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"A Screening Study on Prevalence of Infections during Pregnancy and their Management"

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Abstract: *Pregnant women are more prone to infections (particularly urinary tract infections) due to physiological and hormonal alterations during gestational period. For early Laboratory diagnosis, it may be necessary to screen out with state forward questioning through oral viva conduction that is useful tool and appropriate policy may improve the clinical condition of the women and neonates.* ***Objectives:*** *To Screen out and detect the Prevalence of Infections during Pregnancy and their Management.* ***Material and Methods:*** *The descriptive study ("A Screening Study on Prevalence of Infections during Pregnancy and their Management"), was carried out on 300 pregnant women, during January 2018 to November 2018, those attended the antenatal OPD at NIMS&R Hospital, Shobha Nagar, NIMS University, Jaipur (Rajasthan) after taking human ethical approval. The history of infection, medication and their socio-economic status and their gestational record was taken by oral viva individually. The pregnant subjects were selected in different trimesters, and exclude those suffered with diabetes and any other complication related to unusual pregnancy. The data was compiled, tabulated, analyzed with percentages.* ***Results:*** *Out of 300 pregnant women, 25 (8.33%) belongs with infection or history of infection, which of them 10 (3.33%) women belongs with 1st and 2nd trimester each and 05 (1.6%) have their 3rd trimester, whereas, 275 (91.6%) pregnant women (in different trimester) showed healthy status in this study. 21 (7%) and 4 (1.3%) belongs with rural and urban areas with infection correspondingly, whereas 232 (77.3%) and 43 (14.3%) women rural and urban areas with healthy life style simultaneously.* ***Conclusion:*** *This study suggested that the screening practice incorporation with regular antenatal health check for early diagnosis of infection and its management, and one of the most commonly reasons is social deprivation, and also more competent strategy regarding educating girl child, spreading valuable awareness regarding healthy gestational life for safe motherhood.*

Key Words: *Infection, Management, Pregnancy, Prevalence, Screening.*

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I. Introduction

Pregnancy is one of the great and exceptional periods of women's life cycle. Although it is the most thrilling period of expectations and fulfillments, but is the situation of huge anxiety because a lot of anabolic actions take place and foetal growth is accomplished extensive changes in maternal body composition and metabolism[1].

Women are more prone to infections (particularly urinary tract infections) due to physiological and hormonal alterations during gestational period. Hydroureter of pregnancy starts in the first trimester and progressions until delivery, returning to normal within some weeks after delivery in most women[2]. "Dilatation of the renal pelvis along with elongation and dilatation of the ureters above the pelvic edge occurs due to lack of smooth muscle tone caused by increased levels of circulating progesterone in early weeks of pregnancy and due to the density of ureters by the growing uterus, thus promoting retention of urine in the later weeks of pregnancy. Dilated ureters may have more than 200 ml of urine and add to the persistence of bacteria in urine in pregnancy".

The global occurrence of bacterial infection in pregnancy ranges from 4% to 23.9% in different researches[5, 6]. In addition, aminoaciduria and glycosuria in gestational period provide an excellent culture medium for bacteria in areas of urine stasis[2]. Maternal anemia has been connected with together asymptomatic bacteriuria and pyelonephritis[5, 6].

Bacterial vaginosis is the second most frequent lower genital tract disorder among women of reproductive age (pregnant and non-pregnant) and the most common cause of vaginal ejection, malodour[7, 8], soreness, dyspareunia, irritation and itching. Vaginal Candidiasis (fungal infection) is infection caused by overgrowth of Candida species affecting the genital tract as opportunistic pathogen. Vaginal Candidiasis is the common type of vaginitis, a gynecologic disorder with a white discharge[9]. Increased estrogen level during

pregnancy produces more glycogen in the vagina providing a good source of carbon needed for Candida growth and their germination, causing it to grow faster and stick more easily with the walls of vagina.

Candida species are division of the lower genital tract flora in 20-50 % of fit asymptomatic women[11, 12], and approximately 25% of untreated patients with asymptomatic bacteriuria develop pyelonephritis, usually in the third trimester, whereas, carrier rate is higher in women delighted with large spectrum antibiotics [9], and candida albicans as the most common vagina infection.

