RISK FACTORS OF VAGINITIS IN PREGNANT FEMALES AND ITS OUTCOME

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ABSTRACT
Objective: *This research work aimed to find out whether level of education & professions are factors of risk of vaginitis among females with pregnancy & to interrogate the association between prevalence of vaginitis in the duration of pregnancy period & perinatal rates of mortality.*
Methodology: *A sum of total three hundred and nineteen females with pregnancy were the part of this research work. We collected 6 samples from posterior fornix from every female with pregnancy & then cultured for the discovery of the Neisseria gonorrhea, bacteria of intestines, normal bacteria, mycoplasma, fungi & chlamydia.*
Results: *The females with pregnancy with the education level of up to elementary school & in the group up to middle were available with high prevalence of the vaginitis in comparison with the in the pregnant females of the groups of skillful qualification, college and higher schools. The females with pregnancy in the groups of workers as employs of government, employs of any company and professionals were available with low occurrence of vaginitis. The pregnant females suffering from the infections of Neisseria gonorrhea, bacteria of intestines & normal bacteria found with high rate of perinatal mortalities in comparison with the females suffering from the infections of fungi, chlamydia & mycoplasma.*
Conclusions: *Level of education & profession are important risk factors associated with the prevalence of the vaginitis among females with pregnancy. The vaginitis because of bacteria is the main reason behind the high rate of perinatal mortality.*
KEY WORDS: *Mortality, Pregnancy, Bacteria, Vaginitis, Chlamydia, Elementary, Fungi.*

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INTRODUCTION:

In the period of pregnancy, the changes in the levels of estrogen & progesterone encourage physiological alterations, as the values of PH, in the lower tract of genital of the females having pregnancy [1-3]. These physiological alterations will be the reason of congestion of the mucosa of vagina & hypertrophy, which help in the growth of the anaerobic bacteria as well as other micro-organisms which are the reason behind various diseases inside vagina [4-7]. Additionally, hypertrophy of cervical gland, propagation of cervical cells, and reduction in the amount of the B lymphocyte alter the local environment of immunity of the cervix as well as vagina [8]. Perinatal mortality is the death of newborn or fetus & it is the basic to define the rates of perinatal mortality [9, 10]. A report shows that bacterial vaginosis enhances the prevalence of birth before term in the females with pregnancy and oral clindamycin therapy decreases rates of prematurity associated with the bacterial vaginosis [11].

Svare concluded that for females having lower than twenty week of pregnancy in the country of Denmark, vaginosis was a vital factor of risk for babies with low birth weight & prematurity [12]. Mijovic G concluded that early detection and treatment of the infections of vagina can decrease the morbidity and rate of perinatal mortality [13]. Recently in China, diagnosis of about 11.40% patients of infection carried out. The rates of identification of trichomonas vaginitis infection are from 1.20% to 2.10% [14]. The identification rates of vaginitis due to bacteria among females with pregnancy are 10.0% to 50.0% [15]. The level of education and profession are two vital risk factors having association with the vaginosis [15, 16]. There is very less amount of works on the infections of reproductive tract in the period of pregnancy and rate of perinatal mortality.

METHODOLOGY

A sum of total three hundred and nineteen females (Table-1) in their early or mid-stage of pregnancy from Faisalabad, Pakistan in Gynecological department of the Allied Hospital Faisalabad were the part of this research work. The duration of this research work was from March 2016 to March 2019. We took consent of every patient before the start of the research work. Ethical committee of the institute gave the approval to conduct this research work. We collected 6 samples from the posterior fornix of each female with pregnancy and then we cultured for diagnosis of the Neisseria gonorrhea, bacteria of intestines, normal bacteria, chlamydia, fungi & mycoplasma.

