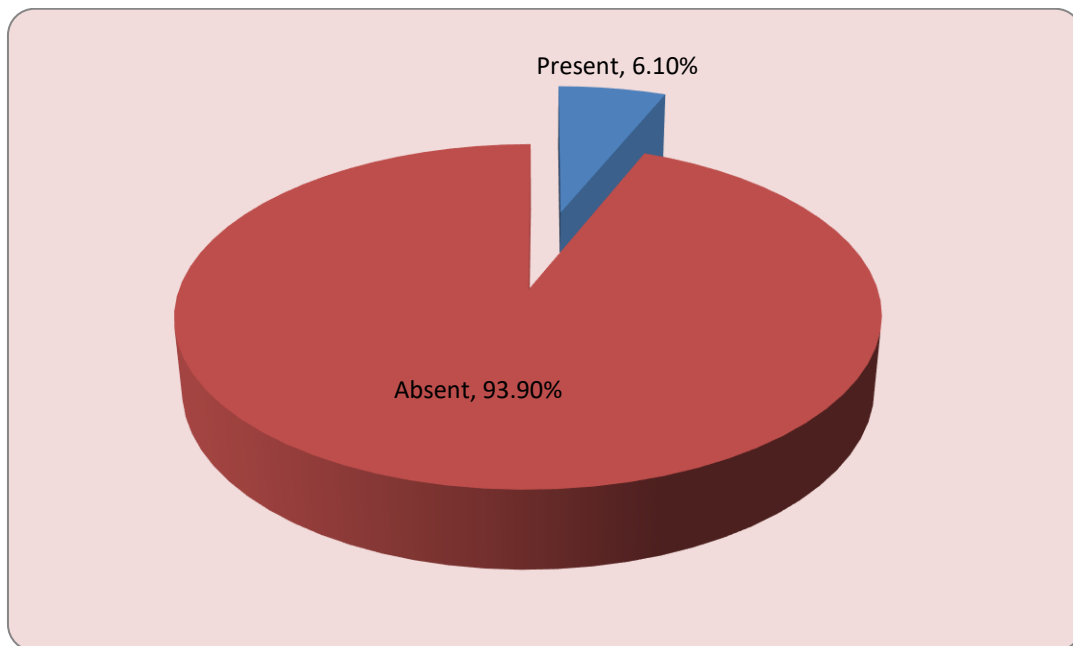
### 1.1 Need of the Study

"The aim of the study was to assess the prevalence of bacterial vaginosis among women in selected rural areas." There were women still suffering from the Bacterial Vaginosis some of them were affected due to use of contraception, in selected rural areas this condition shows prevalence rate according to the Delhi scenario was 28.8% [4].

Among non-pregnant women, BV has been associated with PID, endometritis, postoperative infections and infertility [5,6]. The risk of acquiring HIV virus is also increased by the presence of BV infections [7]. Environmental factors appear to be important in development of this disease. Exposure to chronic stress, ethnic differences and frequent or recent douching have been associated with increased rates of this condition [8]. The prevalence of bacterial vaginosis was in overall world the it is most common in united states than in India, the epidemics show 50% according to world health organization, in India 23.95% [9], in Maharashtra it was 17.3%, [10] in wardha according to the study it was 66.6% [11].

## 2. METHODS AND MATERIALS

In present study the Study Design used is The cross-sectional survey research design .This study works with the research approach of Quantitative research approach. In the study Sample were women of selected rural areas and the target Population were women age in between 30-50yrs of selected rural areas. Setting of the study which was Selected rural areas in wardha district with the Samples Size: 115 who fulfilled the criteria lay down for the selection of



**Graph 1. Assessment with Prevalence of bacterial vaginosis among women of selected rural areas**

the sample. The sampling technique used in the study was non probability convenience sampling. Inclusion criteria in study were women who are ready to part in present research and Women between the ages of 30-50 years. Exclusion criteria were Women with pregnancy. Women who have been treated with antibiotics in the last 30 days. Those women who are of having severe anaemia, diabetes mellitus, hypertension, having history of urinary tract infection, diarrhoea.

