

FEVER IN PREGNANCY: A PROSPECTIVE STUDY OF MATERNAL AND FETAL OUTCOME

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Abstract

Background: Pregnancy is a condition of transient compromised immunity. Fever during pregnancy may have adverse materno-fetal outcome. **Aim:** The aim is to assess various complications of pregnant women suffering from fever and also the possible fetal complications. **Materials and Methods:** This prospective study evaluated 118 subjects with fever during pregnancy and willing to participate in the study. The various demographic characteristics, details of pregnancy and materno-fetal outcome were evaluated. **Result:** Of the 118 subjects participated in the study, 63 % were from low socioeconomic group, while in medium and high they were 24 and 13 percent respectively. In this study, it is noted that primi gravidas were more presented with fever than multi gravida. The incidence of fever was high in third trimester and least in first trimester. Majority of the patients had fever in the ranhe of 3-4 days followed by 1-2 days in 40 percent cases while only a few subjects had fever more than 4 days. Miscarriage was observed in 8 cases. There were no fetal and maternal deaths. **Conclusion:** Fever during Pregnancy need to be evaluated promptly and intervened timely to have a better maternal and fetal outcome.

INTRODUCTION

Fever is the most common cause of illness. Temperature > 37.5 C on 2 or more instance 24 hrs apart is defined as fever. One of the most commonly encountered problems in Obstetrics is fever during pregnancy. The state of decreased immune function during pregnancy makes the pregnant women further prone for infections. In cases of maternal fever, fetus as well is open to the elements of various inflammatory mediators which in sequence influences the fetal outcome. Fever is proven to have bad effect on the growth and development of a normal fetus.^[1-4] Fever non specifically indicates a disease. It mirrors the immune status of the body in response to either exogenous or endogenous toxins. In total fever signifies a combat within the body.^[5] Treating fever during pregnancy is often problematic in obstetrics owing to its atypical presentation. In majority, the symptoms of the disease and physiological features of the pregnancy have common characteristics.

Therefore, in pregnant women, focus must be emphasized on evaluating a detailed history, to reach an appropriate diagnosis and to deliver the exact and suitable treatment. So that its adverse on maternal and fetal outcome is diminished.^[6] Therefore the study was conducted to assess various complications of pregnant women suffering from fever and also the possible fetal complications.

MATERIALS AND METHODS

This prospective, observational, uni-centric study was conducted at department of Community Medicine and department of Obstetrics and Gynaecology, at Jannayak Karpoori Thakur Medical College and Hospital, Madhepura. The study was conducted over a period of 2 years from July 2020 to June 2022. The study was approved by the institutional research and ethical committee. An informed and written consent was obtained from the participating subjects before the commencement of the study.

The study sample consisted of 118 randomly selected antenatal care mothers who reported to the OPD of our institute with the complaint of fever. The excluding criteria consisted of patients with Septic abortions, Eclampsia, HELLP syndrome, Bronchial asthma, Cardiac failure. Chronic hypertension, Diabetes mellitus, Rheumatic heart disease, Congenital heart disease, Chronic kidney disease, Fever due to transfusion reactions. No subjects were excluded on the basis of booking status and parity.

All the data were recorded in a pre-designed case record form. A detailed history and demographic characteristics were recorded before clinical examination. A meticulous general examination and obstetric examination were carried out. The general examination included, level of consciousness, degree of anemia, edema, jaundice, and any signs of cyanosis. Base line vitals like pulse rate, Bp, temperature, respiratory rate was also noted. Further, the participating subjects were thoroughly investigated for Complete blood picture, Peripheral smear, Complete urine examination, Urine culture and sensitivity, MP card test for malaria, WIDAL for Typhoid, IgM for dengue, RTPCR for COVID, HIV, HbsAg, VDRL. Chest X ray, Sputum for culture and sensitivity were done in some patients. All the results were recorded.

The participating subjects were followed from study enrollment till delivery and discharge from hospital. Maternal and fetal outcome were noted. Maternal parameters for assessment were age, parity, gestational age at the time of presentation, duration of fever, cause of fever, treatment given, mode of delivery and maternal outcome. Fetal parameters for assessment included birth weight, need for NICU admission, duration of stay in NICU, neonatal outcome. All incidences of complications, fetal outcome was recorded.

The data was tabulated and subjected to statistical analysis using SPSS Software.

RESULTS

The study conducted over a period of Two year, 118 patients were followed for their fever during pregnancy. Of these, 78 had high fever at the time of OPD visit and the remaining were found to be mild to moderate fever during OPD visit. Almost all the subjects had taken some kind of home medication / over the counter drug before visiting hospital.

We evaluated characteristics of patients according to the confirmation of fever at the time of presentation. Majority of the patients presented with fever were within the age of 20-30 years. The detailed distribution of subjects is shown in [Table 1].