Table-I: Information of Pregnant Women

Parameters (n = 319)	Mean	Ranges
Ages	26.0	20 - 37
Weights	51.0	38 - 108
Examination times	5.2	3 to 6
Before Delivery BMI	22.2	15.63-36.63
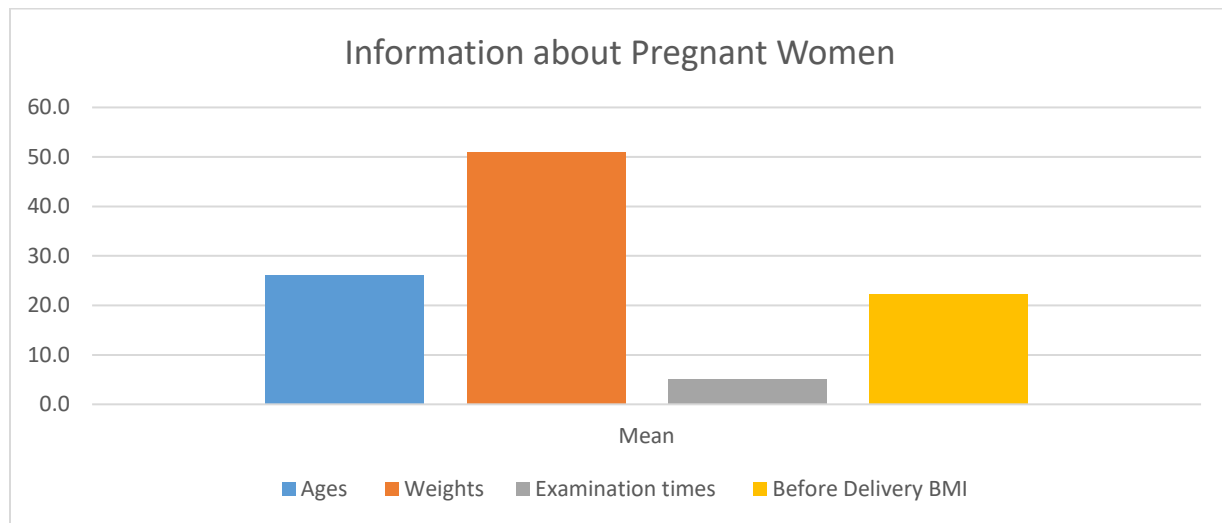
There were total one thousand nine hundred and fourteen samples in use from the posterior fornix. Culturing of Neisseria gonorrhea carried on the agar plates. A special instrument was in use for the identification of the bacteria of intestines. Different methods were in use for the identification of various micro-organisms. We followed up the patients for complete one year. We recorded the perinatal death because of the infection. SPSS V.16 was in use for the statistical analysis of the collected information. Average and SD was in use for the presentation of the categorical data. We performed the single factor analysis for every factor and analysis carried out by the use of model of logistic regression.

RESULTS

For the determination of the level of education as a risk factor having association to the prevalence of vaginitis for pregnant females, we collected the secretions from all these pregnant females and cultured for the identification of the possible micro-organisms for the diseases. Figure-1 shows the prevalence of the vaginitis among females with pregnancy with various levels of education.
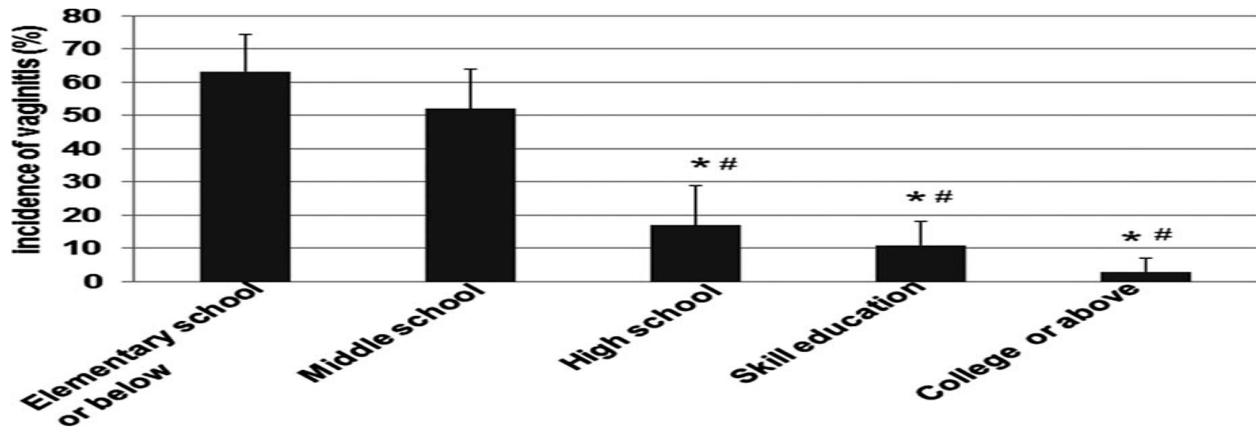

