

BACTERIAL VAGINOSIS;

Frequency of asymptomatic pregnant women

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ABSTRACT...Objective: To establish the frequency of bacterial vaginosis in asymptomatic pregnant women. **Study design:** Cross Sectional Descriptive study. **Setting:** Private tertiary care hospital of Larkana. **Period:** 1st June 2011 to 31st December 2011. **Material and methods:** 120 asymptomatic pregnant women at 14-28 weeks of gestation were included in this study after fulfilling selection criteria. A high vaginal swab stick was dipped into secretion through speculum and slides were made and sent to attached laboratory for clue cells. Vaginal PH was tested with PH paper (change in color noted). Whiff test was performed by adding two drops of KOH on posterior blade of speculum for fishy odour. The diagnosis of bacterial vaginosis was made with the help of Amsel's criteria. Presence of >3 signs was labeled as bacterial vaginosis positive. Data analysis was done on statistical package of social science (SPSS version 13). **Results:** Although total 120 patients who were recruited in our study, all did not present with any symptom of vaginal discharge, but the frequency of pregnant women having Bacterial Vaginosis was quite high. A total of 77 (64.1%) patients discovered positive for bacterial vaginosis, while only 43 (35.8%) patient's samples were negative for bacterial vaginosis. The mean age of our patients was 28.56 ± 3.71 years, while mean gestational age was 24.65 ± 2.34 weeks. Homogenous milky discharge was observed in total 65 (54.16 %) patients, while in rest of patients, we did not detect any discharge. Bacterial Vaginosis was more prevalent in women belonging to low socioeconomic group and who had low literacy rate. **Conclusions:** The frequency of bacterial vaginosis was found to be very high among asymptomatic pregnant women. Timely diagnosis can be helpful in treating complications related with it.

Key words: Bacterial Vaginosis, Amsel's Criteria, gardenella vaginosis, mobilincus, myclopasama hominids, ureaplasama urealyticm.

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INTRODUCTION

Bacterial Vaginosis(BV) is a polymicrobial condition portrayed by substitution of normally defensive lactobacilli by an overgrowth of anaerobic organisms (gardenella vaginalis, mobilincus, myclopasama hominis, ureaplasama urealyticm and pre-vitally) in vagina¹. BV is the most common vaginal infection worldwide and is often asymptomatic². The presence of BV has consistently been a risk factor for adverse obstetric outcome, such as preterm labour, premature rupture of membranes, spontaneous abortion, chorioamnionitis, also postnatal infections such as endometritis and caesarian section wound infection³. Bacterial vaginosis (BV) is the number one cause of vaginitis and also been related to many gynecologic conditions like pelvic inflammatory disease, posthysterectomy vaginal cuff cellulitis, endometritis⁴.

Exact prevalence of Bacterial vaginosis vary widely³. World studies show the prevalence of bacterial

vaginosis ranges from 4-64%, depending on the racial, geographic and clinical characteristics of the study population⁵.

A study conducted at Karachi that shows the prevalence of BV in pregnant women 55.38%⁶. Whereas study in Delhi India founded that bacterial vaginosis affect 9-23% of pregnant women⁷.

Most often up to 50% women with BV remain asymptomatic. The symptoms are generally mild, including thin grey white homogenous discharge, pruritis or irritation are not uncommon⁸ and fishy odor results which is by-product of anaerobic bacteria¹.

For the diagnosis of BV both clinical and the gram stain criteria are acceptable methods⁹. Amsel's criteria is the most widely recognized and used as routine test¹⁰ and is the gold standard method which provides rapid and accurate diagnosis used in most studies

evaluating BV without undue delay even not requiring special laboratory facilities².

Above studies were done on symptomatic as well as on asymptomatic pregnant women, but this study is being taken to determine the frequency in asymptomatic pregnant women. So this study will give us magnitude of BV in asymptomatic pregnant women using of Amsel's criteria. Subsequently tactic approach could be developed to minimize the morbidity and prenatal complications. The role of asymptomatic, compared with symptomatic, BV in both gynecologic and pregnancy-related conditions has been less studied, although research emphasis is shifting toward determining these independent relations.