Low socio-economic status, increasing maternal age, increasing time of gestation, multi-parity, low hemoglobin are all the contributory risk factors related with increased prevalence of asymptomatic infection during pregnancy. Pregnant subject who build up pre-eclampsia during pregnancy appear to be predisposed to urinary tract infections[2, 13]. Sometimes chronic blood loss due to infections such as malaria or hookworm infestations may occurs[14].

For early Laboratory diagnosis, it may be necessary to screen out with state forward questioning through oral viva conduction that is useful tool and appropriate policy may improve the clinical condition of the women and neonates and also educate and aware the pregnant subject for their health and offspring. In view of this, the present study was undertaken "Tracking A Screening Study on Prevalence of Infections during Pregnancy and their Management", at National Institute of Medical Sciences and Research, Jaipur (Rajasthan).

II. Materials and Methods

The descriptive study ("Tracking A Screening Study on Prevalence of Infections during Pregnancy and their Management"), was carried out on 300 pregnant women, during January 2018 to November 2018, those attended the antenatal OPD at NIMS&R Hospital, Shobha Nagar, NIMS University, Jaipur (Rajasthan) after taking human ethical approval. The history of infection, medication and their socio-economic status and their gestational record was taken by oral viva individually. The pregnant subjects were selected in different trimesters, and exclude those suffered with diabetes and any other complication related to unusual pregnancy. **Statistics:** The data was collected, put into a table, evaluated with percentages. The data analysis was done by using SPSS.

III. Result

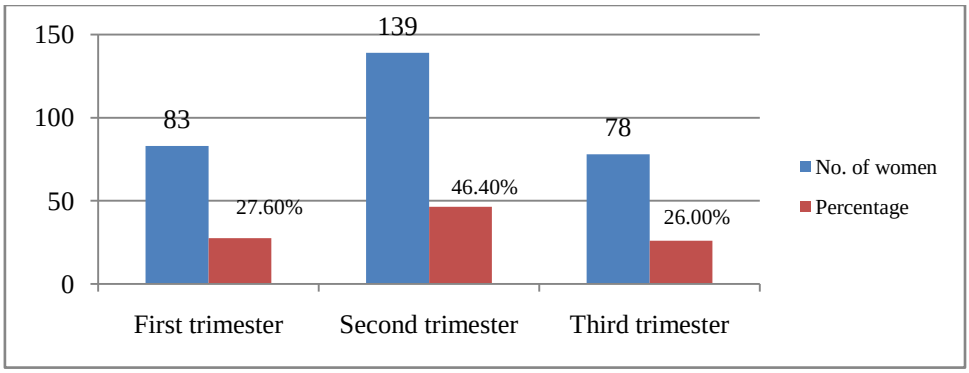

Figure 1: Distribution of pregnant women according to trimester:

The upper fig 1 shows that 83 (27.6%) pregnant women belongs with first trimester, 139 (46.4%) belongs with second trimester whereas 78 (26%) belongs with third trimester in our present study.

Table 1: Trimester based distribution of subject having the infection or history of infection and no infection in different trimesters:

Trimester	Infection or H/o infection	No infection
1st	10 (3.33%)	73 (24.3%)
2nd	10 (3.33%)	129 (43%)
3rd	05 (1.6%)	73 (24%)
Percent	25 (8.33%)	275 (91.6)

Out of 300 pregnant women, 25 (8.33%) pregnant women belongs with infection or history of infection, in which 10 (3.33%) women belongs with 1st and 2nd trimester each and 05 (1.6%) have their 3rd trimester, whereas, 275 (91.6%) pregnant women (in different trimester) showed healthy status in this study.

Table 2: Infection and history of infection related with socio-economic status of pregnant women:

Pregnant women with	Rural	Urban	Total
Infection and H/o infection	21 (7%)	04 (1.3%)	25 (8.3%)
No infection	232 (77.3%)	43 (14.3%)	275 (91.6%)
Percent	253 (84.3)	47 (15.6%)	300 (100%)

In our study finding, the upper table shows that 25 (8.3%) pregnant women have infection or history of infection, which of them 21 (7%) belongs with rural population and remaining 4 (1.3%) belongs with urban areas, whereas, 275 (91.6%) pregnant subjects having healthy status belongs 232 (77.3%) and 43 (14.3%) rural and urban correspondingly.

