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STUDY TO DETERMINE BACTERIAL VAGINOSIS COMPLICATIONS IN PREGNANCY

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Abstract:

Objective: *In women, the utmost usual causes of vaginal discharge is bacterial vaginosis. The risk of preterm birth, premature rupture of membranes (PROM) and abortion has been suggested to be advanced in pregnancies pretentious by bacterial vaginosis. This study was planned to govern the bacterial vaginosis incidence and its relation with preterm labor, miscarriage, premature rupture of membranes and intrauterine fetal death (IUFD).*

Study Design: *A cohort study.*

Place and Duration: *In the Gynaecology and Obstetrics departments in Tertiary hospitals of Southern Punjab including Bahawal Victoria Hospital, Bahawalpur and Nishter Hospital, Multan for two year duration from May 2017 to May 2019.*

Methods: *Before 20 weeks of gestation; 136 women identified with bacterial vaginosis were included in exposure group and in non-exposed group there were 397 pregnant women deprived of bacterial vaginosis. The relationship between premature birth, miscarriage, intrauterine fetal death and bacterial vaginosis and premature rupture of membranes in pregnancy were evaluated. In SPSS version 18.0 data was analyzed. For Fisher's exact test and statistical comparisons; Chi-square test were used and Yates correction were performed when required. P <0.05 was taken as statically significant.*

Results: *The frequency of intrauterine fetal death, abortion, premature rupture of membranes and preterm delivery were 0.9%, 1.3%, 1.3%, 3.6% correspondingly. There was no arithmetical association between abortion and bacterial vaginosis, but the association between bacterial vaginosis and preterm delivery, intrauterine fetal death and PROM was substantial (p <0/001).*

Conclusion: *The results of this analysis show that preterm delivery, intrauterine fetal death and premature rupture rates are greater in females with bacterial vaginosis than women who do not.*

Key Words: *Preterm labor, abortion, bacterial vaginosis.*

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INTRODUCTION:

In women, the utmost usual causes of vaginal discharge is bacterial vaginosis. Incidence rates have been reported between 10% and 31%. Bacterial vaginosis can result in pregnancy complications such as preterm labor, miscarriage, chorioamnionitis and PROM [1-3]. With bacterial vaginosis, pregnant women -before the 16th week of gestation have been shown to have an early birth risk of 1.5 to 7.0 times further as compared those who don't have [4-5]. The concept is that the problem should be managed before the four months is grounded on the contrivance of bacterial vaginosis in preterm labor. In pregnancy; the bacterial vaginosis prevalence and its association with preterm birth contrasts between various populations and rely on the sociodemographic factors, clinical setting, gestational age, diagnostic criteria and additional influences [6-7]. There is a lack of information on the bacterial vaginosis effects on pregnancy [8]. The outcome of this anslysis will help implement detection, health decision makers design and in pregnancy helps in treatment plans for bacterial vaginosis. This shows the significance of the study.

MATERIALS AND METHODS:

This cohort study was held in the Gynaecology and Obstetrics departments in Tertiary hospitals Southern Punjab including Bahawal Victoria Hospital, Bahawalpur and Nishter Hospital, Multan for two year duration from May 2017 to May 2019. Total 777 pregnant women listed in the tertiary care hospitals of Southern Punjab before the 20th week of pregnancy were included. Before 20 weeks of gestation; 136 women identified with bacterial vaginosis were included in exposure group and in non-exposed group there were 397 pregnant women deprived of bacterial vaginosis. Criteria that could not be included gravid women with a history of preterm birth, abortion, pregnancy complication history, multifetal pregnancy, and also females under eighteen or above forty years of age. We are also investigating pregnancy consequences. For Fisher's exact test and statistical comparisons; Chi-square test was used and Yates correction were performed when required. P <0.05 was taken as statically significant.

RESULTS:

The bacterial vaginosis incidence in our study among gravid women was 17.5%. There was no substantial variation between the occupation, birth order and age group between the unexposed and exposed groups (Table 1).