### 3. RESULTS

#### 3.1 Prevalence of Bacterial Vaginosis with Selected Demographic Variables

**Table 1. Percentage wise distribution of women according to their assessment of prevalence of bacterial vaginosis: N=115**

Bacterial Vaginosis	Frequency	Percentage (%)
Present	7	6.1
Absent	108	93.9
Total	115	100

In this study majority of bacterial vaginosis at the age group belongs to 30-40yrs (5%), the women who are having bacterial vaginosis they were educated primary (1%), secondary (3%), higher secondary was (2%), graduate had (1%). The presence of bacterial vaginosis women was

homemaker in excess(4%), private service (2%),labourer (1%), married women was (6) who had bacterial vaginosis and (1%) women was widow. The women who had age of menarche 14 years (4%) were present bacterial vaginosis,12 years, 16 yrs and >16 were having 1%. According menstrual history (7%) women have bacterial vaginosis had regular menstrual cycle and both the women who were using contraception and not using contraception was affected by bacterial vaginosis.

### 4. DISCUSSION AND CONCLUSION

The findings of the study have been discussed with reference to the objectives stated in chapter 1 and with the findings of the other studies in this section. The present study was undertaken "To assess the prevalence of Bacterial Vaginosis among women in selected rural areas". In this study of the total of 115 women participate, 115 (100%), out of that 7 women were having bacterial vaginosis. These all subjects were belonging to rural setup.

In present study the researcher doesn't found any association between prevalence of bacterial vaginosis and demographic variables, but the women at the age of 30-35years were showing high incidence rate of bacterial vaginosis. The use of contraception also shows presence of bacterial vaginosis among women.

The cross-sectional study were based on to assess the prevalence of bacterial vaginosis among women in New Delhi, in this study 70(32.8%) women was diagnosed as bacterial vaginosis. The highest percentage was shown in these study was asymptomatic (31.2%) were have bacterial vaginosis. In this the rural setup shows (28.2%) of bacterial vaginosis [12].

This study was conducted to assess the characterization according clinicoetiological vaginitis in Mumbai at reproductive age group the prevalence is 17.3%, they have assessed the prevalence according to symptoms. In this study the vaginal discharge is present in 96.4%, vaginal itching is 17.3%, pain in abdomen 2.7%, malodor 4.5% [13].

In the study of kadir Karnataka they were found the prevalence of bacterial vaginosis in the reproductive age group women associated risk factors. The prevalence of bacterial vaginosis is 44%, 20-29 years' age group had highest prevalence. Intrauterine contraceptive devices user has 32.14% was suffered from bacterial vaginosis [14].

The study done in India, the prevalence of BV was 65.04% by Amsel and 41.74% by Nugent's Criteria. This shows higher prevalence as compared to the study of Damke et al. [15] which showed 40.66% and study of Tote et al. [16] showed 33%. According to the study of Rao et al. [2] and Shoubnikova et al. [17] the prevalence of BV among IUD users was 19.7% and 24.1% respectively which showed lower than this study [15].

In similar study, the patients as per presenting complaints majority of the patients (83.40 %) presented with bleeding per rectum as their chief complaint followed by altered bowel habits and pain in abdomen in 33.40 % and 16.70 % of total patients respectively [16].

After the detailed analysis, this study leads to the following conclusion:

Bacterial vaginosis is determined when the  $P_H$  level and acidity of vaginal flora is increased / decreased or the changes in the hormone can cause the bacterial vaginosis. Bacterial vaginosis leads to premature rupture of membrane, abortion, sexually transmitted diseases and pelvic inflammatory diseases.

Association of bacterial vaginosis with their demographical variables found is not significant with the demographic variables. In conclusion, our current study shows that the low prevalence of bacterial vaginosis. Due to adverse outcome, it is recommended that all the women may be screened for Pap smear test to reduce the risk of bacterial vaginosis among women.

## CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline Patient's consent and ethical approval has been collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Helen Mitchell, et.al. Vaginal discharge-causes, diagnosis and treatment, British Medical Journal. 2004;328(7451):1306-1308.
2. Rao PS, Devi S, Shriyan A, et al. Diagnosis of bacterial vaginosis in a rural setup: Comparison of clinical algorithm, smear scoring and culture by semi quantitative technique. Indian Journal Medicine Microbiology. 2004;22:47-50.
3. Melissa Conrad Stoppler, et.al. Bacterial vaginosis causes symptoms treatment center, MedicineNet; 2018. Available:<http://medicine.medscape.com/article.254342-overview>
4. Bhalla P, Chawla R, Garg S, Singh MM, Raina U, et.al. Prevalence of bacterial vaginosis among women in Delhi, Indian Journal of Medical Research. 2007;125(2): 167-72.
5. Sweet RL, et al. Role of bacterial vaginosis in pelvic inflammatory disease, Journal of primarily Medline databases of references. 1995;20(2):271-5.
6. Soper DE, et al. Bacterial vaginosis and postoperative infections, American Journal of Obstetrics and Gynecology. 1993;160-467.
7. Sewankambo N, Gray RH, Wawer MJ, Serwadda D, et al. HIV-1 infections associated with abnormal vaginal flora morphology and Bacterial Vaginosis, The Lancet Journal. 1997;350(9093): 546-50.

8. Romero Roberto, Chaiworapongsa Tinnakorn, et al. Bacterial vaginosis, the inflammatory response and the risk of preterm birth: A role for genetic epidemiology in the prevention of preterm birth, *American Journal of Obstetrics and Gynaecology*. 2004;190(6): 1509-1519.
9. Ruchita Attal, Vijyashri Deotale, et al. Reproductive tract infection, distribution of common reproductive tract infection among symptomatic female attending outpatient department in a rural tertiary care hospital. *International Journal of Current Research and Review*. 2018;10(17):17.
10. Wondemagegn Mulu, Mulat Yimer, Johannes Zenebe, et al. A cross sectional study to assess common causes of vaginal infections and antibiotics susceptibility of aerobic bacterial isolates in women of reproductive age attending at Felegehiwot referral hospital, Biomed Central Research. 2015;15( 42).
11. Priyanka B Aglawe, Deepti Shrivastava, et al. Appraisal of therapeutic modules in relation to sociodemographic & clinicopathological profiles of abnormal vaginal discharge in reproductive age group, *International Journal of Current Research*. 2017;(9):57618-57623. Available: <http://www.journalcra.com>
12. Garg S, Singh MM, Raina U, Ruchira Bhalla, Pushpa Sodhani, et al. Prevalence of Bacterial Vaginosis, *Indian Journal Medicine Research*. 2007;125(2):167-72.
13. Anahita Hodiwala, Arati Mane, et al. Clinicoetiological characterization of infectious vaginitis amongst women of reproductive age group from Navi Mumbai, India. *Journal of Sexually Transmitted Diseases*. 2015;10(1155).
14. Akshita R Seth, Chaitra S, Vaishnavi S, Sharath Chandra GR, et al. Prevalence of bacterial vaginosis in females in the reproductive age group in Kadur, Karnataka, India, *International Journal of Reproduction, Contraception, Obstetrics and Gynaecology*. 2017;6(11):4863-4865.
15. Damke S, Chandi D, Fule R. Study of Bacterial Vaginosis among Women of Reproductive Age Using Contraceptive Methods in a Tertiary Care Hospital. *J Krishna Inst Med Sci Univ*. 2020;9(2):22-27.
16. Tote, Darshana, Rajesh Domakunti, and Sachin Tote. "Scenario of Rectal Carcinoma Cases in a Rural Setting of Central India." *Journal of Evolution of Medical and Dental Sciences-JEMDS*. 2020;9(46):3434–38. Available: <https://doi.org/10.14260/jemds/2020/753>
17. Shoubnikova M, Hellberg D, Nilsson S, Mårdh PA. Contraceptive use in women with bacterial vaginosis. *Contraception*. 1997;55(6):355-8.

© 2021 Dhobe and Mahakarkar; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:*  
<https://www.sdiarticle4.com/review-history/73732>