Table 3: Infection and history of infection related with medication status in different trimesters.

Pregnant women with	First trimester		Second trimester		Third trimester	
	On medication	No medication	On medication	No medication	On medication	No medication
Infection and H/o infection	07 (2.3%)	03 (1%)	06 (2%)	04 (1.3%)	05 (1.6%)	00 (0%)
No infection	34 (11.3%)	39 (13%)	86 (28.6%)	43 (14.3%)	55 (18.3%)	18 (6%)

The upper table results that 7 (2.3%), 03 (1%) pregnant women belongs with first trimester and on medication and no medication correspondingly for infection or history of infection related subjected and 34 (11.3%) and 39 (13%) also belongs first trimester and on medication and no medication with no infection likewise. 06 (2%) and 04 (1.3%) second trimester pregnant women have on medication and no medication correspondingly with infection or history of infection. Whereas, 5 (1.6%) on medication with having infection or history of infection and 55 (18.3%) and 18 (6%) women have no infection in third trimester and have on medication and no medication corresponding and none of pregnant women belongs to infection or history of infection and no medication in third trimester. Those women have no infection and still on medication, most of them are taking medicine for anemia.

IV. Discussion

In past several years there has been a particular interest in infection with gestational period but there is no proper screening and management. The screening study is one of the primary and cheapest methods to determine the prevalence of infection during pregnancy. In our 300 cases prospective study, we have been tracking the screening and management of infection in pregnancy at NIMS-University, Jaipur, Rajasthan. The present study resulted that 83 (27.6%) pregnant women belongs with first trimester, 139 (46.4%) belongs with second trimester whereas 78 (26%) belongs with third trimester.

Nicolle LE et al. stated approximately 30% to 40% of pregnant women with asymptomatic bacteriuria identified in the first trimester who are not treated with antimicrobials develop pyelonephritis soon after in pregnancy; this occurs most frequently at the end of the second or beginning of the third trimester[15], in comparison of that our result are too low, of 300 pregnant women, 25 (8.33%) pregnant women belongs with infection or history of infection, in which 10 (3.33%) women belongs with 1st and 2nd trimester each and 05 (1.6%) have their 3rd trimester, whereas, 275 (91.6%) pregnant women (in different trimester) showed healthy status in our present study. Rajkumari A et al. resulted an increase in prevalence rates with increasing age of gestation[2]. The American college of Obstetricians and Gynecologists reports that bacteria in urine arise in 2-7%[16] of pregnant women are similar with our results. and of those who are not bacteria in urine at initial screening, 1-2% will develop bacteriuria later in the pregnancy[16].

This occurrence of may due to many different causes include; suppression of the immune system due to gestation period and misuse of antibiotics which directed to the damage of good and valuable bacteria resulting to decrease of vaginal immunity could have also contributed to the increase of the prevalence of the infection[9]. In our results 1.6 to 2.3% pregnant subject in different trimester has on medication with infection or infection history are much better.

Inadequate knowledge, poor personal hygiene, limited diagnostic facilities, poor dietary habits are still main problem in the rural community so that contributed in high prevalence.

V. Conclusion

In infection indicative pregnant subjects, testing and cure of bacterial infection is suggested for indication resolution. Management with either oral or vaginal antibiotics is suitable for attaining a cure in pregnant women with symptomatic bacterial infection, although, non-indicative infections are considered as public acquired infection. This study showed low prevalence of infection than other studies but that may lead to pregnancy problems like premature birth, abortions, low birth weight and other abnormalities. Screening practice incorporation with regular antenatal health check for early diagnosis of infection and its management by

suggested, and one of the most commonly reasons is social deprivation. It is also suggested that more competent strategy regarding educating girl child, spreading valuable awareness regarding healthy gestational life for safe motherhood.

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