Table-I: Characteristics of the pregnant women according to bacterial vaginosis (B.V) status

	B.V positive	*B.V Negative*	*Significance*
Pregnancy			NS
First	93 (35.5)	169 (64.5)	
Second	36 (25.5)	105 (74.4)	
>3rd	34 (34.3)	65 (65.6)	
Age Group			NS
<30	124 (32.7)	255 (67.3)	
>30	39 (32)	83 (68)	
Education			NS
Primary	45 (30)	105 (70)	
Intermediate	98 (34.7)	184 (65.2)	
College	18 (27.7)	47 (72.3)	

B.V: Bacterial Vaginosis

The frequency of intrauterine fetal death, abortion, premature rupture of membranes and preterm delivery were 0.9%, 1.3%, 1.3%, 3.6% correspondingly. There was no arithmetical association between abortion and bacterial vaginosis, but the association between bacterial vaginosis and preterm delivery, intrauterine fetal death and PROM was substantial (p <0/001) Table 2.

Table-II: Outcome of pregnancy based on bacterial vaginosis status

	B.V Positive	*B.V Negative*	*Relative risk(95% CI)*	*Significance*
Abortion				NS
Yes	4 (2.9)	132 (97.1)	3.89 (0.88-17.17)	
No	3 (0.8)	394 (99.2)		
IUFD				<0.0005
Yes	4 (2.9)	132 (97.1)	11/68 (1.32-103.57)	
No	1 (0.3)	396 (99.7)		
Preterm labor				<0.0001
Yes	13 (9.6)	123 (90.4)	6.32(2.24-16.31)	
No	6 (1.5)	391 (98.5)		
PROM				<0.0001
Yes	6 (4.4)	130 (95.6)	25.71(3.29-20.07)	
No	1 (0.3)	396 (99.7)		

B.V: Bacterial Vaginosis IUFD: Intra uterine fetal death PROM: Premature rupture of membrane

11.68 was the comparative IVFD risks (P <0.0005), 25.71 (P <0.0001) and 6.32 (P <0.0001) correspondingly, in preterm labor and positive pregnancies of B.V.

DISCUSSION:

The bacterial vaginosis prevalence ranges between 6.9% and 27% in analysis conducted in public hospitals and academic medical centre in the USA[10]. And in other analysis, however, our population was not well considered and studied. In our analysis, the frequency of miscarriage, bacterial vaginosis, preterm delivery, IUFD and PROM were 1.3%, 17.5%, 3.6%, 0.9% and 1.3% correspondingly. There was no arithmetical association between abortion and bacterial vaginosis, but the association between bacterial vaginosis and preterm delivery, intrauterine fetal death and PROM was substantial (p <0/001). It has been supposed that the preterm birth risk is greater in pregnancies convoluted by bacterial vaginosis [11-12]. The Kalinkaj et al study shows that the preterm delivery rate was approximately 15.8% compared to 9.2% in individuals without bacterial vaginosis and concluded that bacterial vaginosis must be diagnosed early and treatment may reduce early delivery [13]. In a Paris study, preterm delivery in females with bacterial vaginosis was approximately 26% associated with 10.7% in other females. In Hiller's analysis, with bacterial vaginosis low birth weight infants and preterm birth were very usual in females. In Benedetto et al study, preterm labor and PROM are significantly associated with bacterial vaginosis, but not with IUD. Ralph et al also measured the risk of falling to 18.5% in women with bacterial vaginosis and 18.5% in females deprived of bacterial vaginosis [14]. In other analysis it is suggested that females with B.V have greater preterm labor risk, and that antibacterial therapy may reduce the preterm labor risk. According to this analysis, in some women the bacterial vaginosis treatment may cause miscarriage, IUFD, preterm labor and decrease in PROM. The study by Ugwumdau et al. exhibited that detection and asymptomatic bacterial vaginosis treatment in the 1st month of the 2nd trimester may reduce the preterm delivery rate in gravid females, and many studies have shown same results, but Goffeng et al. There was no association between bacterial preterm labor and vaginosis, and in Toronto another study showed that bacterial vaginosis treatment did not reduce the preterm labor risk and had no effect on pregnancy outcomes[15]. Oakeshott et al. determined that bacterial vaginosis did not have better prognosis of spontaneous abortions before the 16th week of pregnancy. Liversedge et al found an important relationship in the 1st trimester.

CONCLUSION:

According to IUFD results, preterm delivery and PROM rates were higher in pregnant females with bacterial vaginosis compared to pregnant women without bacterial vaginosis. The gynaecologist and midwife should evaluate pregnant women before the 20th week of gestation to detect BV and treat them to reduce the risk of IUFD and PROM.

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