Figure 1

We collected the six samples from posterior fornix of each female with pregnancy and cultured for the detection of the Neisseria gonorrhea, bacteria of intestines, normal bacteria, fungi, mycoplasma & chlamydia. The pregnant females in the group of elementary school education & group of middle school education found with high occurrence of vaginitis (63.10±10.60 & 52.0±12.30, respectively) as compared with females with pregnancy in the group of high School, group of skill education & group with college education. (17.40±11.90, 11.70±8.30, & 3.70±4.10, respectively).

In accordance with the Figure-2, the incidence of vaginitis among pregnant females in the group of worker, government employee, company employee & professionals were low (15.20±10.20, 7.50±6.30, 18.10±12.30, & 9.70±3.10, respectively) as compared to the incidence of vaginitis in other 3 groups (52.50±8.20, 53.10±9.30 & 41.40±14.10, respectively).
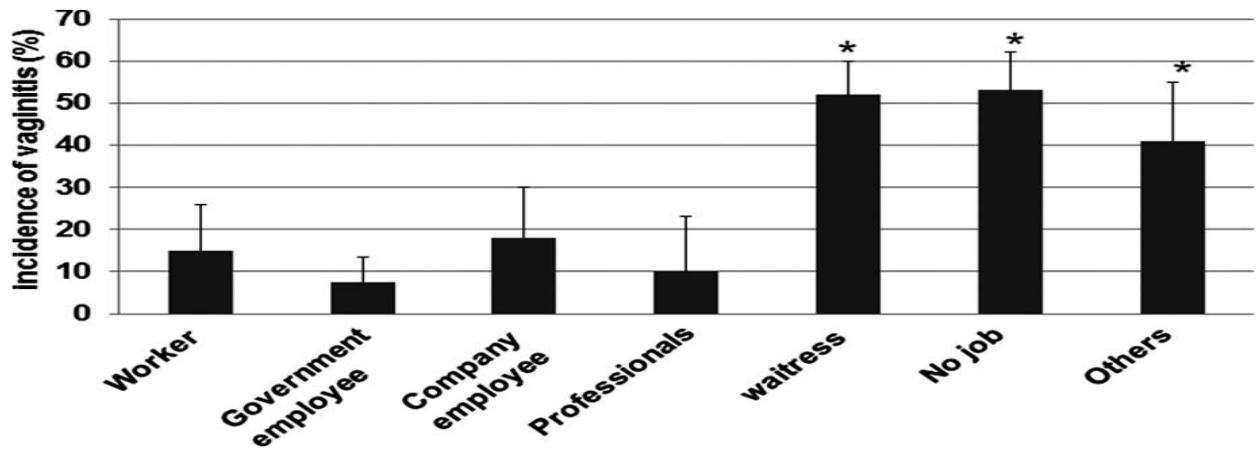

Figure 2

This means that level of education and profession are important risk factor associated with the prevalence of vaginitis. As available in Figure-3, the females having bacterial infections, including Neisseria gonorrhea, bacteria of intestines & normal bacteria were available with high rates of perinatal mortalities (.063±.011,