MATERIALS AND METHODS

This cross Sectional study was conducted on pregnant women attending antenatal clinic of outpatient department of private tertiary care from 1st June 2011 to 31st December 2011 after taking IRB approval. A sample size achieved by non probability consecutive sampling and calculating prevalence of bacterial vaginosis 55.38%² with 95% confidence interval and with 9% marginal error. So the sample size was 120 cases kept for this study after fulfilling following selection criteria.

Inclusion criteria

All pregnant women at 14-28 weeks gestation diagnosed by asking history of last menstrual period and confirmed on ultrasound.

Exclusion criteria

- I. Pregnancy with the symptoms of bacterial vaginosis.
- II. Pregnancy with medical disorders like diabetes mellitus, hepatic dysfunction, thyroid dysfunction, cardiopulmonary dysfunction and renal diseases.
- III. Pregnancy with previous history of

miscarriage.

- IV. Pregnancy with history of ante partum hemorrhage.
- V. Multifetal pregnancy.
- VI. History of antibiotic intake in last 14 days.

Exclusion criteria were strictly followed to avoid confounding variables. Informed consent was taken.

Patient was kept in lithotomy position, after separating the vulva with the left hand unlubricated speculum gently inserted in vagina. While performing speculum examination pooling of secretion was observed for color and odour. A high vaginal swab stick dipped into secretion through speculum and slides were made and sent to attached laboratory for clue cells. Vaginal PH was tested with PH paper (change in color was noted). Whiff test was performed by adding two drops of KOH on posterior blade of speculum for fishy odour. So the diagnosis was made with the help of Amsel's criteria. Presence of >3 signs was labeled as bacterial vaginosis positive. All above information was recorded on preformed proforma. Data analysis was done on statistical package of social science (SPSS version 13). Mean and standard deviation was calculated for bacterial vaginosis, parity, positive whiff test, clue cells and virginal PH>4.5.

RESULTS

A total of 120 pregnant women without symptoms of Bacterial Vaginosis were included in our study.

Age Group distribution shows 81 (67.5%) patients were present in age group between 21-30 years while, 39(32.5%) patients were present in between 31-40 years of age group with mean age 28.56years and SD of ± 3.71 years.

Out of total 120 patients, Mean gestational age observed in our study was 24.65 weeks with the standard deviation of ± 2.34 weeks shown in table 1.

There were 66 (55%) patients with > 2 parity in our study while, 54 (45%) patients were with < 2 parity.

Frequency of Economic status shows that most of the patients in our study were from Lower Income Class, i.e. 75 (62.5%). Frequency of Patients in middle income class was 37 (30.8%).

Out of total 120 patients, most of the patients, i.e. 72 (60%) had never been to school, 38 (31.7%) patients were matric and only 10 (8.3%) patients were Intermediate in our Study as in figure 1.

A total of 77 (64.1%) patients discovered positive for bacterial vaginosis, while only 43 (35.8%) patients' samples were negative for bacterial Vaginosis and relation with age group is shown in table II.

Homogenous milky discharge was noticed in total 65 (54.16 %) patients While, in rest of the 55(45.83%) patient's homogenous milk like discharge was not observed.

Clue Cells were found in 69 out of 77 (90%) positive patients while, in 8 (10%) patients Clue cells were not found while in the same way 73 (95%) among 77 had positive Whiff test. Another criterion supporting diagnosis of BV was pH> 4.5 confirmed in 71 (93%) out of 77 and only few did have other positive factors.

Stratification of age and other factors shows that most of the patients in between age group 21-30 years have Bacterial Vaginosis and of low income group and deprived of schooling even.

Gestational age (weeks)	Minimum	Maximum	Mean	Standard Deviation
	16	28	24.65	2.34

Table-I. Gestational Age (n= 120)

Age group	Bacterial vaginosis		Total
	Yes	No	
21-30	54 (45%)	27 (22.5%)	81
31-40	23 (29.8%)	16 (13.3%)	39
Total	77 (64.17%)	43 (35.8%)	120

Table-II. Age groups and Bacterial Vaginosis (n= 120)