Table 1: Distribution of Subjects. (n=118)

	Number	%
SOCIOECONOMIC STATUS		
High	16	13
Medium	28	24
Low	74	63
PARITY		
Primi	72	61
Multi	46	39
Trimester		
1 st	13	11
2 nd	23	19
3 rd	82	70
DURATION OF FEVER		
1-2 days	48	40
3-4 days	65	55
More than 4 days	5	5
CAUSES OF FEVER		
Viral	45	38
UTI	27	22
URTI	21	18
LRTI	17	14
Malaria	1	1
Typhoid	1	1
Dengue	2	2
Covid	4	4
OUTCOME		
NVD	61	52
LSCS	47	40
Miscarriage	10	8

Socio economic status

Of the 118 subjects participated in the study, 63 % were from low socioeconomic group, while in medium and high they were 24 and 13 percent respectively. [Figure 1]

Parity

In this study, it is noted that primi gravidas were more presented with fever than multi gravida. [Figure 2]

Trimesters

The incidence of fever was high in third trimester and least in first trimester. [Figure 3]

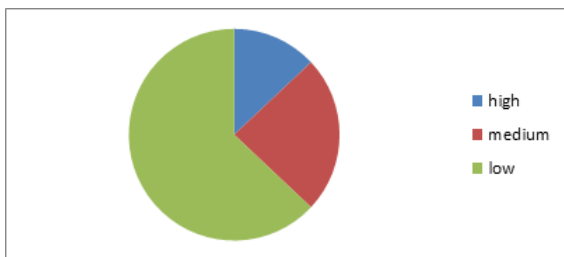


Figure 1: Socioeconomic status

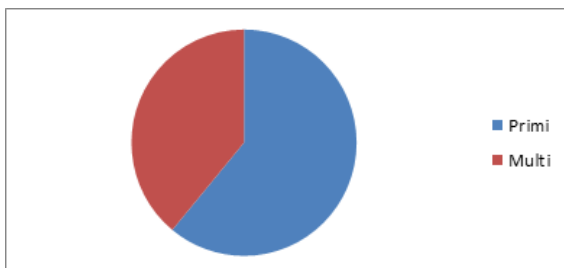


Figure 2: Gravida

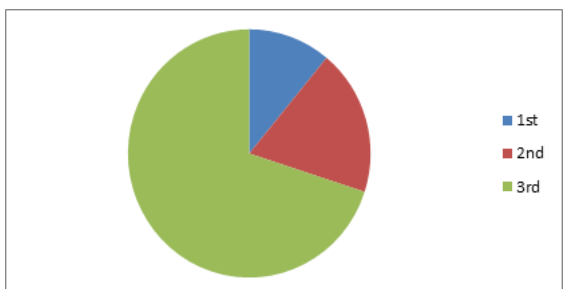


Figure 3: Trimester

Duration of fever:

Majority of the patients had fever in the ranhe of 3-4 days followed by 1-2 days in 40 percent cases while only a few subjects had fever more than 4 days. [Figure 4]

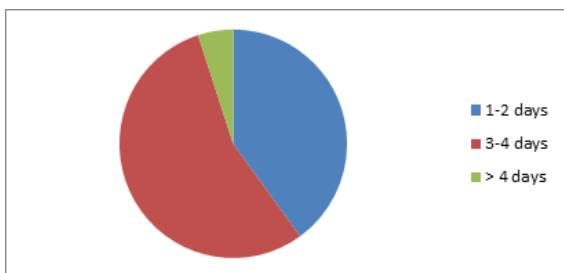


Figure 4: Duration of Fever

DISCUSSION

The present study was a prospective study conducted in the tertiary care centre. The current study evaluated the various aspect of effect of Fever on Pregnancy. Effects of fever on pregnancy depend on the extent of temperature rise, duration and etiology of fever.

The current study found the majority of the subjects to be in the age range of 20-30 yrs, this correspondto the standard marriageable age of

females in the surrounding area. Previous studies in relation to the pregnancy and various associated factors also reported maximum pregnant females to be in this age group.

Of the 118 subjects evaluated in the current study, a majority of the subjects were from the low socioeconomic status. This again corresponds to the socioeconomic status of our peripheral area. Our study location being located in the rural area has limited income.

Primiparous were found to be affected more by fever compared to multiparous. The most possible reason for this could be due to body conditioning and awareness amongst the multiparous women towards prone to infection and experience. This result was similar to the previous study.^[8]

Viral fever was the most common type of fever in our study sample followed by respiratory tract infection. This was in contrast to the previous study on south Indian population where malaria remained the most common reason for fever. The two different causes for fever may be due to malaria being endemic to the costal regions of South India and viral fever being most common reason in North India owing to the seasonal variation and high communicable potential of viral infection.

The current study observed highest number of subjects had undergone normal Vaginal delivery. Though the number of cases with LSCS were low but were almost clinically comparable to NVS. The number of miscarriage was very high clinically, though we could not correlate fever being the reason for miscarriage. In previous studies, Preterm birth, PROM, Oligohydramnios, IUGR and fetal distress were commonly encountered problems in pregnant women with fever.^[7-9] Pyrexia related changes in uterine environment can affect fetal wellbeing.^[8-12]

CONCLUSION

In this study, it is emphasized that wide range of maternal and fetal complications occur due to fever in pregnancy from various etiologies. Hence, proper methods for infection control in homes, communities and hospitals should be emphasized.

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