.052±.012 & .017±.008, respectively) as compared to the females having infection of fungi, mycoplasma & Chlamydia (.002±.007, .003±.004 & .001±.001, respectively). These findings showed that vaginitis due to bacteria is the main cause behind the perinatal mortalities.
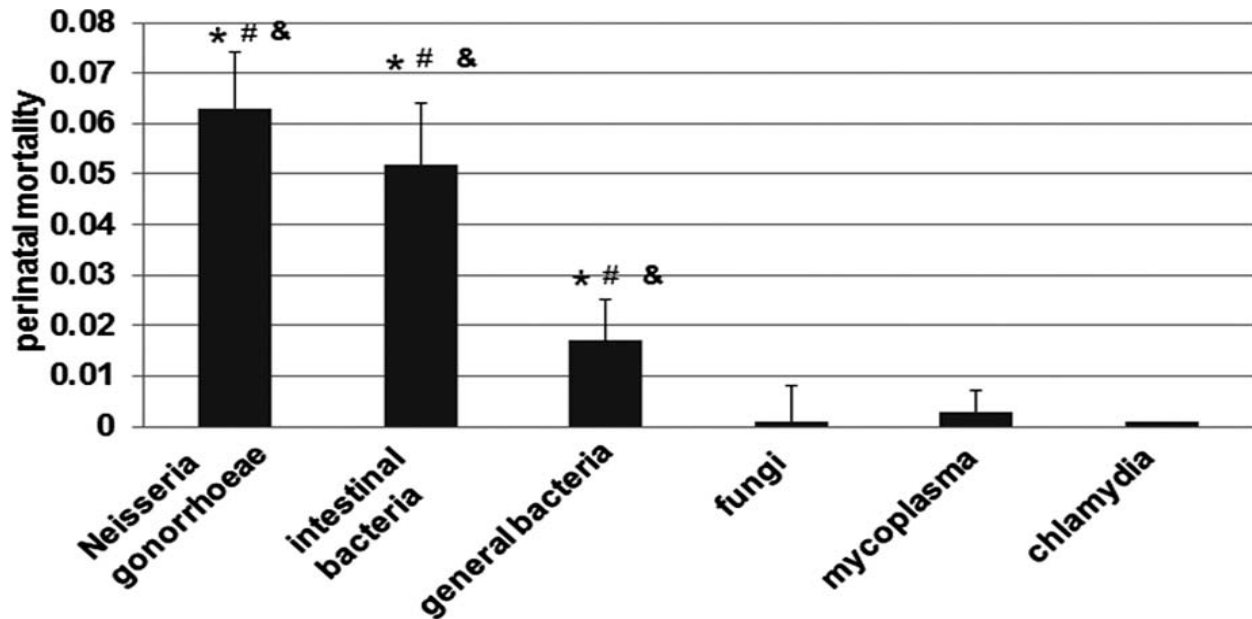

Figure 3

DISCUSSION:

The infections of genital tract in the period of pregnancy because of micro-organism is the main reason behind the vaginitis. This research work displayed that level of education & profession are two important factors of risk associated with the prevalence of the vaginitis among females with pregnancy. The findings of this research work are consistent with the findings of past research work of Zhang [16]. The health of public has an association with the education of people and their professions [17, 18]. The prevalence of some emerging diseases have association with the human's attitude as well as their level of qualification & profession [16]. Level of education & use of condom are the factors of protection of virus infection of human papilloma but profession is the main factor of risk for the virus infection of human papilloma in this particular city [18]. The infection because of bacteria in the lower genital tract of females are very common cause behind the infection of the genital tract causing a bad perinatal outcome.

There are reports about the adverse perinatal outcome is the result of the vaginitis in the period of pregnancy [19, 20]. Constantly, in this research work, pregnant females

with the bacterial infections as Neisseria gonorrhea, bacteria of intestines & normal bacteria, found with high rate of perinatal mortalities (.063±.011, .052±.012, & .017±.008, correspondingly) in comparison with the females suffering from the infections of fungi, mycoplasma & Chlamydia (.002±.007, .003±.004 & .001±.001 correspondingly). These findings show that vaginitis caused because of bacteria is the main reason behind the high rate of perinatal mortalities in comparison with the vaginitis due to fungi or other kinds of micro-organisms. Cervix protects the fetus from the infections of micro-organisms with the production on cytokines [21]. If there is infection in this barrier, there is possibility of the entrance of bacteria in the cavity of uterine, which is the leading reason behind high rate of the poor perinatal outcome. Therefore, improvement in the living ways of the females and awareness about the health issues of the reproduction will support in the reduction of the prevalence of the vaginitis & will decrease the adverse outcome of pregnancy. There are some limitations of this research work as we studied only the two risk factors of vaginitis in this research work. Other factors were totally not under consideration.

CONCLUSION:

The findings of this research work conclude that the level of education & profession are important factors of risk associated with the prevalence of vaginitis in the females with pregnancy. The vaginitis because of bacteria is the main reason behind the high rate of perinatal mortalities.

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