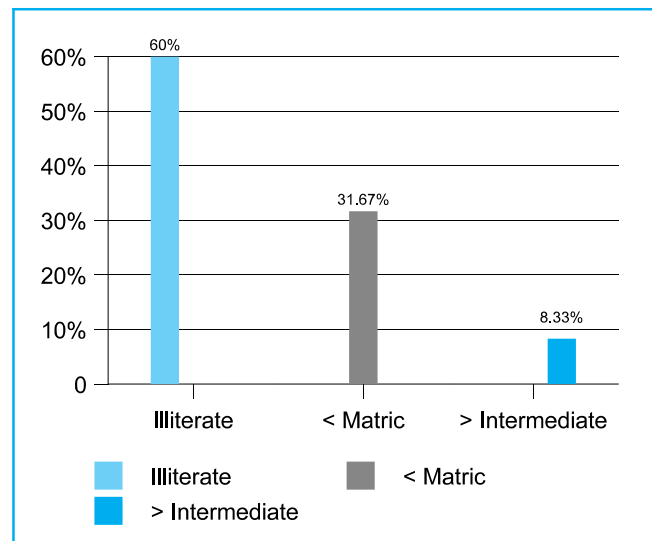


Fig-1. Education status

DISCUSSION

Bacterial vaginosis (BV) is an immensely common health problem for women. In addition to the disturbing symptoms often associated with mayhem in the balance of vaginal flora, BV is associated with undesirable gynecological and pregnancy outcomes¹¹.

Total 120 patients were included in our study, whose mean age was 28.56 years with the standard deviation of ±3.71 years as the minimum age of the patient in our study was 21 years while maximum age was 36 years. This seems to correlate with the study of Rebar RW,¹² in whose study, vaginal smears from almost 1500 asymptomatic pregnant women were taken and their median age was 26. In other studies although the age range was 16-49 years but median age was again 27 years^{13,14,15}.

Mean gestational age observed in our study was 24.65 weeks with the standard deviation of ± 2.34 weeks as we took the patients having pregnancy from 14-28 weeks. Whereas other studies the gestational age was found between 18-35 weeks¹². Study done in Italian population recruited women from 32 weeks onwards,¹⁴ while one study shows no limit to gestational age¹⁶.

Frequency of Bacterial Vaginosis in our study was found in 77 (64.1%) patients. Nelson¹⁷ had presented a study simulating to some extent with our results where he confirmed BV in 40% of pregnant women and 67% of these BV positive women reported no vaginal symptoms. He also insisted on that asymptomatic BV positive pregnant women are at similar risk of adverse pregnancy outcome compared to symptomatic pregnant women and even more at risk of STIs. Our results were not matched with the studies which were done in Sweden¹³, UK¹⁵ and in Italy by¹⁴ in which 10%, 12.2% and 4.9% Bacterial Vaginosis was found in asymptomatic patients respectively. Reasons of these unmatched results may be due to the higher illiteracy rate in our study population which may have led to less awareness of such condition.

Stratification of economic status shows, most of the patients with Bacterial Vaginosis in our study were present in low income group, i.e. 55 (73.3%) and this matches with an Indian study¹⁸.

Women of lower socioeconomic class and women self describing soaring levels of psychosocial trauma also have raised rates of BV. In some studies among obstetrics populations, the stated frequency of BV ranged from as low of 10 percent among private patients to as high of 35 percent among those women who are having small monthly earning and little schooling levels, even though these studies did not tune for ethnic groups¹⁹. Another study evaluated the role of unremitting maternal tension, as measured by the Cohen perceived stress scale, and established that even free of communo-tographical and behavioral

aspects, chronic maternal anxiety remained an important interpreter of BV among pregnant women²⁰ and same were the predictors in our study as our environment is more of stress oriented for pregnant women. Although we did not include smoking as our variable (less prevalent in our setup) but many studies are favoring smoking as risk factor for occurrence of bacterial Vaginosis as compared to those non smokers^{13,15,21}.

CONCLUSIONS

Bacterial Vaginosis is frequently occurring problem in females of reproductive age resulting not only in upper genital tract infection but also results in adverse pregnancy out come. Many studies are focusing on symptomatic women but asymptomatic women are found to have been suffering equally but have been highlighted less and asymptomatic women are unfortunately reluctant to seek treatment for the morbidity and even are more likely to acquire other sexually transmitted infections as well.

In the future, awareness for the reasons for the prevalence of asymptomatic BV among pregnant women is needed.

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“A woman is like a tea bag;
you never know how strong it is
until it's in hot water.”

Eleanor Roosevelt